

COMPUTER ADVENTURES

- The Secret Art -

Gil Williamson



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**Aimed at all who are interested in Computer
Adventures, this book could become an
indispensible asset and alter your fate!**

**If you are an author, hone your sadistic talents. If
you are a player, complete your mission by learning
the fascinating details of the adventure writer's art.
If you are a behavioural psychologist, marvel at the
explanation of those glassy stares, that laughter out
of context, the nocturnal cries of "Aha!".**

or

simply feeling adventurous?.... read on !



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About the Author:

Gil Williamson was brought up in the Far East and was educated in Edinburgh. Despite qualifying as an Astrophysicist, he has spent most of his working career in computers.

In order to prepare himself for being an author, he raced stock cars to a terrible extent, navigated the Limbang in a dug-out canoe and once drove someone else's car across Istanbul during the rush hour, for which he received an award for valour.

He and his wife run a software development and publishing business, and live with their family and two boxer dogs in the untamed wilds of Surrey. Adventurers can find a map of the area on pages 6 and 7.

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*Best Wishes
Gil Willi*



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**For Beryl, whose creativity and sense of adventure
made this book possible.**



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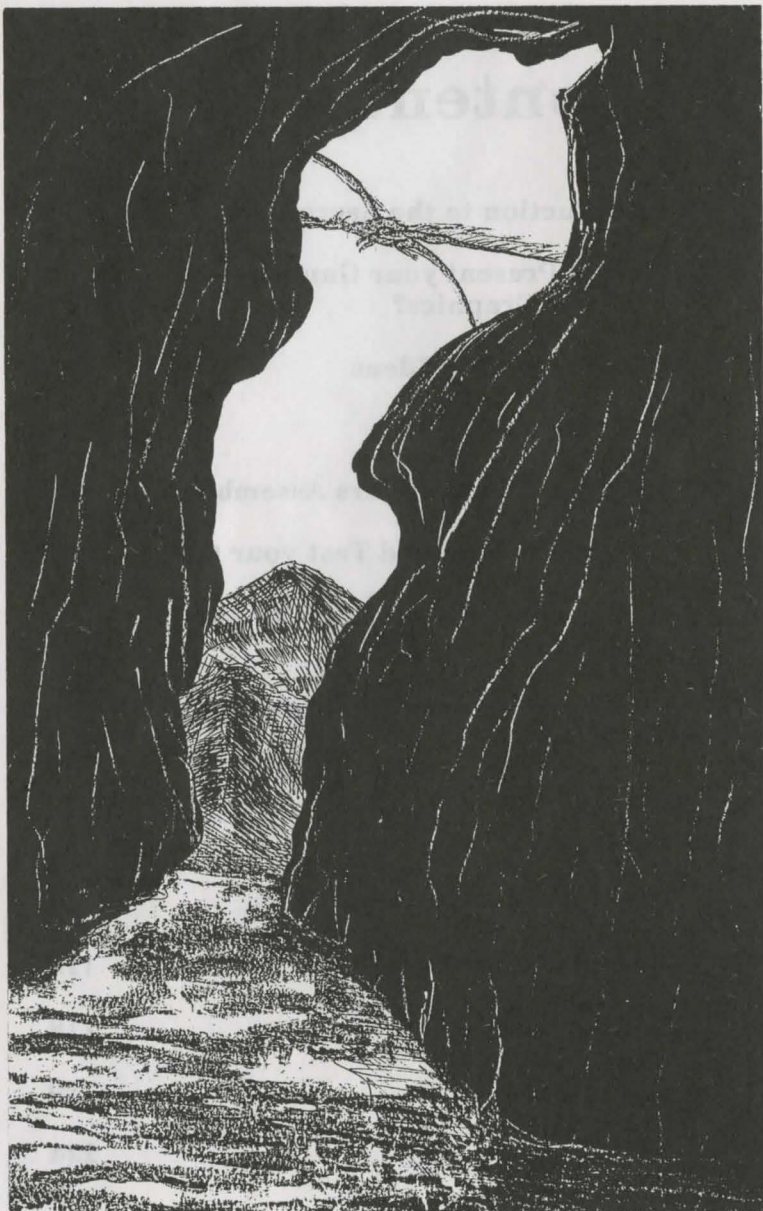
Introduction to the Secret Art

There is no doubt that the writing of adventure games is an art, in the same way that writing a book or play is. It is also a secret art in that only a handful of game writers seem to be able to produce a gripping game.

I have carefully analysed the features of successful games, and present them here in the form of a Do-It-Yourself manual. This book reveals the secrets of how to plan, how to write and how to sell computer adventure games, also called 'interactive fiction'. Irrespective of whether your game is a pure text adventure - for some the only 'real' adventure - or a real-time graphic adventure, or even a text adventure with graphic illustrations, the principles of design are very similar.

Is there any point in trying to break into this difficult marketplace? Most certainly. There is a shortage of games with the essentials of a good adventure, which are plot, atmosphere, challenge and a sense of winnability. Advances in technology are much less important to the adventure game enthusiast.

Although the book assumes that you have played one or two computer adventure games, and that you therefore understand their general structure, it does not assume any programming knowledge. Some basic definitions are given in the table overleaf, and the chapter on Architecture describes and defines the various elements of an adventure in more detail.



Terms used in this book:

A 'Game' takes place in:

'Locations' (or Scenes or Rooms).

'Characters' (People, Monsters etc.) populate the Locations.

An important Character is the Player Character who represents the game player.

'Items' (or Objects or Nouns) are contained in these Locations or may be in 'Limbo' - a sort of storehouse for Items whose location has not yet been decided - or may be within another Item, or may be carried by a Character.

It is also possible for a Character to be contained in an Item.

The player interacts with the game by means of 'Commands' input by keyboard or other input device.

A Sexist Note:

In this book, for simplicity, I have used the terms 'he' and 'him' in reference to the player. I do, of course, realise that many ladies of the feminine gender are also players, so please accept 'he' as 'he/she' and 'him' as 'him/her' throughout.

How to Present your Game - Text or Graphics?

Most of the comments made in this book are relevant to all types of adventure, however presented, but there are always pros and cons. This chapter outlines some of the choices and consequences of adventure graphics and sound.

Presentation

Often, the game-writing system you use will have as much influence on the format of your game as anything else. There are some notes about game-writing systems in Chapter 6, and in Appendix A. Ensure that the medium you choose is adequate to the adventure you plan.

In most adventure games, even those with considerable graphic and audio illustration, text is also very important. When you play a text adventure game, you probably find that the scenes you create for yourself in the mind's eye are just as vivid as any screen image could be.

A new genre of 'arcade' adventure games is now becoming available, but for the few game writers lucky enough to belong to companies prepared to invest in these products, there are still many size and portability restrictions that are not experienced by text game writers. Writers of arcade adventures would do well to heed the tenets of good design. Razzamatazz may sell an individual game, but it will not sell a series.

Think carefully before deciding your game needs graphics. After all, though it is possible to print lavishly illustrated books much more cheaply nowadays, publishers seldom, if ever, think of illustrating a detective novel or book of short stories. In the computer world, though word processors and spreadsheets are presented in ever more elaborate guises, the properties of late 1970s Electric Pencil and Visicalc are still the important elements of these products.

Any game written for a particular piece of hardware will transfer most easily to other hardware if it is text-only. The cost and difficulty of transfer from machine to machine increases in direct proportion to the sophistication of the graphics and audio effects delivered.

Again, many computers in common use, such as IBM PCs or VAXes have little or no graphics or sound capability when compared with Atari and Commodore games-oriented hardware, and text adventures have become a favourite with users of such machines.

Images:

The technology of screen images, together with the restrictions of RAM, backing store and development time, lead to three main types of graphic associated with an adventure that can be played on a personal computer:

Hand-drawn still scenes of greater or less quality, sometimes with the facility to include characters and items that the player character can see;

Digitised still images (sometimes grouped so that a cyclic movie-like effect can be delivered);

Arcade-style playfields, sometimes drawn with perspective but operated in a 2-dimensional 'Platform' format, where the player character, other characters and items actually appear, and move appropriately. The player character can manipulate the screen environment.

All of these are a far cry from the 'laser disc' arcade adventures which made a brief appearance. Certainly, an Atari ST, Commodore Amiga, Mac or IBM PC with VGA can produce stunning moving video images, but at a considerable cost in runtime speed, development time and backing store.

I heard of plans for an adventure with still 3-dimensional graphics and red/green glasses to view them. As far as I know, the game never appeared. I would expect such a system to run into problems with colour values on different computers and screens, and with colour-blindness in users, but it sounded very exciting at the time.

Adventures with still or almost still images often allow the user to switch off the pictures, so that the user is reduced to a text adventure, with a better response time and more space on the screen for informative text.

In the 'playfield' style arcade adventure games, or those which depend on the use of icons and mice and menus, the total number of locations in the game is often restricted, as is the richness of the game.

Some graphic games, I feel, are rather spoiled by having all possible verbs on pull-down menus, leaving little or no scope for imagination on the part of the player, and there comes a point where real-time events are happening on the screen and the game is verging on an arcade-style game, or a wargame.

My own personal opinion is that text is the most suitable medium for adventure games, but that optional illustrations, well-designed, can enhance enjoyment in the same way that good illustrations in a book do. Having said that, the shareware game-writing product AGT, which I favour, is text only.

In any event, the aspiring adventure writer will find that most game-writing systems currently available concentrate on delivering a text adventure (with optional still graphics).

Before leaving the subject of image, it is worth mentioning a useful advance on the old scrolling screen technique used in the early adventures. This is the 'windowing' technique which allows the screen to be broken into various sectors such as:

- Text from the game
- Graphic
- Inventory
- Command
- Exit directions
- Map
- Player status.

Some of these windows may be multi-use - the graphics and map window often being the same one.

Sound Effects and Noises Off:

Though sound may sometimes be used to enhance a game, it is a mistake to make proper play dependent on sound. This is not because some players are deaf, or want to play while wearing their personal stereos, but because adventurers may not wish to disturb those around them with synthesised dalek voices, beeps and laser blasts. In my opinion, sound should always be capable of being switched off without spoiling the game.

How to get your Ideas

The Style of your Adventure:

There are a number of clear forms in which an adventure can be placed. The first, and most common, is the one devised for the original Colossal Cave adventure. Each scene and its contents are described or drawn, and the player is free to attempt to move around, pick up and drop items and take action.

In the second form, a simpler one, the scene and contents are described or drawn, but the player has a very few alternative actions he can take. These alternatives are made clear to the player, and he simply selects alternative 1, 2, 3, or 4 etc. The consequences of each alternative tend to be more far-reaching than those of the other style of adventure. Such adventures resemble those children's interactive books which have a page for each situation, and where the reader is invited to turn to different pages to see the results of the various actions he can take.

A third main stream of adventures is the 'rôle-playing' analogue, where there is emphasis on companions working as a team, and attributes such as strength, dexterity, stamina, and intelligence are given to each character. Magic spells and random combat play a strong part in such games, and it is sometimes possible for the player or players to act on behalf of more than one character in a single playing session.

These three basic styles often merge and mingle with each other, but it is important to decide the style of your adventure before embarking on writing it and maintain the style throughout.

Inspiration:

It is important to start with a new and different game concept every time.

As you plot the game, it will keep trying to resemble other games, but you must resist the temptation to go along with these diversions. The 1988 AGT Game Contest featured a game based on a Wagner Opera, and another based on an SF short story. Both were original concepts for an adventure game, and made you want to play them in a way that a clone of Zork would not.

On the other hand, there is always room for a well-written satire, though PORK has probably spelled the end for Zork satires. It is so important that your player's enjoyment is not dependent on him having played a certain game.

I have plot outlines for dozens of games, ranging from the ascent of mountains to underwater treasure hunting, from a journey on the London Underground system to a quest in classical Greece, from a round of golf to an E E Smith-style Space opera. I keep them in a spiral backed notebook, and keep adding ideas as they occur, until one becomes un-refusable and it spills out into implementation. There! I've given you six ideas in one breath, none of which closely resemble any game I've played.

Very few adventures even remotely approach realism, which is why it's a good idea to base them in an artificial, or at least very constricted, world. Use consistency in creation to communicate the atmosphere.

An idea should appeal before you consider it for game status. Whenever I enjoy a book or movie I consider how well it would translate to a game. Occasionally, something will just hit the spot, and it becomes a feature of one of your games in the pipeline. The London Underground concept grew out of a idea to optimise tube travel in London, not a game at all.

The quest in classical Greece came from a Sprague de Camp book called 'An Elephant for Aristotle'. As an ardent, but inexperienced, golfer, I find that the situations one finds oneself in on a typical round more closely resemble 'Lurking Horror' than they do 'Leaderboard'!

One subject which can be rather delicate is Pornography. In particular, Leather Goddesses has a mildly pornographic theme, handled, I think, quite tastefully and amusingly. Leather Goddesses takes care to allow female players, and delivers alternate text and characters for them. Other games which go into much more detail on the mechanics of sex are much less appealing, and often insulting to female audiences. The buyers of such games would not be the mainstream of adventurers, and the games lack subtlety, even when compared to 'girly' magazines.

Once an idea has come to you, you must nourish it for a while to give it full value. What you do is to add all the extra features the game will support in the form of a 'bull session'. In this manual, Chapters 4 and 5 are a huge mine of ideas on which to base plot elements. I work best by myself, with the Hi Fi turned up loud and a pencil and paper in my hand. Drawing a map will often suggest other features and plot elements. Reading the book that sparked the original inspiration may feed more ideas, and reading books on a similar theme should also help. Working with a like-minded friend is also a good technique.



More Theme Ideas:

The Happy Return:

Instead of starting the adventure at a point before the quest begins, try starting it where the precious item has been recovered, and the player has to fight his way back to civilisation. This technique is useful for putting the player into the thick of the action early in the game.

Breakout:

A similar idea is to start the game with the player imprisoned in some way, and he must escape.

Break-in:

Penetrate the enemy defences, and free the prisoners - the Teheran/Entebbe approach.

Instruction:

Make your player find his way around the ruins of Knossos, examining wall paintings and artefacts.

Expert System:

Most adventure-writing systems can be used to develop complex diagnostic programs for simple situations.

Skirmish:

Try setting the scene of the game as a relatively unimportant incident in a huge Worldwide (to hell with the expense - make that inter-Galactic) campaign. This is a super lead-in to a series!

First Contact:

Explore unexplored territory, excavate archaeological remains, meet strange alien peoples and try to avoid shooting them. Have the adventurer find some peaceful contact mechanism.

Basing your Adventure on an Existing Work:

Whereas in the USA, a copyright owner has to register his copyright formally and announce it on the work, in the UK and Europe generally, copyright infringement can take place even on unpublished work.

Copyright is not given to ideas, plots or themes, however original.

In the UK, copyright is infringed by the reproduction of any substantial part of a copyright work without permission. 'Substantial' is hard to define. Even a very small quote can qualify if it is important to the work as a whole.

In the USA, copyright is infringed by quoting sections of a copyright work except for the purposes of non-commercial scholarship, comment and news reporting.

Therefore, although it is tempting to use an existing work as your basis, you must be extremely careful not to infringe copyright. It is a shame to devote lots of work to a game that can never be published. It is, perhaps, safer to write an adventure '..in the style of...'. Excellent examples of this genre exist.

Another pitfall is provided by Trade Marks. You will find that the inspiring name or phrase you might like to use in your game title, such as 'Batman', 'Star Wars', 'Dungeons and Dragons', 'Popeye' or 'Lord of the Rings' is someone's registered trade mark, so steer clear of these, too.

Apart from Copyright or trade mark infringement, there are a number of problems with using an existing work as your basis. If a player has read the book, or seen the movie, he will expect a resemblance between your plot and its plot. If you reproduce the plot of the work, then it becomes easy to solve. If you don't, the player is disappointed. Again, no adventure game, text or graphic, will exactly reproduce a book or movie. What the adventure game specialises in is the interaction of the game with the player.

I can well remember having a lot of 'wheelspin' at the start with The Hobbit and other Tolkienesque adventure games, just because the plot didn't turn out the way I expected. Another disadvantage is that the solution to a problem in a book or film is often based on a character having a bright idea out of the blue. This is difficult to suggest to the player without broadcasting the solution or is boring to re-enact in the adventure.

Probably the best middle course is to borrow the atmosphere and technology from your chosen work, but to build your own totally new plot into it.



The Plot Thickens

Adventure games offer a feeling of involvement and interaction which can surpass even the most exciting book or movie, and it seems a pity not to make the most of them. This chapter contains over thirty main categories of feature, each of which can spawn hundreds of plot elements.

I advise you to work out a plot before you start writing the adventure. I say A plot, not THE plot, as you may contract, extend or modify the plot as development continues.

If you sit down to write an adventure from beginning to end, it will be a very thin and insubstantial piece of work. You need time to develop the theme and plot.

I carry around a spiral-backed reporter's notebook - the poor man's laptop - which goes in my briefcase to work, sits beside me as I earn my living, and sleeps on the bedside table at night. Every time I have one of my brilliant inspirations, I note it down before the damned thing escapes again. In fact, a sharp pencil with an eraser on the end and a trusty notebook are better than a laptop for this purpose - I've tried both systems!

Into this notebook go the maps, the characters, the clues, the traps and the problems for the next adventure.

I find the maps to be the most fruitful source of inspiration. Very often, a map or the plan of a building can suggest a plot element that no amount of abstract thought could generate.

It is also handy to jot down character attributes so that you can keep the personalities consistent.

A good adventure does not just fall into your hand like a primed hand-grenade. It requires a lot of preparation, thought and creativity.

If you finish writing the adventure with the same set of plot elements as you started with, then you have every right to be surprised. Given a good basic theme, the very act of developing the details of the adventure should suggest other plot elements, which will gradually displace some of the original ones. There is nothing wrong with this, provided that you retain the basic theme. If that goes, then you either have an unstructured monster on your hands or the theme for another adventure!

It is no longer sufficient, these days, for a player merely to survive all the elaborate threats to his life. There must also be a story which is very nearly interesting enough to enjoy for its own sake. Atmosphere is also very important and there must be a build-up of excitement during game play.

Inject a minor dose of suspense early in the game, and up to three or four more important forebodings or anticipations before the end of the game. For correct dramatic effect, the last such event should be the biggest and best.

More will be said later about clarity and consistency in developing adventures, but much can be done to help development by keeping the plot well-balanced and paced.

Make sure there's enough territory around which the adventurer can roam to keep him interested at any given time. An adventure that starts in a cell and stays there until the player figures out how to escape will bore the average player quickly.

Similarly, leave lots of items for him to play with, and don't make the adventure too lethal. It is very boring for a player to be killed off every time he makes a false move.

Plot Elements:

To get you started, I've listed the following features to help you build your plots.

Try to introduce as much variety as possible to every adventure. Many of the ideas in this section are tried and tested, and some are totally new. Combine these ideas with your own and try to dress them up in a new guise.

Possession of equipment:

One of the most typical requirements for problem solution is that the player be in possession of certain equipment. For example, plimsolls in Scott Adams' *Pirate Adventure* prevent the player falling off the window-sill. I remember this one because I discarded the plimsolls at an early stage and still managed to complete the adventure by *SAVEing* just before every trip to the sill.

Sometimes, simple possession of equipment is enough to make the game work. Sometimes the player must use the equipment in a certain way before it becomes effective.

Collect and Assemble:

In many adventures, the player must collect and assemble pieces of equipment to make a new item. Again, in the *Pirate Adventure*, he has to collect all the parts for a galleon, and assemble them. This is the case where the combination of a set of items makes it possible to produce another item which the player needs.

Another neat feature is to require the player to keep the parts list with him in order for the item to be assembled.

In one of my adventures, one of the parts was omitted from the list. This part was necessary and should have been obvious to the player, but, just in case he hadn't realised, I allowed him to retrieve the missing item without too much further difficulty.

Another typical game feature is to remove a part from one item for use on another - for example, taking a battery from a torch to make a radio work.

Transformation:

A favourite idea is to non-magically transform an item from one state into another by washing, cleaning or rubbing it, painting it, oiling it, winding it up, putting fuel in it, connecting it to the electricity supply, or switching it on or off.

Very often the game-writing system will favour the switching of a non-working item with a working one, so that, although the player is theoretically unaware of it, the object is actually two items. The item in its first state is visible in the location, the other is kept in limbo. When the transformation occurs, the items are switched.

Such transformations are not limited to items. Characters, including the player character, can be transformed into a new character in analogous fashion to Clark Kent & Superman, Popeye & Popeye with Spinach, Jekyll & Hyde, mild-mannered chemist & Incredible Hulk.

Discovery:

Often, an object which is available from a location is not visible when the player enters the location. The object must be discovered.

For example, a game may require the player to dig in the ground or to move, say, a pile of leaves or a carpet, whereupon a new item is discovered.

Another favourite site for discovery is where a container clearly contains one item. Once that item is removed, another item is discovered lurking in the bottom of the container. You can hide items in unlit locations so that they cannot be discovered until a light is introduced.

Again, from the game-writer's point of view, an item may be kept in limbo until the player carries out the action which results in discovery.

Weapons:

There are two basic types of weapons. A general purpose weapon, such as a loaded automatic, will be effective against most foes. A specific weapon, such as a wooden stake (anti-vampire) or a silver bullet (anti-werewolf), may be uniquely required to kill a certain class of enemy. Often, it will also be effective against other opposition, though the well-known vampire repellents - sunlight and garlic - seem specific to the undead.

It is unfair to have a specific weapon in a game unless its effectiveness is widely known or there is some clue about it in the game itself.

Another aspect of weapons is the number of rounds of ammunition they carry. This concept ranges from the six bullets in a magazine, through the number of arrows in a quiver and the charge (shots left) in an atomic blaster, to the potency of the magic remaining in an Elven Sabre.

Apparel:

A distinction is often made between items that are carried and items that are worn. The VERBs used might be WEAR and REMOVE. Clothes can be important for warmth, decency or as a mark of rank.

Some items which are worn have even more special significance - for example Cloak of Invisibility, Space Suit, Gun Belt or Rucksack.

Puzzles:

A puzzle with a logical solution is a delight to solve. Examples abound in adventure games and represent a major source of pleasure in playing.

Suppose you have a game in which there is a radio without a battery, and a torch with a battery but a broken bulb. There is a clear invitation to make the radio work with the torch battery. This 'collect and assemble' feature also represents a puzzle with a solution that makes sense.

Conversely, illogical solutions to puzzles detract from enjoyment.

Another point to remember is that instead of trying to make an item work, you may want the player to stop an item working because it is interfering with his objective.

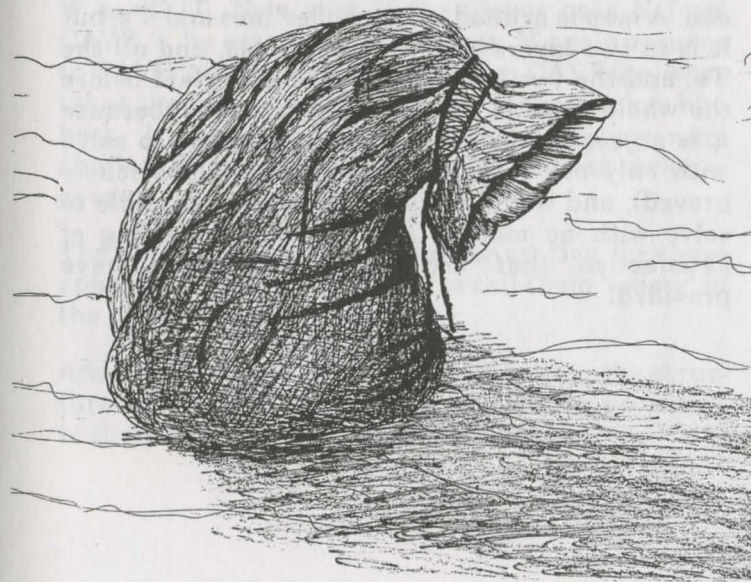
Many of the features of adventure games present themselves as puzzles. The main thing to remember is to keep them fair. There is a class of puzzle so illogical that there is little satisfaction even in solving it.

Bribery:

In this case, the player must find an item and give it to a character or monster in order to secure his/her/its co-operation. A favourite plot device is to allow several different items to be used to bribe a single adversary. Only one of these can, however, be spared. If one of the others is used, it makes the adventure harder or impossible to complete.

Another feature of bribery is the need to carry an item so that a companion will stay with the player. For example, the player in *Pirate Adventure* soon discovers that the parrot will stick close to him as long as he carries the biscuits.

Purchase is a special case of bribery. Some games allow a pool of money to be accumulated, usually by discovery of treasure, and expended in exchange for goods and services in furtherance of the quest. In this case, the pot of gold coins is depleted according to the value of the commodities purchased and increased by addition of treasure trove, plunder and swag.



Mazes:

An adventure has considerable potential for the use of mazes but guard against making the maze boring. In some cases, the maze is a geographical one, in others it is logical. I shall explain the differences:

Geographical Mazes:

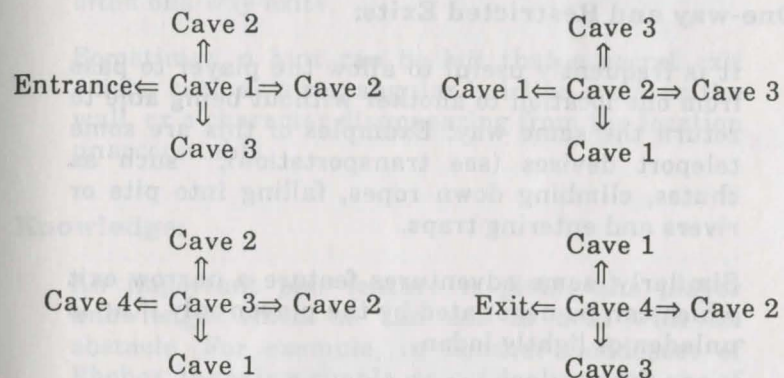
In a geographical maze, if the maze is drawn on a piece of paper, the locations in the maze correspond correctly to the direction travelled to reach them. That puts them on a par with the kinds of maze you see in children's puzzle books. The way the game writer sometimes makes it difficult is to give each location the same or similar description.

To solve these, the player simply maps the maze. Extra complications can be introduced by having hidden passages which do not appear in the description.

In Hollywood Hijinks, the author has a large geographical maze in which, when the player moves in a given direction, the game tells him how many paces he has taken before the next junction or dead end. A map is printed out as underlines and 'I's, but it is in two layers - all the underlines, and all the 'I's, and the two printouts must be overlaid before the whole maze is revealed. Nevertheless, because it is a geographical maze, it was possible to solve with only one layer of the map (as I laboriously proved), and would probably have been possible to solve with no map at all. Ah, what a feeling of satisfaction that accomplishment would have provided!

Logical Mazes:

In a logical maze, the locations in the maze are connected together in a bizarre fashion so that a geographical map is not all that helpful. Typically, East from location A leads to location B, but West from location B does not lead to location A. Again, the locations may be similarly or confusingly named. Here is a diagram of such a maze:



The quickest way from ENTRANCE to EXIT would be E to CAVE 1, S to CAVE 3, W to CAVE 4 and W to EXIT. Note that if the player goes N from CAVE 2, he gets to CAVE 3, then N again returns to CAVE 2. Similarly, going E from CAVE 2 always takes the player to CAVE 3, and E again takes him back. If the descriptions of the four caves were similar, this would appear like an endless series of caves.

The adventure writer's usual convention for these apparently illogical mazes is to call them 'twisty' in the location description.

Added variety can be provided by having the structure of the maze vary with time, or vary according to the player's activities, or at random.

Variable Geography:

Two or three examples of variable geography come to mind. In *Wishbringer*, for example, Festerton changes in a sinister fashion, part-way through the adventure. A totally new set of locations and items appears, each one a sinister version of the ones in the original Festerton.

One-way and Restricted Exits:

It is frequently useful to allow the player to pass from one location to another without being able to return the same way. Examples of this are some teleport devices (see transportation), such as chutes, climbing down ropes, falling into pits or rivers and entering traps.

Similarly, some adventures feature a narrow exit which can be negotiated by the player only if he is unladen or lightly laden.

Too many such exits can prove burdensome to the player. Use the facility sparingly and logically. It is a useful feature for forcing the player to solve additional puzzles. In *Sir Ramic*, for example, the player enters a set of caverns by one route, but must leave by another if he wants to take the large item he has assembled in there.

Secret Exits:

Although a location description usually describes all the exits from the location there is no compulsion to do so. Therefore, an exit can remain secret by virtue of not being described, until the player invokes a `SHOW EXITS` command or tries a direction. A natural convention is to say in the location description 'There are exits in many directions' so that the player knows he may have to try several.

A useful 'secret' exit is provided in a pond or pool if the swimmer dives. Then he can take an underwater passage.

Another idea is not to have a conventional exit at all in the secret direction, but to 'teleport' the player to the next location when he performs a certain action, such as moving a book in the bookcase or saying a magic word. Secret exits are therefore often one-way exits.

Sometimes, a hint can be left that a secret exit exists, such as a rectangular hairline crack in the wall, or a character disappearing from the location unaccountably.

Knowledge:

An important plot feature is giving the player knowledge which he can use to deal with an obstacle. For example, in *Leather Goddesses of Phobos*, there is a simple way of dealing with one of the monsters. To stumble upon that method would be very difficult, but deciphering a coded note gives you the information you need.

To maintain 'fairness', some adventures with this kind of knowledge-based problem solution will not allow the knowledge to be applied unless the player has previously, in this particular instance of the game, encountered the item that offers the clue.

A rather over-used ploy is to use a number written on some document as a telephone number or lock combination. See also copy-protection.

Another knowledge-based ploy involves the player researching in reference books, or in the handbook supplied with the game. This method forms one of the principal features of instructional adventures.

Curtains and Carpets:

If you are concealing a scene or exit behind a curtain or wall hangings, then if the player moves the fabric, it must be replaced with another item which describes the scene or exit.

A carpet frequently conceals a trapdoor, leaves cover cave entrances, and so on. The same sorts of description rules apply to these, and the simplest mechanism for the game writer to use is Transformation, described above.

Elaborate Patterns of Behaviour:

Often, and this is most entertaining for the player, he must build up, by trial and error, an elaborate behaviour pattern to circumvent a single obstacle. A great example of this is the method of obtaining a Babel Fish in Hitchhiker, where the player must forestall several different accidents, and divert a robot before he can get hold of the fish. The messages from the game are humorous, and it is a pleasure to solve. In another commercial adventure, some elaborate behaviour is spelled out in a printed enclosure - acting as a sort of copy-protect mechanism.

Richness of Methods:

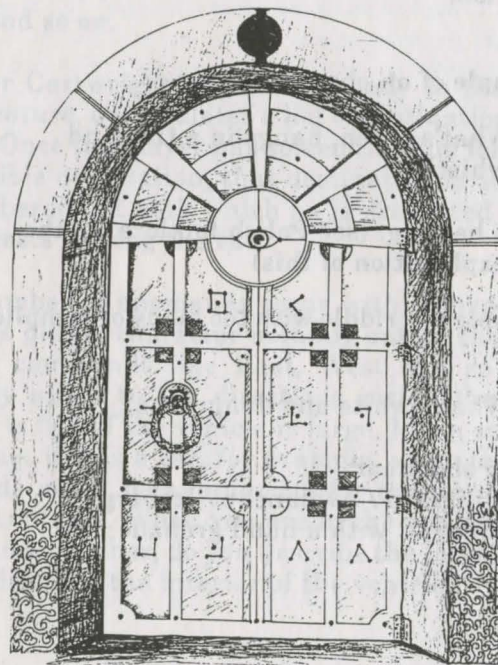
Another entertaining feature is to provide different methods of achieving the same objective. In Paul Daniels' Magic Adventure, there were three ways of getting from the Airport to the Hotel - bus, taxi and hire car. All three methods worked, but each had different problems to surmount, and players were amused to hear about the routes they hadn't used. Another device to enrich a game is provided by giving the player a variety of rôles to adopt, so that the story develops differently because of the different powers of the rôle taken.

Door Openers:

There are lots of door-opening methods, ranging from the trivial KNOCK or RING to such elaborate solutions as a coin in the slot or solving a numeric combination. The classic ones are requiring a key to unlock the door or needing to say a magic word, like 'OPEN SESAME', or having to show a pass.

Another complete set of solutions involves a door being locked until certain other doors are closed (as in an air-lock) or unlocked only for a certain period after another event.

A door may be inscribed with runes or code of some kind which reveal the way to open it. The solution to the code might be a feature of copy protection.



Riddles:

Riddles are a favourite technique. Make sure, though, that the solution you favour is truly unique and self-evident once guessed. There are two really annoying mistakes some game-writers make with riddles. The first is a riddle so obscure that it cannot be solved. The other is one to which you know one or more possible answers but cannot think of the words the game-writer expected you to use.

An example of a 'fair' riddle (Gollum in *The Hobbit*):

Q. Alive without breath,
As cold as death;
Never thirsty, ever drinking;
All in mail, never clinking.

A. Fish.

An example of an obscure riddle:

Q. What's green, hangs in a tree and
whistles?

A. A herring. (see Polish folklore for the
explanation of this)

An example of a riddle with too many or complicated answers:

Q. What's white and dangerous?

A1. Polar Bear;
A2. Blizzard / Avalanche / Iceberg;
A3. Seagull with a hand grenade...etc.

Transportation:

There are wonderful varieties of vehicles in adventures, from magic carpet to teleportation device. If they are to be used repeatedly, though, make sure that they are easy to operate. For example, if you are only using a vehicle once, to make an essential bridge from one location to another, then it is fair practice to make it hard to operate. If, on the other hand, you are using it a lot, then it is boring to the player to have to, for example:

PUT KEY IN IGNITION
TURN KEY
PRESS CLUTCH
SELECT FIRST GEAR
RELEASE HANDBRAKE
RELEASE CLUTCH

.... and so on.

Peter Cartwright, in his new *Lady in the Swamp* adventure, accumulates a list of destinations for his car. Once the player has solved the clue for another possible destination, that destination is added to a numbered list with which he is presented when he suggests driving the car.

A number of anomalies occur with transportation. If the player character actually enters the vehicle, then commands like East, West and so on may really apply to the directions inside the vehicle. This is fine if the vehicle is large, like a spaceship, but not if it is a car, for example, when these commands might be appropriate for the whole vehicle and contents. When you are in the vehicle at some location or other, do you describe the location, or do you describe the interior of the vehicle?

There are two or three ways of dealing with this, as follows:

If the vehicle is a horse or other vehicle which is not enclosed, then you can move it to the new location with the player in response to a direction command. In this method, the player has to be 'on' the horse or 'on' the motorbike. This you can ensure by forcing him to use a 'mount' command, then setting a flag to ensure that he dismounts before he does anything other than travel from location to location.

If the vehicle is like a car, in that it is enclosed, but the outside world can be seen from it, it can be handled by having several locations such as 'At the Town Hall in the car', 'Outside your home in the car', 'At the Beach in your car'.

You move from 'At the Beach' to 'At the beach in your car' and vice-versa by ENTER and EXIT. Travel is effected by moving the player from one '... in the car' location to another. Elevators are also dealt with in this fashion.

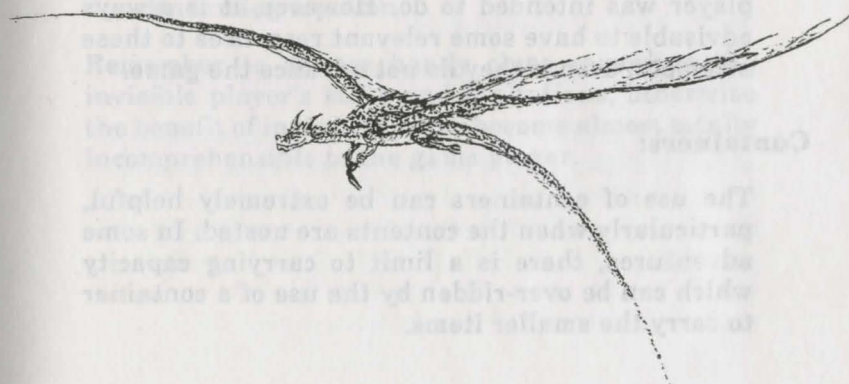
If the inside of the vehicle is actually a set of locations like this, each with a different view from the window, then be sure when you 'move' it to the Town Hall that you also move any items the player has dropped in it when he was parked at the beach, as well as reproducing any controls inside the car.

Also, ensure that the player can only travel between these locations by car, otherwise he will find on walking back to the Town Hall that the car he left at the beach has mysteriously driven itself to join him!

Alternatively, you can implement vehicle operations by moving the exits around while the player is inside the vehicle. The vehicle is one location (or even a group of locations if it is a ship or spacecraft). This is handy if you are prepared to describe the journey rather than the destination. Some of the adventure game-writing systems will not allow this type of solution, as exits cannot be altered.

Teleportation is a very handy system. Often what seems to be transport is actually teleport. The player is removed from location X to location Y. If the locations are not 'in the vehicle' then the vehicle must also be teleported. It is also used to deal with secret exits and resurrection, and is even a major feature of some games, such as Star Portal.

One commercial game has an ingenious 'black hole' teleportation device. Entering any of the black holes takes you to a predictable destination. There is even one hole which the player must make for himself, another which is cleverly concealed inside something else and another whose destination moves in a predictable manner.



Death and Resurrection:

As cautioned elsewhere, try not to kill the player too readily. However unsuccessful his ploys, it is unfair to make them a capital offence.

Resurrection is a fairly frequent device to prevent the player from having to restart the game. For a serious player, however, it is unsatisfactory to win a game as a result of a resurrection and he would reload a saved game in these circumstances. If you do provide a resurrection facility, make sure that the game is re-set in a playable form. Sometimes, the game-writer maroons the player without access to the items needed to complete the adventure, which makes the exercise pointless. It is quite in order to make the game harder by scattering the items the player character carried in his inventory around the accessible locations at random.

There are special cases where apparent suicide on the part of the player character or a companion is beneficial in the way that sacrificing a piece in Chess can be.

Push, Pull, Turn and Play:

Most adventurers, after EXAMINEing an item, will PUSH, PULL, TURN or PLAY it, depending on its description. Very often, this is exactly what the player was intended to do. However, it is always advisable to have some relevant responses to these attempts, even if they do not advance the game.

Containers:

The use of containers can be extremely helpful, particularly when the contents are nested. In some adventures, there is a limit to carrying capacity which can be over-ridden by the use of a container to carry the smaller items.

Again, the difficulty of opening successive levels of container can provide a pleasurable experience to the player. It is also possible to perform cartoon-like incongruities in which a small item contains a very large one.

The usual mechanisms for container manipulation are OPEN and CLOSE, but UNLOCK and LOCK may also be relevant. Most game-writing systems do not allow transparent containers, so that any contained objects are not visible when the container is closed.

Invisibility:

Invisibility is a very useful attribute for a player character. In this state, the player can usually avert monster attack and can eavesdrop with impunity.

Invisibility offers a great deal of scope for the author's imagination. The effect can be of short or unpredictable duration, may have adverse physical effects, and may prevent the invisible character from carrying or even touching items.

The invisibility can be invoked in a number of ways. For example,

- magic spell
- wearing a ring or cloak
- consuming a potion.

Remember to deliver handy clues regarding the invisible player's state and limitations, otherwise the benefit of invisibility may become almost totally incomprehensible to the game player.

Codes & Ciphers:

The easiest method of introducing codes and ciphers to a game is via a discovered note. Another method of making codes seem natural is the translation of alien languages or character sets, including runes.

Most adventurers are quite capable of interpreting a message simply anagrammed, coded or ciphered. A typical trick for short messages is to take the message and transpose all letters in the following regular fashion:

A-D; B-E; C-F; W-Z; X-A; Y-B; Z-C

so that **HELP** becomes **KHOS**.

To make it harder, we could reverse or otherwise anagram the message, and/or break the message into regular groups. The purpose of this is to hide the identity of common words such as 'a', 'of', 'to' and 'the', so that translation cannot be based on recognising word length.

HELP I AM TRAPPED INSIDE A COMPUTER

might become:

HELPI AMTRA PPEDI NSIDE ACOMP UTER

before being transposed to:

KHOSL DPWUD SSHGL QVLGH DFRPS XWHU.

However, there is a limit to the patience of your audience. The method usually employed to decode transposed messages is to count the letters, and then assume that the most frequent will be E, the next T, then A, O, I, N, S, H, R, D, L, U and so on, which tends to work fine for English with the regular frequency of 'the' 'a' and so on.

If it is a regular transposition, the player assumes the most frequent letter is E, then T, then A and so on, until the message springs to view.

Let us analyse the message above:

letter	no of occurrences
--------	-------------------

E	4
---	---

A	3
---	---

I	3
---	---

P	3
---	---

T	2
---	---

R	2
---	---

D	2
---	---

and all the rest 1.

Your player would have a reasonable chance of decoding that message if you used a regular transposition.

On the other hand, if the message is a long one, you can afford to have an irregular transposition such as:

ABCDEFGHIJKLMNPOQRSTUVWXYZ

matching to:

XFJQZKESVDNPIUWHARTYOBGMP

for example.

You could even make the message very short and the transposition immensely complex if you overtly or secretly include the key in your game instructions, as I did in the Paul Daniels Magic Adventure or in a codewheel or other device in the game pack. (See also the section on Copy Protection.)

Following:

Many discoveries can be made only if the player follows a non-player character or monster to find out what he/she/it is doing.

It is especially useful to allow the player to eavesdrop on other characters in order to determine the magic words that open doors or quell demons.

Sometimes following will permit directions and paths which are not available to the player moving independently. In at least one adventure, following an animal is a good way to get out of mazes.

The Senses:

Smell and hearing can be useful adjuncts to an adventure. At least one adventure was issued with a 'scratch and sniff' card, and Hitchhiker has a situation where the player must use senses other than sight to continue play.

Characters with heightened senses may be able to detect danger at a greater distance than usual.

Proxy Actions:

Actions which might be undertaken by a player may be delegated to a non-player character, usually a companion to the player. This delegation may be made explicit by command of the player, or implicit by virtue of the presence of the character.

For example, Trent/Tiffany in *Leather Goddesses* always performs spontaneously to protect the player character if he/she is present.

There is more discussion of this under the subject of Characters and Monsters.

Time Dependence:

Another important feature in adventures is time. For some of these, time is 'real' time, but it is more usual for time to be proportional to the number of moves made.

Many adventures expect the game to be solved within a certain timescale, counted in turns, and close the adventurer down if he has not reached the end.

Important use can be made of the effect of time. For example, a maturing element can be introduced, in which an item transforms into another over the period of several turns. A caterpillar might transform to a butterfly. A seed, once watered, might grow into a plant.

Conversely, a leaking bucket might become empty within a few turns, or, most typically, a torch burns out after twenty or so turns. The torch device has been over-used in adventures, in my opinion, but there is no harm in introducing some new time-dependent wear and tear.

Finally, there is the 'critical moment' feature, where something happens at, say, turn 27 of the game, or 27 turns after another event. The player must be ready for the event or he will miss it. It is important to inform the player that the event has occurred, or he may never realise he is too late.

Ambushes are often time-related. A non-player character intercepts the player on the basis of the number of turns performed or on the basis of the number of turns performed in a single location.

Weather:

Another feature which is often time-related, but probably deserves its own category, is weather.

Mist or Fog can reduce visibility. Cold weather might freeze the moat the player needs to cross. Hot weather might dry it up. The fire-breathing dragon probably stays home in rainy weather.

Skills, Powers and Magic Spells:

This is a very handy plot device. The player, or one of his companions, acquires the power to make a transportation device work, to defeat monsters or to control some other important feature of the game.

It can, however, make a game tedious if taken to extremes. For example, if the player has the strength to lift a ten-ton rock, it is inconsistent that he must use a key to open a door, or use a silver bullet to kill a werewolf. Surely he could apply a ten-ton rock or his Fist of Iron to either problem. While a rôle-playing Dungeon master can deal with frivolous use of powers when the game is played by people in a non-computer context, an adventure writer would be hard put to anticipate all possible misuses of a strange power. The power must be carefully constrained to a small range of effects.



Logical Traps:

Fiendish glee can be obtained from the delivery of a trap in the form of a clue. For example, watering a dry plant might transform it into a man-eating Arcturian Tiger Orchid! Or the player might be tempted by a clue to bribe a guard, only to discover that guards react very badly to bribery.

Similarly, the game might tempt the player to use a piece of wood to break a window, only to reveal, when the player picks it up, that the piece of wood was supporting the ceiling.

Physical Traps:

Physical traps usually reside in a specific location. They may consist of, for example, a hole in the floor into which the player has a percentage chance of stepping, or a monster which lives in that location. Rock-climbing or Monster-killing equipment, respectively, might protect the prudent player in these locations. Traps should be distinguished from ambushes, where the danger stalks the player and may strike in a number of different locations.

The trap may either be passive, where it actuates either regularly or randomly without the player's intervention, or active, where a player has to do something incautious to trip it.

There is no limit to the ingenuity of the game-writer in delivering a trap. A falling rock or missile, a bright flash that blinds the player character or an illusory exit are just the tip of a large iceberg.

Alarms:

A variation on the Trap is the Alarm. Allow the player to trip an alarm by entering a location or doing something. This alarm can then set a counter which guarantees to bring the Horrid Goblin Hordes rushing to the scene very soon, and the player has perhaps three turns to escape or render himself invisible.

Darkness, Obscurity and Illusion:

It is natural to render a player vulnerable (to Grues, usually) and disoriented when in a dark room. The game-writer can decide whether the player can move out of the dark area, and how many turns he has before the grue descends upon him. A dark room can usually be lit by a general purpose light source, but it is often useful to make a room's appearance and contents visible only when a certain object - analogous to a light source - is being carried by the player. For example, a Helmet of Clear Seeing.

Another handy device is Obscurity. This resembles a thick fog in which the player can move around freely, but cannot find anything and may have to make several attempts to leave the location, often exiting in a direction different from that which was intended. Obscurity can accompany Ambush.

Illusion is an excellent feature. It consists of a location, item or character appearing different from reality (whatever THAT is in an adventure game). From the game-writer's point of view, substitute characters or items are used if the illusion is limited, or variable geography may even be used for extensive illusions.



Ambushes:

Ambushes are a type of trap in which a non-player character, such as the thief in Zork, mugs the player, often killing him. The exact location of the ambush is not necessarily predictable. It could be engendered by a time-related formula, by the value of the player's inventory or by the length of time the player remains in a certain location.

Typically one allows the player's possessions to be lost for good, or to be scattered around the locations of the adventure.

It is usual to allow the player to be able to ward off ambushes by:

- reacting to the ambush by taking one of a number of allowed actions
- avoiding the circumstances which lead to an ambush - for example, by not standing still for too long!

Helping Out:

Sometimes it's a good trick to show a creature or character in distress. If the player helps that creature, the creature then, or perhaps much later, helps the player. It is a useful feature to make helping the creature optional at the time the help is required. In this way, there is virtue in providing the help and the subsequent reward is well-deserved.

Clues:

There are many ways of delivering clues.

Non-player characters can include hints in their conversation. In particular, lies and contradictions may provide oblique clues. Cryptic clues - like those in crosswords - may also suit a particular type of adventure.

Characters deliver hints in two forms - either as an unprompted statement like the loquacious parrot in *Pirate Adventure*, or on request as with the owl in *Sir Ramic Hobbs*.

The most direct method of delivering a clue is in response to a HELP request from the player. I would advise against inviting him to buy a hints booklet, as some games do. I always feel that HELP should provide an opportunity for the game writer to deliver a relevant hint or at least a meaningful response then and there.

Often a clue can be hidden in a riddle, but make sure it's a fair riddle.

The most subtle, and most satisfactory method of delivering clues is within the location and item descriptions. For example 'The plant is dry and withered' is a clear invitation to water it.

A method which I used in *Sir Ramic* concerns the use of a magic carpet. There is a device which controls the carpet, but which seems to be intended for something else. When the player uses the device in the more obvious manner, the carpet whooshes away. This tells him, or should do, at any rate, how the carpet works.

There are two reasons for including edible and drinkable items in a game.

The first concerns the need for the player character to keep body and soul together during the game. As a player, I find it very tedious to keep having to go through such housekeeping activities time and time again. Game writers should make sure that the caches of food and drink, however hard to find, are sufficient to sustain the player for a considerable proportion of the game once taken.

The other purpose is to use comestibles to make important (usually magical) changes in body size, visibility, awareness, state of health and so on. Conversely, feeding suitable items to enemies may disable or kill them.

Unusual Uses:

A game is often enriched by providing an everyday object which is to be applied to the game in an unusual manner - for example, to use a food mixer as the propulsion unit for a boat.

Provided enough clues are given, this can be a very entertaining feature. Unfortunately, examples of bad planning abound. Some problems appear time and time again in fan magazines and bulletin boards.

The Cast of Characters Assembles

An important component of any plot is the characters who must help the player act it out. While you need not have your full complement of characters before you start development, it is helpful to have selected the leading players, as they will suggest plot elements to the writer.

Characterisation is one of the hardest parts of adventure creation. There are few really memorable heroes or villains in adventures. This section should give you some ideas on how to create interesting characters and communicate their personality to the player.

The Player Character(s):

There are no clear rules for choosing the attributes of a player character. That character is the one whom the player controls like a puppet, and who represents the game player's interests.

In an arcade adventure, the puppet is usually clearly seen strutting around the screen, and text messages clarifying the situation are preferably kept to a minimum. Personal identification between the player and the character is often weak, because the figure on the screen does not look much like the player.

Even in an illustrated text adventure, the player character does not often appear in the graphics. In essence, the graphics represent what the player character can see. Since there is often an option to switch off the graphic image, the character's appearance on the screen must be non-essential to the characterisation.

In other words, the attributes of the character are usually communicated to the player by some intellectual process, rather than pictorially.

In my adventures, the quality and disposition of the player character are communicated by the way the game reacts to him. It is quickly made clear, for example, that Sir Ramic Hobbs is an unathletic, drunken character with considerable courage but a misplaced faith in his own capabilities.

As an author, you ought to give careful thought to these personality considerations, and, once the player character has been created, maintain a consistent reaction to him/her throughout the game or explain why the attitude changes.

Other Characters and Creatures:

Characteristics:

The attributes of a non-player character or creature are communicated to the player by what they say or do, and consistency is again the watchword here. That does not mean that the character should be bad through and through or unwaveringly good. What it means is that once you have decided on the personality, don't let him/her act 'out of character' without reason. As novelists have discovered, it is appealing if the baddies have a redeeming feature and the goodies some flaw in their personality.

It is sensible to assemble a set of characteristics, and give each character and monster a score out of ten against each characteristic in the style of a rôle-playing game. If desired, too, the profile and current condition of the player character and all the other characters in the game can be maintained throughout.

When the character is attacked, or goes without food or travels a long distance you can use his attributes to decide how he will take the strain and what his eventual condition will be.

This can be taken to the point of resolving combat with the use of chance factors, hit points, armour class and damage tables.

The effect of poisons, spells and cures can also be reflected in the attributes of the characters. TSR's excellent Dungeons and Dragons handbooks are a great source of inspiration for such logical world structures.

Health may be restored to an ailing character by antidote, spell, food & drink, sleep, infusion of old batwings and toadsbreath or the undying love of a fair member of the opposite sex (or even an unfair member of the opposite sex).

Character Actions:

Much of a game's enjoyment often springs from the seemingly independent action of other characters. These actions may be programmed to appear truly spontaneous, or to react to the player's actions or requests.

The spontaneous actions of characters can provide warnings or clues. For example, it is reasonable to cause a canine companion to detect the smell of enemies approaching, and behave in a way which warns the player.

Hostile and murderous characters (often monsters) provide a great deal of the challenge of adventure games, but, unlike space invaders, it is not great sport just to zap them all with superior strength or by being lucky. It is more rewarding to subvert, trick, bewitch or befriend the opposition, sometimes with the aid of friendly companions.

The antics of the living (and undead) denizens of your world can provide entertainment, even when such behaviour does not directly advance the game.

Proxy Actions:

Sometimes, a player may cause his player character to issue an instruction to another character in the game. As the game author, this complicates your job somewhat, because you have to deal with all these sorts of action as well as the player character's own.

The complication has its reward in cases where a companion is able to distract or defeat a monster, working in partnership with the player, where the player would not have been able to win single-handed.

Alternatively, the non-player character, by virtue of some special characteristic, could be able to do something the player character cannot, like climb a rope, lift a great weight or cast a spell.

Character Utterances:

Similarly, the speech of other characters is often a very considerable feature of a game.

Use speech to communicate the attributes of the character, and to deliver clues to the player. These clues should be spontaneously offered, or offered in response to a request or as a reaction to player activity.

I sometimes find it useful instead of writing:

'The parrot says: "Watch out for the Jabberwock!"'

to employ the dramatic convention:

'Parrot: Watch out for the Jabberwock!'

and indent the speech if it runs to more than one line. This distinguishes speech from location and action description.

Characters may speak spontaneously or may respond to information requests and deliveries such as:

'ASK PARROT ABOUT MAGICIAN'

or

'TELL POLICEMAN ABOUT THIEF'.

Extra interest can be brought to the game if each character speaks in a different manner. In Hobbs, the narrator (Prang) speaks in a withering and sarcastic tone, while the owl always speaks in a grovelling, ingratiating whine.

Lies and Contradictions:

Like real people, characters in adventures often lie and contradict themselves. These falsehoods often give the player an insight on the truth, or on the true nature of the character.

Detective adventures are the principal medium in which this kind of behaviour gives clues to the player, but there is something to be said for using the feature in other types of adventure, as a guide to personality or as a clue.

Companionship:

It is usual for the player character or hero of an adventure to be accompanied by one or more companions who may act on the player's behalf either spontaneously or on request.

It is often also possible for a player to choose to be a different character on a subsequent play of the game. Some multi-user systems allow a number of players to wander the realms of the adventure simultaneously.

As described under Proxy Action, it is possible to instruct different companion characters to perform actions that the player character cannot carry out. This is in line with the rôle-playing convention of sending a group of adventurers on the same quest, typically a warrior, a thief, a priest, a witch, a dwarf, an elf and so on.

It is common for companions, once encountered, to follow the player character everywhere. On other occasions, it is necessary for the player to press them into service by bribery or simply by requesting them thus:

'THESEUS, FOLLOW ME'.

Monsters:

Beware of stereotypes in monster design. Every monster should be a well delineated character in itself. The fact that an ogre wants to eat the player character is not in itself evil. It is in the nature of ogres to eat adventurers, in the same way that it is in the nature of pike to eat perch.

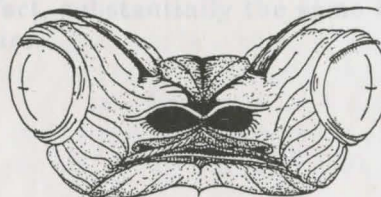
If he is to be really evil, the ogre must be seen to kick puppies and pull the wings off butterflies. He may also have one robust redeeming feature like cheating on his taxes or selling his mother-in-law into white slavery.

It is these little points which make him a really rounded character, and a positive pleasure to lure into the path of a combine harvester.

Monsters can also have specific powers such as poisonous stings which act over a period of time, or the ability to become invisible or roam the locations or follow the player character.

As mentioned under Weapons, a monster may be vulnerable to a specific weapon as opposed to a general-purpose one. Equally, it may succumb to attack by a particular companion character, or it may have a vulnerable time of day, or the famous soft underbelly.

Monsters can range from pools of sentient corrosive slime, through renegade Asimov-eating robot, to God of Greek Mythology.



How to Develop and Test your Game

Having decided on your theme and setting, and put together a plot and the leading characters for your adventure, the next stage is to actually develop the game, using the game-writing system or systems you have chosen.

The first part of this chapter discusses the **art** of conveying atmosphere and excitement to the player. Next, come some notes on the **craft** of the game-writer. The third section concerns the **technology** of game-writing systems.

Art:

The art of the adventure game writer bears a close resemblance to that of the short story writer. He must create an atmosphere with as few words as possible, and build and sustain excitement with economy.

How are atmosphere and excitement to be achieved?

However inspiring the subject matter of the game, the key areas are:

- Clarity
- Consistency
- Responsiveness
- Progress
- Reward
- Anticipation.

These are, in fact, substantially the same key elements as all games require.



Clarity:

Except where obscurity or illusion are intentional it must be clear to the player, either in words or in graphics, what the current situation and objective are. In addition, it is helpful for the player to know the overall objective of the game, even if that objective is quite irrelevant to the current situation.

The geography of the game in general and of each scene must be clear. This is particularly important in graphics games where the constraints of the drawing method or the screen resolution can perversely make perspective and direction difficult to perceive.

Sometimes it is fun to conceal the true nature of an item, but most of the time you have to work quite hard to describe them clearly. Again, this can be hard in graphics games. A 'zoom' or text feature is often necessary.

Sometimes, a handbook issued with the game provides a detailed description of important items and of the geography of all or part of the game. This can also be a useful copy-protection device.

In writing and testing your adventure, you must always place yourself in the position of a 'dumb' user who has not helped you write the game, and make sure that he will always know what his target is, what has happened, where he is, who and what are sharing the environment with him, and, to a large extent, his degrees of freedom to act.

Consistency:

A game must be consistent. That doesn't necessarily mean realistic. Because few adventures even remotely approach realism, you rely on the consistency of an imaginary world. Consistency encourages the creation of atmosphere.

If an effect works in one part of the world, it should work in all parts. For example, your 'dissolve rock' spell should dissolve rocks encountered anywhere in the game, not just on the wall you need to penetrate. Paint should make a mark wherever you daub it, not just where you need it.

The fulsome description or detailed graphics you deliver for the early locations should be maintained for all scenes in the game. If the quality is bunched at the start of the game, the whole game starts to look very thin. This is harder to achieve than you might think. By the time you are half-way through an adventure, the end will appear more distant than it did before you started, and a panicky haste will descend upon you.

If you are really restricted on resources, it is probably best to reserve the best graphics for the first and climactic scenes. This avoids the impression that the game is gradually fading out.

Responsiveness:

Interactivity distinguishes adventure games from the books and movies which are much richer in other ways. It is important for the game to return a fairly high quality of response. 'You can't do that..' is going to be returned all too often as it is. If you, as the game writer, can anticipate some of the ploys a player may try, it is certainly your duty to build appropriate responses to them, even if the player's action does not advance the game.

If his action is 'getting warm' - for example, if he has tied one end of the string to the right lever - make an encouraging response.

In arcade adventures, the antics of your player character are eventually going to become boring when a player is trying to retrace his steps. Make his response to direction control very positive so that the player can gallop through the areas he knows well.

Progress:

The game must move forward to remain interesting. One way of doing this is to open up new avenues of exploration to the player. It's no good to move him from one anonymous cave to another. The new cave must be interesting in its own right. The player should always have a reasonably large territory to explore unless he is in a tight spot of some kind. There should be enough items and clues lying around to keep him interested for a while. As emphasised in **Clarity**, he should have a general idea of the geography and objective of the game, so that he can see he is getting somewhere.

Avoid tedious mazes and avoid killing the player too readily. Obviously, the player can use SAVE and RESTORE to anchor his progress, but it can be tedious to keep reloading in order to recover from sudden death.

Putting a 'security lock' on the RESTORE verb can be all you need to dishearten a player from using a pirated copy. Going back to the beginning of the game after every mistake is even more tedious than RESTOREing. This can be the basis for copy protection.

Often, it is worth having a character appear and brief the player on the solution to a problem if he has been stuck in a situation for a large number of turns. I see no virtue in wandering the corridors of a dungeon for year after year, with nothing new ever coming to light, and the solution ever elusive. These games are meant to be interactive fiction, not eternal purgatory.

Make your clues meaningful. I have often delivered a clue that seems as broad as a barn door to me, but which turns out to be too subtle for my audience. Remember, you know what the solution is. Your player is going to have to work much harder than you, and if he fails to make progress, he will become bored. This is a difficult balance. You must maintain the impression of progress for the inexperienced player, while giving a challenge to the Seventh Dan adventurer. In short, an adventure game should be challenging, but not unreasonably difficult to play.

Apart from any other consideration, it is a terrible waste of your own creative spark if most players never reach the end of your game. That would be like an author expecting most of his readers never to reach the end of his novel.

Reward:

Reward is the mechanism by which the game author can indicate progress to the player. It is also a mechanism for keeping the player interested even when he is actually making no progress at all.

It can vary from the opening up of a new and interesting set of caves to the appearance of a new character or an amusing consequence of something the player tries.

Nothing keeps a player interested like a well-communicated sense of 'winnability'. If he really believes he can complete the game, he will work much harder than if he constantly feels discouraged.

Often, alternate methods, one clever, the other laborious, of solving the same problem can be used to give the player confidence that he will solve all the puzzles one way or another, or that he doesn't just have one chance of winning.

It is useful to use different responses (selected at random) to reply to different instances of the same or similar stimulus. This keeps the player trying much longer. If the invariable response to 'TOUCH item' is 'Nothing happens' then the player will become bored more quickly. He will keep playing around with the items in a more creative manner if the responses are richer such as: 'You'll take the shine off it!' or 'Careful how you touch the ...'.

Another way of rewarding the player is by giving him points for progress. Points scores in an adventure are, however, less motivating than they are in an all-action arcade game. Nobody plays adventures for the pleasure of seeing their points score, though it is often used to measure whether the player has completed the whole adventure. It is important to make it clear to the player that he has completed the adventure, by making a positive statement to that effect.

Anticipation:

Nothing builds excitement like anticipation. It is a vital element of any successful game. If you can convey to your player that something exciting is going to happen before it does, you will add greatly to his enjoyment.

As described in the chapter on plotting, there should be a build-up of suspense throughout the game, consisting of events which are anticipated.

The character of these events, and the manner by which the anticipation is delivered will vary from broad hints like 'You can hear the tramp of iron-shod boots approaching' to more subtle clues such as small animals scurrying in the opposite direction and 'an unnatural silence descends upon the countryside'. Alternatively, you may give the player hints of something wonderful on the opposite side of a canyon that he must cross, or the form of the geography may indicate that he is about to stumble upon an important discovery.

Surprises are very much part of an adventure game, but they should not be delivered in a bald style like:

'SUDDENLY A HUGE OGRE LEAPS OUT UPON YOU'.

Repeated events of this nature are no longer surprising nor even interesting if they are largely unrelated to the player's actions.

If the huge ogre leaps out of a hat box the player has just opened, or the pond he has decided to swim turns out to be inhabited by man-eating ducks, then the player will start to anticipate surprises.

For a build-up of tension, you need to establish that almost anything can happen if the player is careless, and then have a period of relative peace between incidents.

Craft:

The craft of the adventure author lies in his use of image, sound and text. However cleverly designed, the game stands or falls by the craft applied to its development.

Images:

Be careful when making your graphics for the game to make each image professional. Drawing a childish image just for the sake of having 'graphics' can easily devalue an otherwise excellent piece of work. It is better not to provide an image at all than to provide an inferior or misleading one.

The recent advent of digitisers, which can take a picture and turn it into a screen image, has made it easier to produce good screen images, but again at a cost in storage.

Remember, in any case, that some of your users will have low resolution graphics. To ensure a wide distribution, you must design to the lowest common denominator, which in the case of Spectrums, C64s, Amigas and STs is a TV set, and in the case of IBM PCs is a CGA-compatible laptop with LCD. In short, do not presume a high resolution. Design your picture so that it is balanced and well-proportioned. Then, even if it appears in shades of grey, it will still look good, especially from a distance. This does not prevent you from producing stunning graphics for the top-of-range computers, what it does is to widen your marketplace.

Ideally, we would often like our graphics to be like Foss or Roger Dean paintings - in fact, like the cover of this book or an LP. Bear in mind, though, that these illustrators are dealing in detail at hundreds of dots per inch and three thousand shades of colour, while we computer artists are dealing in tens of dots per inch and tens (at best) of colours.

This is not a book on graphics, but here are some starting points for the beginner:

Study perspective. So many promising computer graphics are spoiled by a lack of understanding of how objects diminish with distance, and parallel lines converge in perspective.

Get a book on artistic composition. There are two helpful outcomes of this. A well-composed picture is easy on the eye, and suggests an atmosphere much more readily than a cluttered one. In addition, a well-composed picture will tend to have large blank areas on it, which saves you work. Avoid fiercely symmetrical pictures, and ones which have the focus of attention in the centre, or which are divided in half by a horizontal.

Try not to fill the screen with the picture. You will save storage and produce a better effect if you frame a section of the screen and place the picture in that.

Study the masters. Walt Disney backgrounds and Chinese paintings are masterpieces of economy and composition. The recent spate of Kung-Fu arcade games has spawned a particularly fine series of oriental backgrounds for their zapping and kicking. Snow scenes are good, too. Christmas cards often display an admirable economy with a well-wrought atmosphere. Beardsley pictures are beautifully balanced, but you won't be able to match his line.

Possibly best of all models to use are high quality comic books. They can suggest stunning scenery and events with great economy of detail and colour. Their resolution and palette range is much closer to the one we must use.

In arcade adventures, you will have to bear in mind the fact that your puppet will probably not vary in size as you move him around, so you have to make the playfield shallow from front to back and avoid natural perspective. In effect, you have a stage. Use the artificial perspective set designers employ. A study of set design will be rewarding in many respects. Don't clutter the stage with extraneous items. Make sure the entrances and exits are wide enough so that your actor can get through them easily. Make sure your scene changes are so slick that the player doesn't get bored.

The golden rule for all computer graphics is... keep it simple.

Sound:

While sound is an important feature of arcade games, in adventures it is often a needless distraction. An adventure game must not, in my opinion, be dependent on sound, and must allow the sound to be suppressed. Although they are largely an intellectual medium, some adventures are accompanied by a little tune that plays throughout the game. Luckily, the tune can usually be switched off before it drives the player insane.

Sound can also be used as an additional 'warning' stimulus about the approach of danger. Sometimes a sound in the middle of an otherwise silent game gives an agreeable surprise, when, for example, a magician appears or a monster is killed.

Recently, in the more highly developed arcade adventures, synthesised voices have been used. Regrettably, too, the speech is often hard to comprehend.

In common with high quality graphics, recognisable speech and sound effects is very greedy of RAM and backing store and games with both typically require special or top-of-the-range hardware and many kilobytes of backing store to operate at an acceptable response level.

On the other hand, music and conventional beeps and grunts are relatively easy and relatively economical of computing resources.

Text:

The use of language in adventures is not simply a matter of spilling your ideas onto the screen.

There is a duty upon any person who delivers words to the public to employ proper spelling, grammar, punctuation and construction. You may not be writing great literature, but like every wordsmith, you should have a dictionary and thesaurus to hand and be ready to use them in earnest.

A thesaurus is particularly useful in finding the right word to use in any context, to form lists of synonyms, and to find alternate names for similar objects so that the player does not have a problem distinguishing between them.

Style:

In my own adventures, the player is usually addressed by the game in a very personal fashion thus:

'You are in a dimly-lit cavern. There is a dark entrance to the South, where you first entered this cave, and a flight of rough steps leading downwards to the North.

There is a heavy sword here.

Your faithful cat is by your side.'

The game delivers the view as it is seen by the character, and the items, if connected to the character, are so described.

Whenever the game reacts to player input, it does so as game author to player, sometimes, as in Hobbs, putting my words into the mouth of a constant and inseparable companion. The reaction to 'ATTACK MAGICIAN' might be:

'You thrust the heavy sword at the advancing magician, but miss, due to overconfidence and bravado. Why not try again?'

Sword and Sorcery exponents often prefer the present tense narrative form with implied prior knowledge of the environment, thus:

'Grey Paladin stands in the Ancient Hall of the Wierdmage. North lies the Terrible Staircase, South the Hall of Arch Conjurors.

The great sword Toadpricker invites his steel grip.

Mogg the Mouse-slayer stands by his side.'

Whenever the game reacts to player input, it does so in the narrative form again:

'Grey Paladin thrusts Toadpricker at Hrrdtcx the Parsoneater.'

The style does create a different atmosphere, appropriate to certain themes.

The present tense is, of course, optional. The narrative can read like an historical epic instead.



Output Text:

In text adventures, keep your descriptions brief and to the point. There are two reasons for this. In the first place, the player is not there to read a Sir Walter Scott novel, and may become bored if your descriptions are too fulsome and detailed. In the second place, the more features of the scene that you mention, the more likely the player is to use a word from your location description in his command, and become disappointed when that item is not actually there.

In most successful adventures, a single location description seldom exceeds 300 characters.

Try to remember, when writing location descriptions, that unless the location is a 'YOU ARE DEAD' type of location, the player may visit the location a number of times. Do not write the location description as it would appear if the player only visits it once. The description should fit for the first and subsequent occasions, and any exceptional text like 'At last! You've found it' should be programmed to appear only the first time the location is visited.

The same applies to the short messages that signal item or character presence, such as 'There is a sharp sword here'.

Detailed item and character descriptions, on the other hand, may need to be longer. As the player should not need to access the same description very often, it cannot become boring.

It is often helpful to have both a description and a text for things that can be read.

For example 'There is a large notice here' has a description 'The notice is four feet high and three feet wide' (perhaps to indicate it could be used to wrap something) and might have a text such as:

'NO TRESPASSING. TRESPASSERS WILL BE EATEN.'

Input Text:

Most adventure game systems have reasonable parsers, able to separate the parts of a user's input, and deliver each part of a composite command separately.

It is important, however, that you make sure that synonyms for verbs and items are provided wherever possible. If you feel the need of an abbreviation, make sure the abbreviation is communicated to the player. He is not going to start guessing which words you have decided to abbreviate.

Try, too, not to lock a problem solution in on a particular phrasing. I remember one US offering which required the player to guess 'CRAWL THRU THE HOLE'.

'GO INTO THE HOLE', 'ENTER HOLE' and 'SOUTH' (the hole was the only Southward exit) did not work.

Another pitfall concerns the way other characters are spoken to.

The best format I have come across allows

'ASK HAROLD ABOUT THE VAMPIRE'

for information seeking.

'TALK TO HAROLD ABOUT THE PARTY'

enables information giving.

'HAROLD, EAT THE PIE'

issues an instruction to Harold.

The worst was "'HAROLD, VAMPIRE'" as the only form of conversation (note the lone double quote!). There was no other way of communicating with characters. The results of such requests were usually even grimmer than the format required.

Very common verbs may be attached to function keys or icons. It may be possible to menu-select items. It is indeed surprising how few verbs are required to conduct even an elaborate game. They consist of:

- all the standard game management verbs, such as

HELP, INVENTORY, LOOK, EXAMINE, SAVE, RESTORE, SCORE, QUIT;

- all the direction verbs - ie

N, S, E, W, NW, NE, SE, SW, UP, DOWN, ENTER and EXIT;

- all the common action verbs which appear in many adventures, including

ATTACK, KILL, EAT, DRINK, OPEN, CLOSE, LOCK, UNLOCK, GET, DROP, PUT x IN y, PUSH, PULL, TURN, PLAY, ASK x ABOUT y, TELL (TALK TO) x ABOUT y, LIGHT, EXTINGUISH, GIVE x TO y, READ, FOLLOW.

Even if these are not essential to the game, it is best to have sensible responses to a player's attempts to use them;

- action verbs particular to the current game - such as:

SWIM, PAINT, RUB, TIE x TO y, UNTIE x, COOK, BUILD, BURN, CUT, CLEAN, USE, KISS.

Remember to synonym as many verbs as you can, so that the player does not himself have to resort to a thesaurus to guess the word you are expecting him to use.

For CUT, it is reasonable to synonym:

SLICE, CHOP, SEVER, SLASH, SAW, SLIT and STAB.

The Technology of Game-Writing Systems:

In this section, I will outline some of the basics of game writing systems. No matter which system you choose, you should have most of these facilities or their equivalents. Appendix A lists a number of packages currently available.

What does a game-writing system do?

In general, you specify all locations, items, characters and special circumstances to the game-writing system, and the system produces a game.

In the case of some commercially available game-writing systems, an editor is built into the product, allowing you to test-run the adventure bit by bit as you put the data in.

Most of the time, however, the data for the game is prepared using an editor of your own choice, and the ASCII file is fed into a 'compiler'. The output from the compiler together with some system routines/programs is the runnable adventure. This technique usually eases transfer of adventures between machines.

If this is your first foray into adventure-writing, it does not much matter which system you choose for your first game. The important thing is to get some experience with a usable system that runs on your hardware.

Of the text-only systems, I favour AGT for ease of use and cross-machine compatibility. Use ADVSYS for extra power if you can handle object-oriented programming.

I have used GAC on the Commodore 64, and found it very good. Its graphic interface was usable, and it had some nice facilities. GAC's successor for the Atari ST - STAC - has a similar interface.

A product called The Quill, which also has a graphics capability, has been very popular in the Sinclair Spectrum sector of the market in the UK. I have not used it, but have been agreeably surprised by some of the products produced with it. Quill's successor is PAW - Professional Adventure Writer.

At the 'top' end for logic facilities and cross-machine compatibility, but lacking graphics, are AGT and ADVSYS, which feature virtually a programming language for their command handling structure. PAW, GAC and STAC all have a good instruction system, too. GAGS, which was the forerunner of AGT, had virtually no instruction structure, but a good adventure could still be written with it.

At run-time, each game-writing system has a particular sequence in which it processes standard locations and items, performs location changes, and obeys instructions. These vary from system to system. Some systems require the writer to specify two sets of instructions, one set which must be executed before the player can input his command, and the other for processing after the command.

At run-time, game systems vary in the number and sophistication of standard responses they give to standard and error conditions, and how many standard command verbs they understand and act upon.

The system I wrote for the Atari 800 (not commercially available) was unique in that it read and interpreted the data file at run-time. Its main advantage was that I could include software routines in the data to deal with special situations, including moving graphics and elaborate sound.

If you are a programmer, and decide to build your own adventure game system, I can recommend the approach of separate editor, compiler and runtime system. It is cleaner, and more economical in resources.

What does the system require from the author?

All locations, items and characters (and their synonyms) are described and defined according to a set of criteria specified by the game-writing system. These definitions will be similar to those described in Chapter 8.

If there are graphics, the graphics are either connected firmly to a location, or, more usually, there is a picture file so that multiple locations can use either the same graphic or different combinations of more than one graphic, and so that special instructions can invoke an image.

The set of synonyms for standard verbs is defined, together with a number of extra verbs that the game will recognise. The game writer supplies instructions to deal with these extra verbs.

The 'special situation' instructions are then defined. This is where the greatest variation arises between systems. The instruction structure is used to define the game's behaviour in special circumstances. Some systems have virtually no instruction structure at all, embedding a few special cases in the location and item descriptions. Most have a system for testing conditions and taking action according to the result. It is most useful if the instruction system can 'see' the player's input and the current situation, so that the game can react to the use of a particular verb/noun combination in a particular location.

Using the instructions composed by the author, the game will be able to recognise special situations and carry out the corresponding actions.

An independent set of messages, coupled to the instructions, is also prepared. Some systems feature a unified set of messages so that the writer can alter the system standard messages if desired.

It is important to keep track of your progress at this stage. I usually use an editor, such as BRIEF, which allows me to edit multiple files simultaneously. This also gives me the possibility of keeping a journal file with all the things I might forget, like the numbers of special variables and the numbers and names of locations and items. If I didn't have this facility in the editor, then the notebook would come in useful again!

Getting your Adventure Working:

The previous section makes it look as though you just pour the ingredients in one end and get the result out of the other. Unfortunately, it isn't like that. At any rate, the result when you do so would not be the success you were striving for.

The usual procedure is to input some data, compile and test. Then, when that is working, input some more.

In order to speed up the testing process, it is usually possible to put temporary short cuts in the first location to skip to much later stages of the game. One or more of the NW, NE, SW, SE exits are usually available in an early location for this purpose.

Alternatively, you may be able to alter the start location. Equally, you may find you have to temporarily re-locate some items so that latter stages of the game can be played.

As all programmers know, the surest way to cause a bug is to cure another bug. Be sure to regression-test every time you make an alteration to an adventure. In the last instance, this means playing it all through again.

Remember, too, that the direct path through the adventure is not the only one. You have to walk down all the dead ends and do a few silly things, too.

The more sophisticated game-writing systems offer more opportunities for making an error.

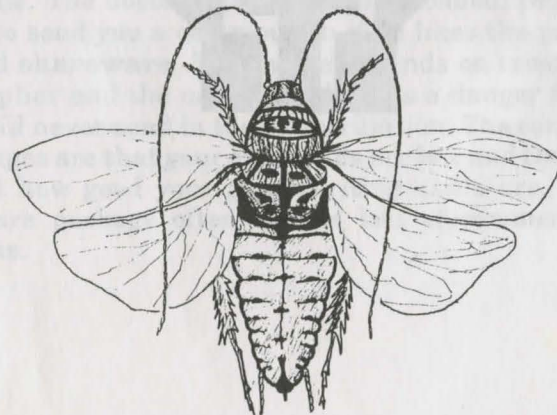
Remember to read what your descriptions and messages say. Very often, it is obvious that the game-writer has never actually inspected his text for mis-spelled, missing and duplicated words. We often see what we expect to see, so run the files through a spelling checker if you have one or ask a friend who can spell to read through them if you haven't.

When testing the adventure, after you think you've taken all the bugs out of it, watch someone else play it, and note their behaviour in your book. The results will tell you lots about the quality of your game, and how to improve it. The alternative to writing it all down is to print a journal of the play session if the game permits it, though sometimes what the player says and the expression on his face whilst playing are a lot more significant than what he types!

Children are excellent play-testers, and for the really awkward user, choose someone who never plays adventures or who dislikes them. And make sure to use someone who feels no obligation to be polite to you. Close relatives are therefore a good choice!

For the best results with arcade games, including arcade adventures, we videotape both the game and the player.

Remember that a bug left in the game will not only torture your players, it will return to extract its vengeance from you.



How to Publish and Copy-Protect your Game

Publishing:

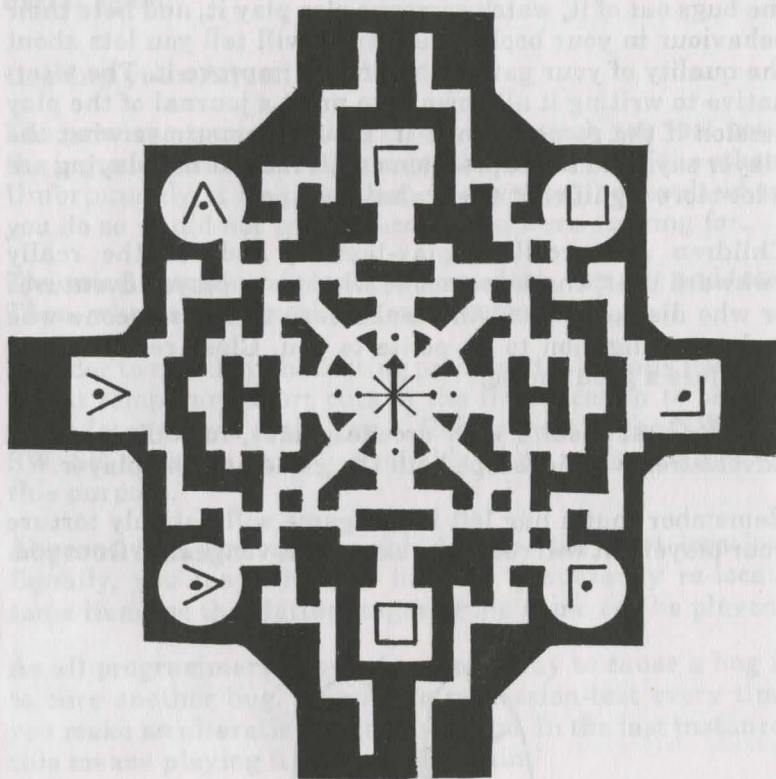
No-one REALLY sits down to write an adventure without hoping to see it played by as many people as possible. There are a number of ways of publishing it. You can advertise it in a games magazine and sell it direct, you can upload it to a bulletin board and allow it to be distributed free or as shareware, or you can offer it to a software publisher to advertise and distribute for you.

Each of these ideas has advantages and pitfalls.

Self-Publishing:

Doing your own publishing gives you the best profitability if the product is successful, but it is full of pitfalls for the inexperienced, and time-consuming to do the job properly.

One way is to upload your product to one or more bulletin boards for the computer-owning public to download by telephone. The documentation, also uploaded, requests the player to send you a contribution if he likes the game. This is called **shareware**. Shareware depends on trust between the supplier and the user, and there is a danger that some users will never send in their contribution. The considerable advantages are that your overheads are low and that you can find out how good your game-writing skills are, as a new shareware package often excites lots of comment on the networks.



In any event, you must ensure that you obtain the necessary licences from the owners of the game-writing system to distribute games developed using their system. Each product has a different policy.

Some of the possibilities are:

- They grant the licence by virtue of you buying their system

- They require that you submit a once-only payment and a copy of each game distributed

- They request a small royalty if you sell more than 150 copies

- They sell you a different version of the product for public distribution.

There will almost certainly be no possibility of the copyright owner allowing you to upload his software to a bulletin board, unless, like ADVSYS and AGT, the game-writing system is itself a shareware product.

Organise the packaging. This may be an expensive activity, especially if you want to copy-protect the game and make its packaging look attractive. Only if the product is not on public display, but sold exclusively by mail order, can you afford to skimp on packaging quality.

When you are sure you have a complete and packaged product, arrange for an advertisement in a suitable magazine. You must expect any display entry, even a black and white one, to be expensive compared with classified small ads. You will find that regular advertising in a number of magazines is disproportionately more successful than a single entry.

Using a Publisher:

A software publisher should take licencing, packaging, production, distribution, advertising and other worries off your shoulders.

However, most large software publishers are surprisingly unwilling to distribute a game they haven't commissioned. There is pressure on them to justify the cost of full-page colour adverts. Wholesalers require big mark-ups on the selling price of games and the overheads of games publishers are so immense that they have to be fairly sure of selling thousands of copies of a product before they will market it.

This they ensure, most of the time, by picking up syndicated properties like Superman, Batman and James Bond and commissioning a game with a clear idea of what they want to see in it. Even then, they are burnt sufficiently frequently to make them extremely wary of any product that isn't a SURE FIRE WINNER and STATE-OF-THE-ART.

Surprisingly, the games that sell well tend to be copies of existing best sellers and are often inferior in intellectual content. This pattern does not suit us adventure writers at all.

Smaller companies like Amazon Systems advertise on a less costly basis, and will advertise several titles in the same entry. While sales volumes are inevitably smaller, direct mail order cuts out the markup expected by retail outlets. There is, however, a limit to the number of titles such companies can market at any one time, though a specialist company of this sort may have a very good mailing list of potential adventure game customers.

In summary, if you can persuade a publisher to distribute your product, that probably gives you the best long-term return on your investment of time and effort. Royalty levels for software run at a very low level, but remember that you can become rich on a small percentage of a winner!

Copy Protection:

If you do sell an adventure, be prepared for it to be pirated if at all possible. How can you copy-protect it?

Hardware protection methods can be expensive, and may cost the distributor more sales than they save. Discs with indelible identifiers and dongles can be effective, but there's often some piece of 'compatible' hardware that the system does not work with. Add to that the fact that amateur pirates have all the spare time in the world to work round the problem as an academic exercise, then they freely distribute their security-cracking system on bulletin boards, advertising it as a back-up feature, and that's the end of that.

There is a growing movement against hardware-enforced copy-protected software from people who insist on their right to have a security copy of software, or who dislike mounting an unnecessary piece of hardware every time the game is run, and large software suppliers are tending to rely more on documentary and legal safeguards.

The principle to follow is to ensure that it is hardly worth the casual buyer's effort to pirate your work. To achieve this, your product must be cheap and easily obtainable. Many US adventures were pirated just because very few High Street traders stocked them and Mail Order distributors took forever to obtain them from the USA because they advertised without having them in stock.

How, then, can your software be copy-protected?

An excellent protection for adventures is to supply a piece of printed matter or a product that is essential to the game or highly desirable but hard to reproduce.

Desirable commodities include lavish colour illustrations of characters and items, maps and plans, posters that look good above the buyer's computer, badges, scorecards, models and plastic trinkets.

How can printed matter or products be essential to the game?

Well, for a start, they can contain the key to a code that has to be cracked in the adventure. It may be a map, or it can contain essential information to answer a question. A good place to put such questions is before a SAVE file can be RESTORED. This means the adventure can be played, but probably cannot be won without the information.

It is helpful if the fact that the game needs the enclosures is hidden until the player has gone some way into the game. People often take a pirate copy of something because they want to see what it's like before buying. If the game hooks them and it's inexpensive, they buy their own copy.

How do you make printed matter hard to reproduce in these days of photocopiers?

There are three ways:

It can be big in terms of pages or in format

It can be in colour or transparent

It can be on the original disc or cassette.

A big insert can be a booklet. Some commercial products have a booklet with many pages which are hard to photocopy - they are small, and embarrassing to be found doing in the office! The only purpose of the booklet is that the player is going to have to use it to crack a code or is going to have to reply to questions like: What is the third word on the sixth line of page seventeen in the book?

Alternatively, the booklet may be intrinsically desirable, and contain essential details of characters and equipment featured in the game.

Another ruse is to print the insert at A2 or A1 size, so that it cannot be readily photocopied. No-one really likes using something that is stuck together with sellotape. If you print an apparently insignificant number at the foot of a legal size (or foolscap) sheet, the pirate may omit to copy the number when taking an A4 photocopy. A serial number printed on the game box may be missed during a photocopying session, too.

A coloured insert of large size is an excellent idea, because colour photocopying costs about 15 times as much as monochrome. Most pirates find this an even bigger turn-off than sellotape! From your point of view, however, colour printing is very expensive - much more than four times the cost of monochrome, especially for print runs of less than 1000.

One of the elaborate forms of colour printing is red-green 3-dimensional pictures. There are also other forms of 3-D printing including a process for producing hologram-like pictures, which would be impossible to copy cheaply.

To make colour printing worth your while, it must have either beauty in itself, or importance to the game. In these circumstances the would-be player may find it worthwhile to buy your game rather than steal it. The down side of colour documentation for copy protection is that colour-blind players may be at a disadvantage.

Though it is possible to photocopy onto transparent sheets, it is again more the province of the professional office, and difficult to do casually or cheaply. Such a sheet could form part of a code-breaking or password identification system, particularly if it combined colour with transparency.

Just in case you were thinking of trying it, never put a floppy disc in a photocopier. There's a good chance you will damage the data on it. For that reason, and because no-one looks closely at disc labels, it's a good security idea to print some essential data on the label of the original disc. We did that with the Paul Daniels Magic Adventure, and some pirates even had the cheek to 'phone us up to find out what the information was!

One game publishing firm hit upon a good idea. They had a habit of filling their packages with various trinkets and pieces of paper. For example, one product was sold as a dossier in a colourful folder filled with sheets of paper of different and odd sizes and colours, and with photographs and other items. It was not obvious which one was going to be important for copy protection, so the potential pirate had to copy them all, with the result that it became unattractive to make a copy for someone else.

Three more ideas that come to mind are:

codewheel - a sort of circular ready-reckoner with multiple discs which are a bother to reproduce

scytale - a combination of a printed item and a cylinder of a certain size. The paper is wrapped around the cylinder to reveal one or more secret messages

security lens - an optical device which must be placed over a small section of the screen to decipher a codeword.

Copy protection is a tricky subject and can even have a damaging effect on overall sales. Therefore, make sure your protection is either entertaining or at least trouble-free for the bona-fide user.



Cheat Protection

A subject allied to copy protection is cheat protection. Many of the early adventures could be solved by running the game's data file through an editor program and reading the messages. Even though the instructions could not be readily comprehended, the messages could give away the secret of how to do something.

Typically, a message might read:

As you put the coin in the slot, you hear a click.

which is pretty revealing.

The way to prevent this happening is for the game-writing system to encipher the data files before distribution, and decipher the data in the messages just before displaying it.

Even then, smart users are going to be able to decipher them. This they tend to do, not by being cipher experts, though many of them undoubtedly are, but by tracing the code that the game-writing system uses to decipher the messages. This is a laborious process that most of us programmers hate, but which will eventually reveal the cipher algorithm.

Having found out the method, they apply the same algorithm to the data files and reveal the messages for themselves.

One such system to 'crack' the encipherment used by one major games company was launched onto the world's public bulletin boards some years ago, though the victim company quickly dealt with the problem.

You must assume that a small percentage of your users will take the trouble to peek at your messages. Even those few game-writing systems which do provide encipherment may still unlock your secrets to an owner of the game-writing system you use. So try to conceal the important messages in the game, and, in particular, the questions and responses you use for copy protection.

One method to employ is:

Don't be explicit with your messages. Instead of saying:

As you push the button, the tiger leaps out.

say:

What a surprise! The tiger leaps out.

so you haven't revealed why the tiger appeared. The legitimate player knows he pressed the button just beforehand.

Alternatively,

Don't put the whole message in one place. In the previous example, you might make two messages as follows:

As you push the button,

and

the tiger leaps out.

And display them separately, one after the other. Of course, these messages mustn't be stored next to one another on the data file.

Or even,

Some game writing systems allow the game writer to store the messages like this:

As you =VERB= the =NOUN=, the =ITEM23= leaps out.

and the PUSH and BUTTON from the player's command and the game's item 23 (tiger) are only filled in at run time.

The Architecture of Adventure Games

This chapter describes in more detail the components which make up an adventure game. The principal entities being:

Locations (or Scenes or Rooms)

Items (or Objects or Nouns) which populate these Locations

and

Characters (People, Creatures, Monsters etc.) which roam the Locations.

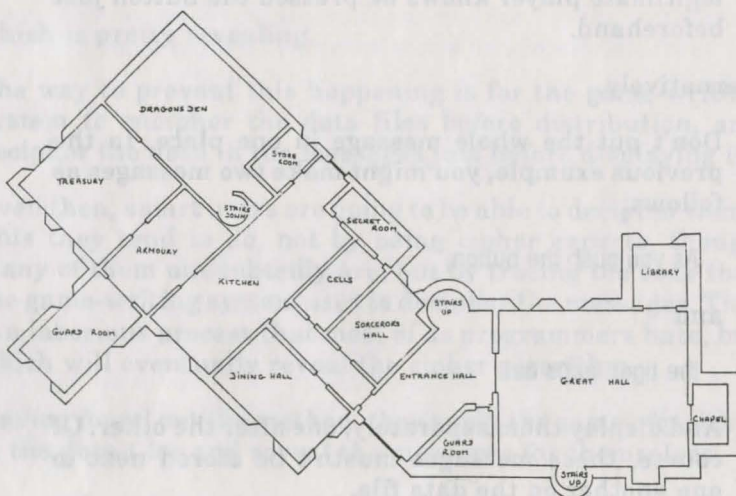
The player interacts with the game by means of:

Commands, which he types into the computer. Commands are based around the syntax of the English sentence. Foreign language variants may require the verb or adjective to be in a different position, both in Command input and in responses. Even where a graphic adventure requires the user to point at icons, these icons represent 'parts of speech'.

Messages are displayed by the game. Some messages are associated with the standard locations and items, while others are displayed in response to player instructions.

Instructions are included in the game by the writer in order to deal with special situations like transformations and discovery.

Instructions have a number of data items available to them. These are: **Variables, Flags and Counters**.



Locations

The features of a Location - also known as its **Attributes** can be:

Location Number (or Identifier): a unique identifier for the Location. It may be the same as Short Description in some adventures, though it is often useful to be able to have the same short description for two Locations which are logically different

Short Description: used as a shorthand 'heading' for the Location

Long Description: in text adventures a verbal description, in graphics adventures a picture or scene, perhaps accompanied by a verbal description

Exits: a list of Locations associated with standard directions from current Location.
eg DOWN - Cellar, UP - Loft

Light: whether the Location is intrinsically lit, or whether a light source is required to illuminate the scene. Sometimes, only a particular type of light source would be valid in this particular Location

Reward: usually implicitly 0, but may be a number of points awarded for successful arrival at current Location

Help: in some game-writing systems, each Location is permitted a piece of text which can be offered as a hint if the player commands HELP (in other cases, a HELP command is associated with some other type of status, not the current Location)

Status: usually implicitly Normal but could signal that this is Start Location, Untimely End Location, Resurrect/Restart Location, Game Won Location, Treasure Room - ie Location in which points are scored for leaving Items

Bounce: in some game-writing systems, a Location is permitted to be a 'bounce' Location. ie if the player enters this Location, it is described, but the player is thereafter returned to the Location he came from

Special Commands and/or Items: commands or items which have a special significance in the current Location, but not in others - for example, if the Location were at a riverbank, then the command NORTH might have the special meaning SWIM at this Location



Items

The Attributes of Items can include:

Item Identifier: Number or other unique identifier of Item

Item Name: a word, such as WALLET, which is used as the principal identifier for this Item in commands

Synonyms: other words which are also valid for identifying the Item, such as PURSE or BILLFOLD

Adjective (or adjectival phrase): to distinguish this Item eg BROWN LEATHER

Short Description: for use when describing the Item in a Location. Typically, this short description would be 'There is a brown leather wallet here'

Situation: where currently located - could be inside another Item, in the possession of a Character or could simply be in a Location or Limbo

Detailed Description: a complete description which will be delivered when the player commands EXAMINE or INSPECT Item

Text: often an Item such as a book or a note has both a description and a text. The text can be activated by READ Item

Singular/Plural: in order to make the grammar of game responses correct (although a distressing number of games give responses like: 'the jewels is not here.')

Fixed/Movable: refers to whether Characters can GET it. Associated attributes Size and Weight may also apply

On/Off: used for a variety of purposes. For lights, whether lit, for magic wands, whether energised, for containers whether empty etc

Light: whether it gives out light if also ON

Open: for containers/doors whether open or shut

Locked: (for containers or doors) whether locked or unlocked. Associated attribute would be the Item number of the key to unlock it

Points: how many points the Item is worth, either as an immediate bonus, or when delivered to a Treasure Location

A raft of other attributes are possible, depending on the game or the game-writing system and can include:

Weapon: Yes/No and Weapon power

Food: Yes/No and whether poisonous

Garment/Armour: Yes/No and Armour Class as in Dungeons & Dragons

Cost: How much money required to purchase

Magic Spell: Yes/No and Type



Characters

Some game-writing systems make no qualitative distinction between Items and Characters. Others differentiate between Monsters and Friendly characters, or between Humanoid and Animal or Creature. These distinctions can help or hinder the game writer to some degree, but are otherwise unimportant.

The Attributes of Characters can be drawn from:

Character Identifier: Unique number or other identifier

Character Name: a word, such as THIEF, which is used as the principal identifier of the Character in commands

Synonyms: other words or proper names which are also valid for identifying the Character, such as CUTPURSE or FAGIN

Adjective (or adjectival phrase): to distinguish this Character from other Characters of the same general type eg LEAN AND HUNGRY

Short Description: for use when describing a Location. Typically, this short description would be 'There is a lean and hungry thief here' or 'Fagin is here'

Situation: where currently located - for example in a Location or Limbo, or could be inside an Item, such as a wardrobe

Detailed Description: a complete description which will be delivered when the player commands EXAMINE or INSPECT Character

Singular/Plural: for correct grammar in game responses when the Character is multiple.
eg IS/ARE and IT ITS/THEY THEM THEIR

Gender: ie for correct use in game responses of HE SHE HIM HER HIS IT and ITS

Friendly/Hostile: to deal with types of response to speaking with or attacking the creature. Other attributes describing the degree of ferocity, strength, vulnerability etc

D & D characteristics: Class, Courage, Wisdom, Constitution, Dexterity etc

'Achilles Heel': Weapon to which the character is particularly vulnerable. eg fresh air, exercise

Points: for meeting or defeating creatures

Companion: Yes/No - Yes means the Creature tries to follow the player Character from Location to Location.



Commands

The simplest command usually accepted consists only of a verb.

Typical free-standing verbs are:

HELP, LOOK, INVENTORY.

Most adventures also accept direction 'verbs' such as: NORTH, SOUTH, EAST, WEST.

An important pair of special verbs is:

SAVE and RESTORE

which allow the player to dump the current state of the game and reload it later.

Conventionally, the one-word verbs:

SCRIPT and UNSCRIPT

are used to switch a printed journal of the game on and off.

The next stage of command construction is: Verb Noun.

Examples are:

OPEN BOX

CLOSE DOOR

and GET APPLE.

Most games allow for and ignore:

THE, THIS, A, AN, MY, HIS before a noun.

So the above examples could have read:

OPEN THIS BOX

CLOSE THE DOOR

GET AN APPLE.

A Noun may be an Item or a Character.

If there may be more than one of a noun, for example a red box and a blue box, it should be possible to distinguish these. For that reason, it is usually permissible to have an adjective with any noun, so that OPEN RED BOX is understandable to the system, even if there is no other box to be referred to.

Another common construct allowed is to pass the command to another character in the story, thus:

WIZARD, ENCHANT THE PRINCE.

Some actions cannot be expressed in this way, even by sticking multiple Verb Noun commands together. These are of the form:

UNLOCK THE DOOR WITH THE KEY

HIT THE BALL WITH MY CLUB

ASK THE MERCHANT ABOUT THE GOLD.

In these commands, a preposition is permitted before the second noun.

The next important construct is the chaining of commands together, as, for example:

EAT THE EGG THEN DRINK THE WINE

GET THE DUCK AND SHOOT THE GOOSE.

The game will usually treat these as two separate commands. Even OPEN BOX, EXAMINE BOX are acceptable to many games, substituting a comma for the conjunctions THEN or AND.

It is often permissible to supply multiple nouns as in:

PUT THE BOTTLE AND THE BAG IN THE BASKET, or
GET BUCKET, SPADE.

There are a number of strategies for reducing input for text adventures. One of these is to reduce common verbs to a single letter as in H for help or I for Inventory. Another is to allow AGAIN or G as an instruction to repeat the previous command, so that, for example, if you are fighting a troll, the player could just say HIT TROLL WITH STICK once, and repeat G until the troll begged for mercy.

Another common solution is to allow IT or HIM or THEM as a substitute for the Noun used in the previous sentence, as in:

FOLLOW THE PRIEST, TALK TO HIM

or GET THE APPLE AND EAT IT.

The collective Noun ALL and its exception ALL BUT are also commonly allowed in games. For example, GET ALL would typically transfer to the player's inventory all the movable Items in a Location, while DROP ALL BUT SWORD would drop everything the player was carrying, except the sword.

Messages

The messages in a game are the main area of communication between the game and the player. They are displayed by the game system itself to signal standard situations. The game writer can also trigger the output of messages as a response to player input.

Often, the game writer has the option to change even those messages that the game system outputs. In this way, a game can be considerably customised.

Instructions

Game-writing systems show great variance in the area of Instructions.

The game writer uses the Instructions to monitor the game and to handle all the player actions the game-writing system cannot handle.

For example, most of the game-writing systems will move the player successfully from Location to Location, by simply recognising the direction commands input by the player and reacting appropriately. Most will also handle GET, DROP, OPEN, CLOSE and so on.

However, you will want additional control. For example, you need a mechanism for opening secret exits if the player acts in a certain way. You may want to set a timer to catch the player in an ambush. You will need to move your non-player characters around, do transformations and discoveries and react to non-standard commands like PEEL THE BANANA.

Conditional Instructions are used by the game writer to test for conditions that the game knows about.

Action Instructions actually change the state of the game in some way.

Control Instructions handle the sequence in which the game instructions are obeyed.

This is hard to communicate, so let's take a typical example. Suppose we are dealing with teleporting the player to the palace if he drinks a potion, but only if he drinks it in the torture chamber after midnight.

I will use AGT's instructions as an example.

Each set of instructions is grouped under a **COMMAND** that the player has input, so the sequence would go:

```
COMMAND DRINK POTION
IsCarrying 221 (Player carrying flask?) conditional
AtLocation 18 (In Torture Chamber?) conditional
FlagON 2 (After midnight?) conditional
GoToRoom 88 (go to the palace) action
SwapLocations 221 222 (Switch the full flask for an empty one) action
DoneWithTurn (Don't process any more instructions) control
END_COMMAND
```

and the instructions to deal with failure are:

```
COMMAND DRINK POTION
IsCarrying 221 (Player carrying flask?) conditional
SwapLocations 221 222 (Switch the full flask for an empty one) action
PrintMessage 125 ('Sorry. You got it wrong.') action
DoneWithTurn
END_COMMAND
```


Variables, Flags and Counters

Not all game-writing systems provide all three types of data. Luckily, a variable can be used to substitute for either of the other types.

Variables are used by the game to store numbers. We might use variable 1 to keep note of the number of gold pieces the player has. Then if we need to display a message showing the value of the player's purse, it might be:

You have =VAR 1= gold pieces

and the system would substitute the number of gold pieces for =VAR 1= when it was displayed.

If the player were trying to buy a new sword, we could cause the instructions to check variable 1 to make sure he could afford it.

Flags are used to remember ON/OFF switches. A flag is either on or off. A Flag might be used in the game to indicate whether the player had met a particular character on some previous occasion, in order to suppress the initial encounter message at later meetings.

Counters are variables which the game itself increases or decreases by 1 at every turn. They are used to schedule all sorts of time-dependent events.

Instructions usually exist to compare and calculate with the various counters and variables. Other instructions can be used to set and clear Flags, and to test their condition.

A Text Adventure Example

Here is an epic fragment of one of my own text adventures, written using Softworks' AGT game-writing system.

You will know where you are by reading the short description between the <> signs.

The game prompt is 'What Now?'
The player command is in upper case.

Sir Ramic Hobbs and the High Level Gorilla
by Gil Williamson
1st December 1989

Introduction.....

Just in case you've forgotten, you are Sir Ramic Hobbs, Knight Errant. It really WAS an error to come out on this Quest.

I am your guide. My name is Prang, Wizard Prang. I'll try to keep you up-to-date with what's going on by means of disembodied voice, a technique I learned from the Flying Sorcerer, Ufo Snafu. I once had a body, just like yours... well, not JUST like yours.. until I offended Sir Kewler Stairs, who disembodied me with one blow of his handy mace. Still, I make myself useful.

< Smelly Cave >

You are in an extremely smelly cave. The floor slopes steeply from West down to East. There is a faint glow from below, whence the smell appears to be emanating, and a rather brighter light from above. The floor is slippery.

There is an ornate sword here.

There is a round peg here.

There's a signed agreement here.

There is a curious flute here.

There's a grubby manual here.

There is a rather untidy owl here.

=====

What Now? INVENTORY

You aren't carrying anything.
You are wearing the following:
steel helmet
suit of armour

What Now? EXAMINE HELMET AND SUIT

You are wearing a battered steel helmet with a ragged plume on top, and a visor that opens and closes. There's not much of you visible. You are completely encased in a rather rusty suit of armour handed down from your uncle, who perished in it. You can still smell him.

What Now? EXAMINE SWORD

The sword looks valuable, but I wouldn't try hitting a bear with it, if I were you. Take my advice. A person in your condition should NEVER take on a bear under ANY circumstances. Oh, and by the way, the sword is blunt.

What Now? EXAMINE AGREEMENT

It's an agreement you rashly signed whilst under the influence of mead at the Khan's Pleasure Dome Night. It's worth a read, actually.

What Now? READ AGREEMENT

It reads:

"AN AGREEMENT MADE IN THE KINGDOM, OR PERHAPS THE KHANDOM, OF TRASCH KHAN, WORTHY SUCCESSOR TO CUDDLY KHAN, BUILDER OF THE DOME, ON OCTEMBER THE 32nd.

*"BEING OF SOUND MIND {That's a laugh! after all that mead!}
I, SIR RAMIC HOBBS {That's you, remember} AGREE TO RETRIEVE PRINCESS ANNE DE PEA FROM THE EVIL GRASP OF THE HIGH LEVEL GORILLA {That's HLG, a formidable chap who could, with two fingers, compress your windpipe till all you could wheeze was 'eek'},
NOW RESIDENT AT THE TOP OF THE MIDDEN.*

"SIGNED, SIR RAMIC HOBBS" ... that's it.

You woke up in a cave about half-way up the Midden, with your mead supply expired. Bad news. You were meant to bring a ransom, but you left it behind, so back to the Dome with you! Sorry!

What Now? EXAMINE FLUTE

It looks clean (as a whistle, Ho, Ho). Can you play?
There's something written on it.

What Now? READ IT

In tiny writing, too small for your bloodshot eye to read, it says:
"With the compliments of the Arabian Knights' Company."

What Now? HELP

Perhaps you should consider leaving this hell-hole.

What Now? GET PEG

You are now carrying the round peg.

What Now? E

< Bear Lair (West) >

This is where the smell was coming from, all right. There are piles of it on the floor. The inhabitant of this cave doesn't do it in the woods. The cave where you woke up is to the West. The main part of the Bear Lair is East of here.

There is a round hole in the wall at shoulder height.

=====

What Now? EXAMINE HOLE

There is some mechanism inside the hole.

What Now? PUT PEG IN HOLE AND PUSH IT

You have put the peg in the hole.
The peg cleverly resists your touch.

What Now? PULL IT

There seems to be a bear moving around in the bear lair.
Pulling on the peg doesn't seem to work.

What Now? HELP

None of us are enjoying this very much. There must be something sensible to do.

What Now? TURN THE PEG

Turn, turn, turn...

What Now? W

< Smelly Cave >

You are in an extremely smelly cave. The floor slopes steeply from West down to East. There is a faint glow from below, whence the smell appears to be emanating, and a rather brighter light from above. The floor is slippery.

There is an ornate sword here.

There's a signed agreement here.

There is a curious flute here.

There's a grubby manual here.

There is a rather untidy owl here.

=====

What Now? W

< Precipitous Ledge >

You are standing on a precipitous ledge above what is called 'an aching void'. You're not quite sure whether the void aches more than your head. A long way below, to the West, you can see a castle on the shore of the Sunless Sea, which stretches off to the South. Round to your left, far below, at the foot of the Midden, the River Alf steams (yes, steams) into the sea. Behind you, to the East, is a cave. A path sneaks North, through some bushes.

There's a wooden fence in front of you.

There is a rather untidy owl here.

=====

What Now? EXAMINE FENCE

The fence is fairly sturdy - sturdier than you - but not securely fastened in place.

What Now? EXAMINE OWL

The owl is extremely dirty and threadbare. Bloodcurdling Owl is his name, but we'd better call him BO for short.

BO : *Eminences, my disgusting name is Bloodcurdling Owl. Because this is needlessly long, honoured beings may call me BO for short*

Yes, I've just told him all that. Sir Ramic is not deaf, merely hungover, as serves him damned well right.

BO : *I beg your Graces' pardons. If Sir Ramic is so foolish as to require my advice, let him say: ASK BO ABOUT whatever. Now allow me to remove my unpleasant presence to a discreet distance.*

What Now? ASK BO ABOUT FENCE

BO : *If your eminence is prepared to take the advice of one who has but recently crawled from under a heavy stone, only an ignoramus like myself would need to ask about that.*

What Now? ASK BO ABOUT QUEST

BO : *I grovel at your feet, Highness. I have heard them say this quest is characterised by a total lack of importance. Like me, and unlike you, the items and characters populating the halls of this world are only there because they have to be, and would much rather be left to their fates.*

What Now? ASK BO ABOUT ANNE

BO : *My stupefyingly ill-considered feeling is as follows: one has frequently seen better turned legs on a sideboard, her voice is clearly audible over a circular saw, but she is acutely sensitive on the subject of eating in bed.*

What Now? EXAMINE BUSHES

You see nothing unusual.

What Now? N

< Vantage Point >

From this high and windy vantage point, you can see miles to the North and West. To the North, the Khan's pleasure dome is occasionally visible through squalls of rain, beyond forests ancient as the hills (it says here).

Far below and to one side, you can see a ledge with a grove of bamboo. To the West, Baron Doar's castle guards the only road to the pleasure dome.

What a pity you're going to have to walk all that distance, Sir Ramic.. .. if you ever get down from this rock, that is.

A narrow path goes South, through some bushes. There are some steps leading upwards.

=====

What Now? HELP

Relax. The fresh air here will do you good.

What Now? RELAX

I don't understand RELAX as a verb.

What Now? WAIT

Time passes...

What Now? UPWARDS

< Tunnel Entrance >

You are at the entrance to what has once been a mine. Rails lead East into the tunnel. The only other way is back down to the vantage point.

=====

What Now? HELP

For God's sake, cut out the snivelling, Sir Ramic.

What Now? E

< Tunnel >

You are in the tunnel. There is a light at the end of the tunnel. With your luck, it's an oncoming train! Just East of you here, there is a gap in the tunnel floor, though the rails continue across the gap. Water cascades from the ceiling into this gap, and disappears with a loud roar.

The gap is too wide to jump across, and the rails look slippery.

There is a strange-looking bat here.

=====

What Now? EXAMINE BAT

The bat is about thirty inches in length, consisting of a round handle of about ten inches, and twenty inches of flat blade.

It is, in fact, a CRICKET BAT, and an Englishman like you, Sir Ramic, will find many ways to USE it.

What Now? GET BAT THEN USE IT

You are now carrying the strange-looking bat.

You play with the bat for a while. Nothing significant happens.

What Now? EXAMINE GAP

You see nothing special.

What Now? EXAMINE ROCKS

You see nothing unusual.

What Now? HELP

What you need here is something to bridge that gap.

What Now? E

< Cascade >

You were WARNED, Sir Ramic.

As predicted, you miss your footing. Not at all surprising, really.

The cascade plunges 40 feet onto a stone slab. You cascade with it.

As well as getting extremely wet...

**** You are Dead ****

=====

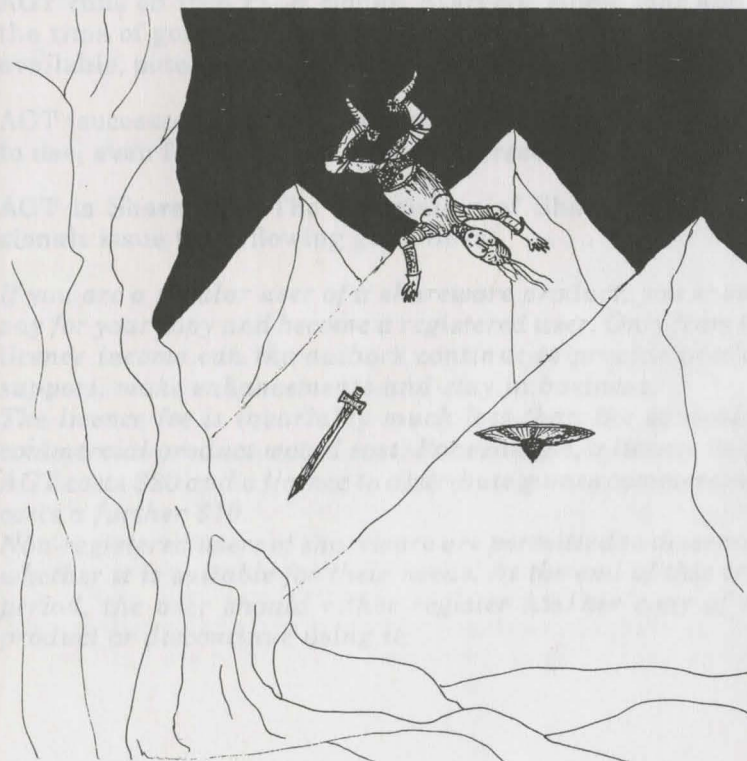
You have seen 7 locations (out of 69), in 38 turns.

Your score is 0 out of a possible 163 points.

(This game was saved 0 times and restored 0 times.)

In a graphics adventure, these locations would have been illustrated by a picture, with or without accompanying text.

The commands such as INVENTORY, EXAMINE, NORTH would have been input by icon and item select.



Some Game-Writing Systems

A G T - Adventure Game Toolkit

David Malmberg and Mark Welch,
Softworks,
43064 Via Moraga,
Mission San Jose,
CA 94539, U S A

In the UK, the AGT shareware discs are currently available from Amazon Systems. See page 127 for details.

AGT runs on IBM PC & clones, Atari ST, Apple Mac and at the time of going to press, an Amiga version was due. It is available, potentially, to any 500Kb + computer with Pascal.

AGT (successor to GAGS) is a text adventure system. Easy to use, even for the non-computer literate.

AGT is Shareware. The Association of Shareware Professionals issue the following guidelines:

If you are a regular user of a shareware product, you should pay for your copy and become a registered user. Only from the licence income can the authors continue to provide product support, make enhancements and stay in business.

The licence fee is invariably much less than the equivalent commercial product would cost. For example, a licence to use AGT costs \$20 and a licence to distribute games commercially costs a further \$10.

Non-registered users of shareware are permitted to determine whether it is suitable for their needs. At the end of this trial period, the user should either register his/her copy of the product or discontinue using it.

ADVSYS

David Betz
P.O. Box 144
Peterborough,
NH 03458 U S A

Licenced for unrestricted non-commercial use.
For commercial use, consult David Betz.

ADVSYS is available on several bulletin boards, principally BIX in the U S A, CIX in the U K.

ADVSYS runs on IBM PC & clones, Apple Mac, Atari ST plus, potentially, any 500Kb + computer with C.

ADVSYS is a text adventure system. Programming capability is required. It is an extremely powerful and adaptable object-oriented system.

GAC - Graphic Adventure Creator (and STAC for the ST)

Sean Ellis,
Incentive Software,
2 Minerva House,
Calleva Park,
Aldermaston,
RG7 4QW England,
U K

GAC is a commercial product. Adventures written with GAC may be sold on condition that GAC is acknowledged as the game-writing system.

Runs on Commodore 64, Atari ST, Spectrum, Amstrad CPC.

GAC produces adventures with text and still graphics. It is easy to use and good development facilities are built in.

PAW - Professional Adventure Writer

Tim Gilbert,
Gilsoft,
2 Park Crescent,
Barry,
South Glamorgan,
CF6 8HD Wales,
U K

PAW is a commercial product. Adventures written with PAW may be sold on condition that PAW is acknowledged as the game-writing system.

Runs on Spectrum, CP/M machines (including Amstrad PCW 8256, 8512)

PAW produces adventures with text and still colour graphics on Spectrum. Text-only on CP/M machines, although Gilsoft plan to support simple graphics on the Amstrad version.

PAW (successor to the Quill) is easy to use.

ACS - Adventure Construction Set

Electronic Arts,
1820 Gateway Drive,
San Mateo,
CA 94404 U S A

ACS is a commercial Product. At the time of going to press, it was not clear whether adventure writers could distribute games other than to ACS owners, nor whether such trade would be permitted by Electronic Arts.

ACS runs on IBM PC and compatibles (CGA minimum), Commodore Amiga, Commodore 64 and Apple II.

ACS allows the construction and running of a real-time rôle-playing arcade adventure. It is easy to use.

World Builder

Published by Silicon Beach in the USA.

Just heard from a US Mac user about World Builder - a text and graphics adventure creation system for the Mac. At the time of going to press, no other details available.

Appendix B

Some Games the Author has Played, Seen or simply Discussed.

My apologies for having missed many adventure games, particularly those issued on only one or two machine types, but this appendix concerns games about which I have actual knowledge.

The publishers are listed in the sequence in which I first became aware of their games. This has resulted in them appearing in approximately chronological order of entry to the adventure market.

Adventure International.

The Scott Adams text adventures were the first computer adventures I ever saw, and are still excellent examples of the genre.

They appeared on Tandy TRS80s before I saw them on an Atari 800.

Pirate Adventure

Secret Mission (previously Mission Impossible)

Infocom Inc.

Infocom games were nearly all text-only until recently. The term **Infocom-like** is often used to describe the classic game interface used in text adventures, and many of these games have become the models for the rest of the industry.

Zork series:

Zork I, II, III
Beyond Zork
Zork Zero

Detective:

Deadline
Witness

Science Fiction:

Starcross
Planetfall
Stationfall
Suspended
Hitchhiker's Guide to the Galaxy
Leather Goddesses of Phobos

Fantasy & Horror:

Wishbringer
Enchanter
Lurking Horror

Other:

Hollywood Hijinx
Bureaucracy
Shogun (with still graphics!)

Magnetic Scrolls

A British firm who maintained (some say improved upon) the Infocom-like text interface and provided excellent still graphics, too.

The Pawn

Level 9

Another British firm which has brought nice graphics to traditional text adventures.

Jewels of Darkness (Colossal Cave clone)
Gnome Ranger
Ingrid's Back

Melbourne House

An Australian firm, again producing well illustrated text adventures.

The Hobbit
Sherlock

Sierra On-line Inc.

This firm has produced some of the most successful arcade adventures.

Space Quest
Police Quest
the Leisure Suit Larry series

Palace/Delphine

French-based adventure writers producing intricate arcade adventures.

Future Wars

Bibliography

Just a few of the books you may find useful, in the form:

Title - Author (if available) - Publisher.

Science Fiction Puzzle Tales - Martin Gardner - Penguin

A feast of thought-provoking puzzles for the mentally alert.

Codes & Ciphers - Martin Gardner - Dover

A small, but excellent manual on everyday codes and ciphers, as opposed to the kind used for computer and defence security.

The Dungeons and Dragons Handbooks - - TSR Inc

Study the art of the Dungeon Master. The adventure game writer is in a similar trade.

The Art of Walt Disney - Christopher Finch - Abrams

is a super source-book for background technique. My copy is luxurious, but I believe there is a cheaper edition now.

Chinese Brush Painting - Jane Evans - Collins

Some instructive examples in economy of line and colour.

Comic Books by, for example, Frank Miller and Alan Moore demonstrate economy of background and excellent action.

Anthologies of Poetry and Books of Quotations also often trigger inspiration.

De Re Atari - Chris Crawford - Atari

Some of the essentials of good game creation were first formulated in this book on the Atari 800 home computer, from one of the most innovative computer games writers.

De Re Atari may be hard to find these days, but Chris has written another book - The Art of Computer Game Design - and is the editor of the Journal of Computer Game Design.

May I just remind you about:

Roget's Thesaurus - - Penguin

The source of good synonyms. There are also computer-based thesaurus products nowadays, but I prefer a good browse through the paper version.

Finally, the **Writers' and Artists' Yearbook - - Black.**

Lots of sensible stuff about copyright, libel and royalties.

Appendix D

Checklists

Checklist 1 - Major Stages in Adventure Game Development

- Decide on your Objective - Leisure or Profit
- Choose a Game-writing System
- Choose a Theme
- Sketch out a Plot
- Draw a Map
- Design some Locations
- Design some Items
- Design some Characters
- Assemble the Main Plot
- Develop and Test
- Play Test
- Copy Protect
- Cheat Protect
- Package
- Distribute.

Checklist 2 - Some Background Themes:

General:

Crisis Management:

- Bank Robbery
- Mine Disaster
- Plague
- Flood
- Hurricane

Voyage under Sail

Mountaineering

Polar Exploration

Japan in the days of Samurai

Locked in the Asylum

Gangbusters

Biggles

Spycatching

Cave diving

U-boat

Amnesia

Wild West

Science Fiction:

Time Machine

I, Robot (using Asimov's Laws)

Bodysnatchers (parasitic aliens)

Peace Enforcement at the Galactic Rim

Spying and Sabotage on an Alien Planet

Marooned in Space (or on a planet)

Post-holocaust

Encyclopaedia Galactica

Crime and Espionage on a Computer Network

Fantasy:

- Journey beyond the Dawn
- Ghostbusting (sorry - exorcism)
- The World of:
 - Egyptian Myth
 - Indian (Red, South American or East) Myth
 - Greek/Roman Myth or History
 - Kalevala & other Norsery
- Conquer Evil in the Land as:
 - King
 - Chief Wizard
 - Army Commander
 - Long Lost Heir
 - Frog who once was Prince

Non-traditional Uses of Game-writing Systems:

- I Ching (Chinese oracle)
- Astrology
- Troubleshooting
- Programmed Learning

Checklist 3 - Plot Elements:

- Possession of Equipment
- Collect & Assemble
- Transformation
- Discovery
- Weapons
- Apparel (Clothing/Armour)
- Puzzles
- Bribery
- Logical & Geographical Mazes
- Variable Geography
- One Way & Restricted Exits
- Secret Exits
- Door Openers
- Curtains & Carpets
- Knowledge
- Elaborate Patterns of Behaviour
- Richness of Methods
- Riddles
- Transportation
- Death & Resurrection
- Containers
- Push, Pull, Turn & Play
- Food & Drink
- The Senses
- Invisibility
- Following
- Proxy Actions
- Codes & Ciphers
- Time Dependence
- Weather
- Clues
- Logical & Physical Traps
- Alarms & Ambushes
- Unusual Uses
- Skills, Powers & Magic Spells
- Helping Out
- Darkness, Obscurity and Illusion
- Lies and Contradictions
- Companionship
- Monsters

Index of some Useful Words and Phrases

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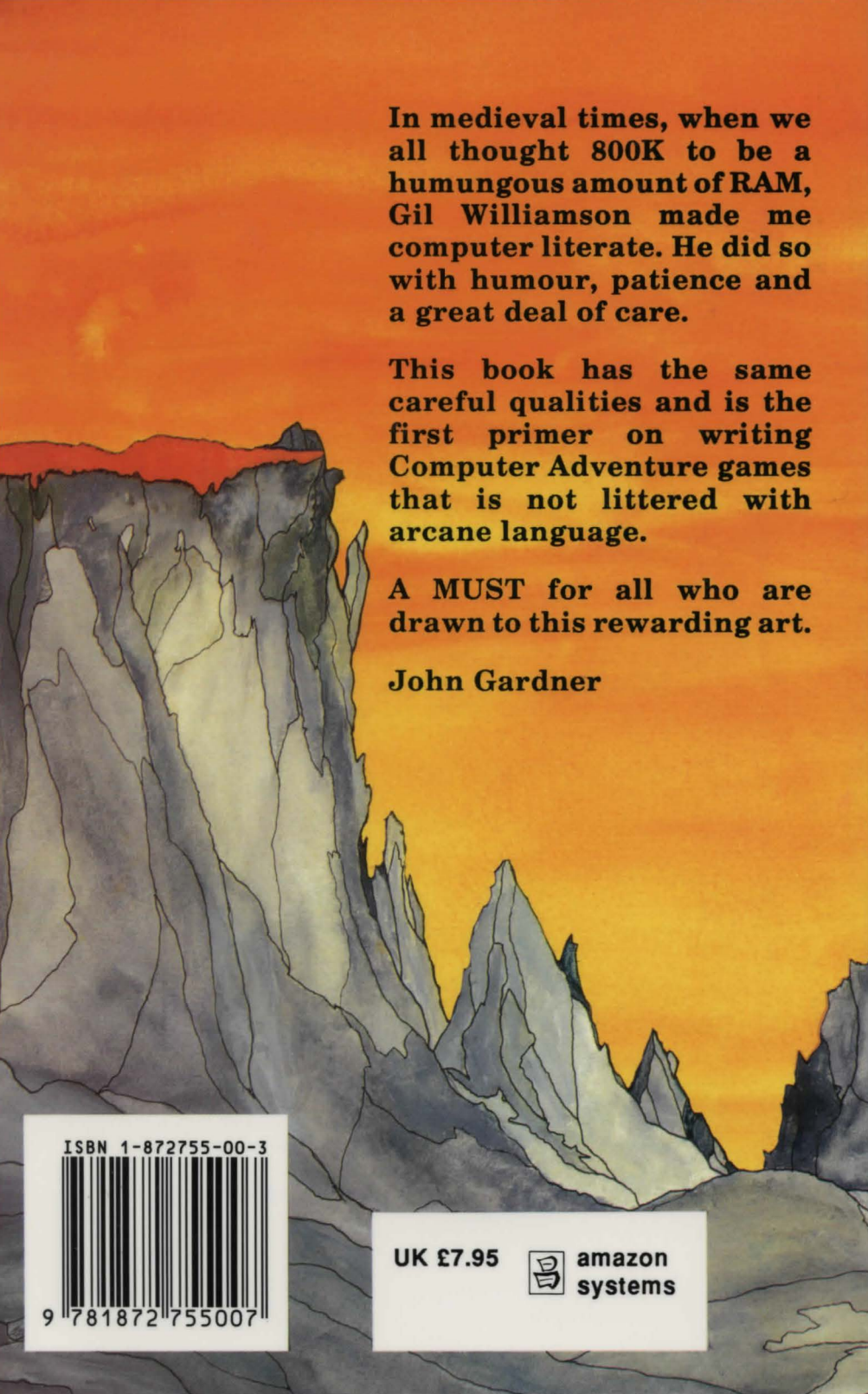
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