JEFF CHARVAT

Prince of Persia 2

August 8, 1991

Author's Note
July 30, 1991

I've tried to organize this document so that, when read straight through, it will give the reader an approximation of what it would be like to actually play the game. That is, I've presented the game's features in the order in which the player would normally encounter them.

At the end of the document are a number of appendices which discuss the more general features of the game such as the player controls, ability to save and restore games in progress, etc., to which the reader may wish to refer from time to time.

Please bear in mind that this document is meant not only to be read, but also to serve as the primary reference for the entire development team, including the programmer, animators, graphic artists, and sound designer. Therefore, it's a safe bet that almost everyone who reads it will find themselves skimming through a certain percentage of the material.

The current document supersedes all previous editions of the game design. Subsequent updates will come in the form of inserts and replacement pages.

JM 7/30/91

Author's Note
August 8, 1991

The following chapters are missing from this version and will be inserted later:

2.4   Sound Effects: Level 1

4.2   Sound Effects: Level 2

16.3   Sound Effects: Levels 6 & 7

21.3   Sound Effects: Levels 8, 9, 10 & 11

23.4   Sound Effects: Level 12

H   Sound Effects Summary and Index

J   Music

Also, many portions of the game design are rather thinly illustrated. I'll try to add more storyboards and sketches later. The major things missing are the sketches for Background Set #3 (Temple) and the storyboard for the "Happy Ending" sequence.

JM 8/8/91

Author's Note
October 8, 1991

This is to summarize the changes to *Prince 2* since the August 8 version of the game design.

The hour figures referred to below represent *unpadded* estimates -- that is, they reflect the graphics department's actual estimates, *without* the "safety factor" of 1.25 by which I have multiplied the graphics time estimates for the entire product.

1.0 Opening Title Sequence

Shot 1: The Prince is not shown entering the room. The shot ends while he is standing still.

Shot 2: A wider shot, so that it can use the same camera angle as Shot 4.

Shot 4: Instead of the curtains moving, the Prince merely steps forward from the shadows into the light.

Shot 6: The False Prince's line has been shortened to: "Seize him!" The False Prince's lips should move accordingly.

Shot 7: The Prince's line has been deleted.

Shot 8: Omitted.

Shot 9: Same angle as Shot 6.

Shots 10-13: Omitted.

Shot 14: A slightly wider shot than illustrated, so that the running guards & Prince are not so large in the frame.

Shot 15: False Prince's line deleted.

2.0 Level 1: Palace Rooftops

Page 2.1.2: The courtyard screen, with the people looking up, has been deleted. When the Prince falls from the rooftops, he falls offscreen and we hear his scream and the sound of the impact below.

Page 2.1.5: The number of full-screen backgrounds has been reduced from 20 to 10. (Note: Although we have allowed 32 hours of graphics time for each full-screen background, we have allotted 50% of this amount for the 10 screens on this level, because of the large number of common elements among the different screens.)

3.0 On the Ship

Shot 3: The mouse scurries over to within a few feet of the Prince and stops there, looking up at him.

Shot 4: Omitted.

Shot 6: Same angle as Shot 3. Alarmed by the lightning, the mouse runs up to the Prince and jumps into his pocket.

4.0 Level 2: Desert Island

The "Beach #1" screen has been deleted, reducing the number of full-screen backgrounds from 4 to 3. The cliff that marks the far right end of the beach is visible on Beach #2 (the screen where the Prince is washed up).

There is no pressure plate atop the stone wall. The stepping stones rise automatically when you approach the quicksand.

5.0 Jaffar's Tyranny

This non-interactive sequence is omitted in its entirety. In its place, a full-screen title card will be placed at the beginning of the Princess's Discovery sequence. The title card will inform the player that the Sultan has departed to fight the war, leaving the kingdom in the hands of his son-in-law the Prince, who promptly initiates a reign of terror that brings to mind the bad old days of Jaffar.

6.0 Princess's Discovery

Shot 3: Instead of drawing out the mirror, the Princess draws aside her robe to reveal the mirror beneath.

10.0 Level 3: Caverns

The pool room and flooding chamber have been deleted, along with all the associated water animations.

The number of full-screen backgrounds has been reduced to 2.

11.0 Level 4: Caverns

Number of background screens reduced to 2.

13.0 Level 5: Ruins

Number of background screens reduced to 1.

14.0 Level 6: Ruins

Section 14.2: Shot 1 of the Second Dream sequence is omitted. The 3 shots of this sequence can be rendered as static full-screen pictures, perhaps with a sort of blur or haze about them to suggest that they are visions and are not really happening. For budgeting purposes, I have included these 3 screens in the total of 4 full-screen backgrounds for the level.

15.0 Level 7: Ruins

The similarity among the 5 plateau screens (and especially between screens 2 & 4, which are virtually identical) is great enough that I feel safe in allowing 4 x 32, or 128 hours, for these 5 screens instead of the 5 x 32 which we originally allotted.

18.0 Level 8: Temple

Page 18.1.5: Water pipe deleted, along with the flooding chambers.

Page 18.2.2: Number of backgrounds reduced from 3 to 2.

19.0 Level 9: Temple

Page 19.1.2: Number of backgrounds reduced from 3 to 1.

20.0 Level 10: Temple

Number of backgrounds reduced from 3 to 2.

21.0 Level 11: Final Temple Level

Page 21.1.1 erratum: The inscription on the wall should read: "He who would steal the sacred flame must die."

Page 21.1.3: Number of backgrounds reduced from 6 to 5.

23.0 Level 12: Battle with Jaffar

Page 23.1.2: Assassins are replaced by the normal palace guards from Level 1, perhaps with differently colored uniforms. They can fight better than normal guards, but do not have the ability to jump over the Prince.

Page 23.1.3 erratum: Second line from the bottom of the page should read: ". . . and all the empty spaces are really floorpieces."

Page 23.1.6: Number of full-screen backgrounds will be scaled down, and certain backgrounds rendered more simply, in order to bring the total amount of background graphics hours for this level down to 8 x 32 = 256 hours.

24.0 Happy Ending

Note: Although this sequence has not yet been storyboarded, I have allotted 56 background graphics hours and 96 animation hours, using our time estimates for the other non-interactive sequences as a guide.

Appendix A: Player controls

Page A.4: No swimming.

Appendix B: Prince

All the animations relating to swimming have been cut, and certain other animations have been reduced, as follows:

Turning while floating - omitted (save 6 frames)
Throwing - reduced to 5 frames (save 5 frames)
Sinking below surface, treading water, shake dry - omitted (save 16 frames total)
Disappear -reduced to 3 frames (save 3 frames)

These cuts reduce the total number of new Prince animation frames from 100 to 70.

Appendix E: Timing of NIS's

Note that the Jaffar's Tyranny sequence has been cut.

Appendix F: Types of Background Graphics

Page F.2: There will be no multi-plane scrolling.

Page F.2: The distinction between key screens and variation screens for budgeting purposes has been scrapped.

Appendix G: Graphics Summary and Index

Insert new pages G-2 through G-6 reflecting the new graphics totals.

Contents

APPENDICES

1.0

Opening Title Sequence

1.1
Opening Title Sequence, Part 1

1.2
Opening Title Sequence, Part 2

Storyboard:
Opening Title Sequence
(Part 1)

The events of *Prince 1* are summarized in a series of sepia-tone stills, accompanied by text, and separated by fades. The overall effect should be reminiscent of turning the pages of an illustrated storybook.

Since this sequence is composed entirely of still pictures, the artist should feel free to forget about the animation window, and to compose for the entire screen. The actual illustrations, however, should be small enough so as to create a balanced composition when combined with the accompanying text. One option would be to have the illustrations trail off into a blank page, like pencil sketches, rather than enclosing them in a hard rectangle. Also, the shape and position of the different illustrations need not be consistent from one screen to the next.

The text, of course, should be in a consistent size and font. The initial capital letter of each page could be quite ornate.

There are no sound effects, but this entire sequence should be underscored by MUSIC. We might consider using the epilogue music from *Prince 1.*

This sequence leads directly into Opening Title Sequence, Part 2.

1. While the Sultan of Persia was out of the country with his army, his daughter fell in love with a young traveller who climbed the palace wall to visit her.

2. The Sultan's Grand Vizier Jaffar -- determined to legitimize his seizure of power by marrying the Princess himself -- had them arrested and thrown into prison.
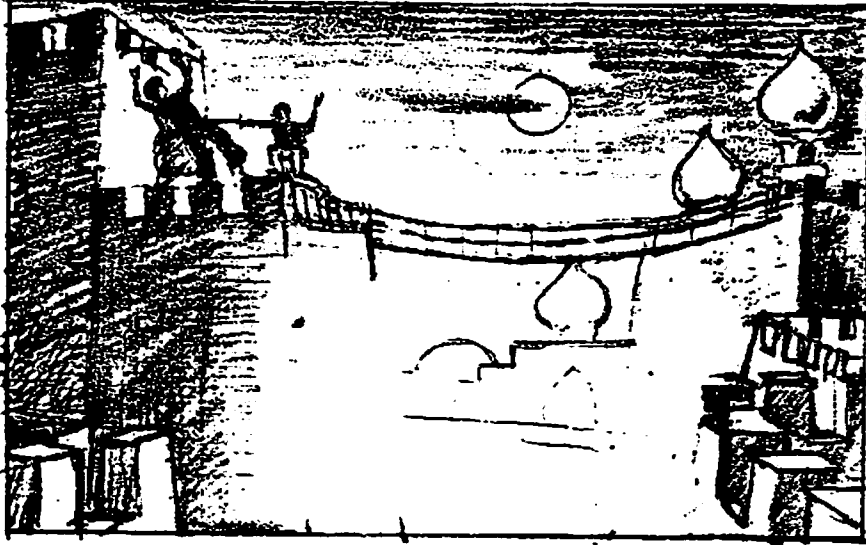
3. But the young man escaped from the Sultan's dungeons, and shattered
Jaffar's plans with a single sword thrust.

4. Offered riches by the grateful Sultan, the unlikely hero asked instead
for the Princess's hand in marriage. The Sultan grew angry, and
refused, for she was his only daughter, and famed for her beauty.
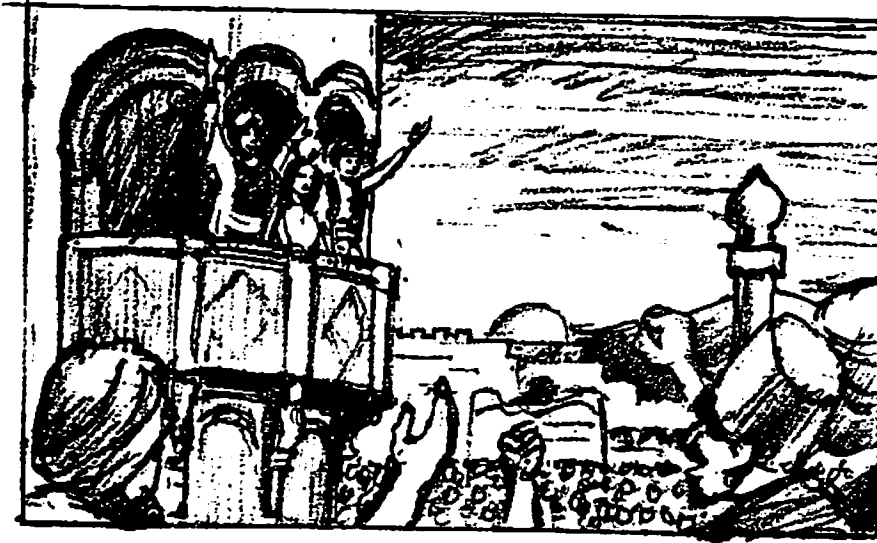
5. But the Princess's entreaties swayed the Sultan, and finally he
consented to the marriage. And the entire kingdom rejoiced and sang
the praises of the young couple.
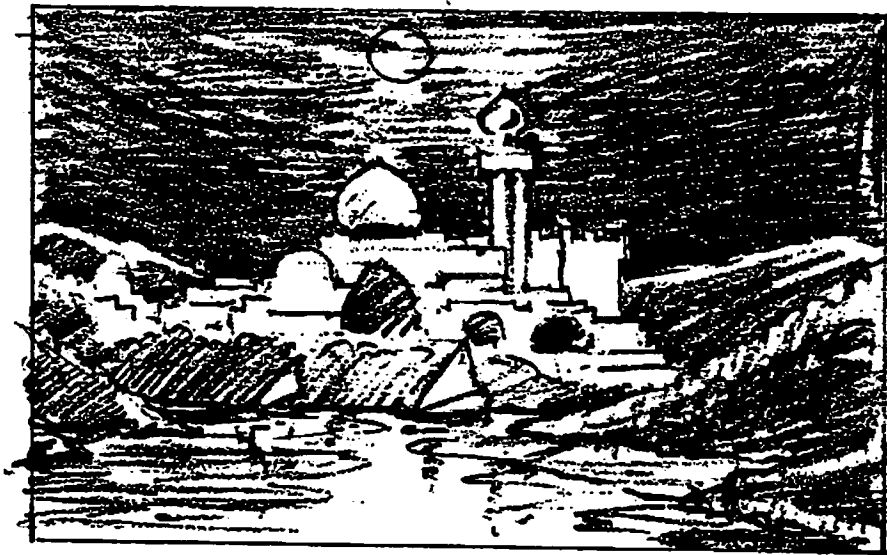
6. As MUSIC ENDS, sepia-tone picture gradually turns to COLOR
and comes to life. In the silence, stars twinkle, water shimmers,
etc.

7. TITLE MUSIC HITS -- as we SUPERIMPOSE TITLE.

Storyboard:
Opening Title Sequence
(Part 2)

Part 2 of the opening title sequence is fully animated, in color, with sound effects and music.

(Note: In the following storyboards, the False Prince is drawn to look somewhat distinct from the Prince. In the finished sequence, however, the False Prince and Prince should be like identical twins. The only difference between them should be in their clothing -- and, of course, their personalities.)

1. The Prince stands before the closed double doors of the throne room.
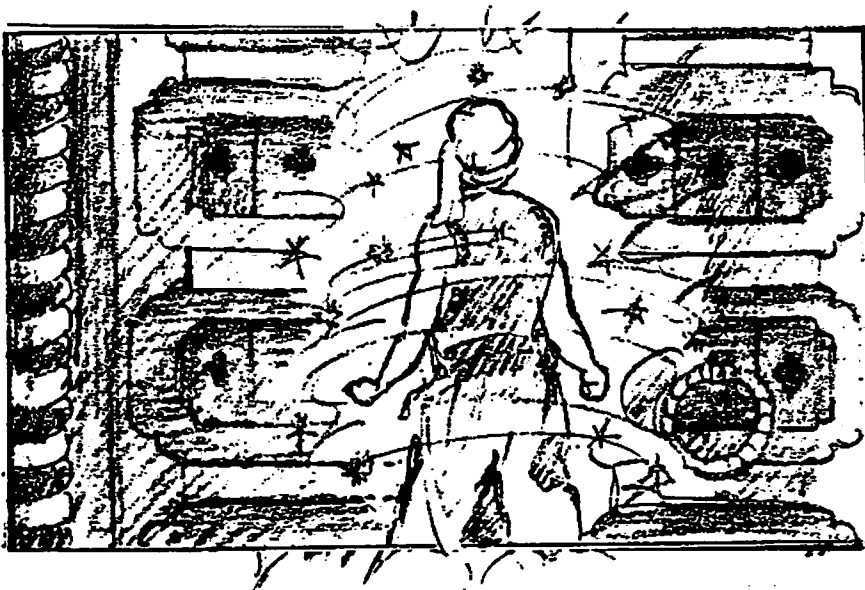
As the Prince stands there, magic sparkles appear in the air around him and settle on his body . . .

. . . transforming his princely garments to rags.

At the same moment, the doors swing open to reveal the magnificent throne room; we hear the ambient noise of a large hall filled with chattering people. The Princess and Sultan are seated on a dais at the end of the hall.

As soon as the doors are open, the crowd murmur stops. There is dead silence as the Prince enters the throne room.

2. The Princess and Sultan stare in surprise. The Sultan seems angry; the Princess puts a hand to her mouth to suppress her amusement.

3. The Prince walks through the hall, which is lined with onlookers on both sides. Some appear angry, others amused.

4. The curtain behind the Princess and Sultan parts and the False Prince steps out. (Note: He is wearing the same rich garments that the Prince was wearing before the magic sparkles transformed them to rags.)

5. The Prince stops in astonishment.

6. False Prince points at the Prince and speaks:

    "Who let this beggar in here? Guards -- seize him!"

7. Guards seize Prince.

    "Princess -- don't you know me?"

8. Princess pleads with False Prince.

"Please don't hurt him! Can't you see he's just a poor, mad beggar?"

9. False Prince speaks in close-up:

"Cut off his head and throw his body to the dogs."

10. Prince stares in horror. A guard moves in front of him. The dark color of the guard's cloak fills the frame, blocking the Prince from view.
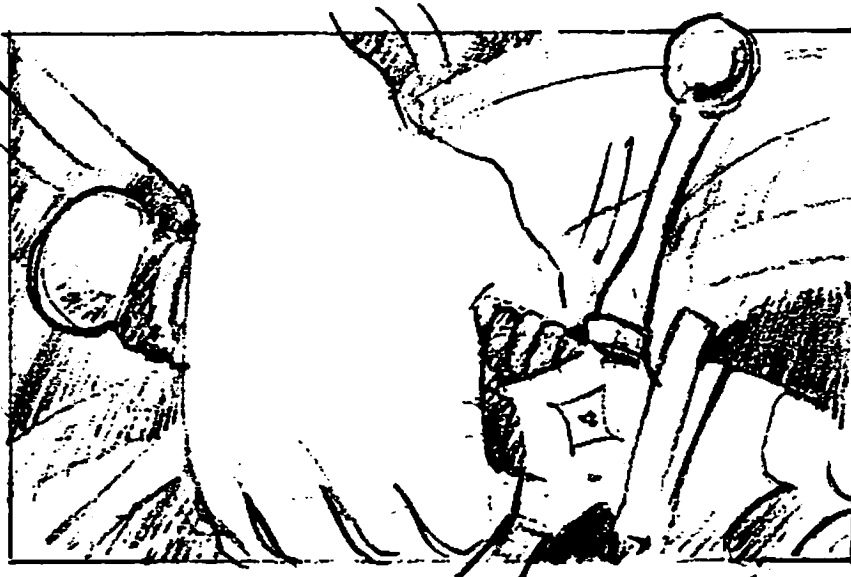
11. Close-up of the Prince's hand as he draws a sword from its sheath.

12. Start with a dark screen (the guard's cloak) -- then the guard's body falls, revealing an angry Prince behind him.

13. Princess stares in consternation.

14. Prince runs back through the hall the way he came. The onlookers are aghast, but no one moves to stop him. Prince runs offscreen. A moment later, the guards charge through running after him.

15. False Prince watches with satisfaction. The Princess, in contrast, appears upset.

"Don't worry, my dear -- he won't get far."

16. A flash of lightning shows us Jaffar standing in the False Prince's place . . .

. . . and disappears, showing the False Prince back to normal.
(This transformation was not visible to the Princess)

2.0

Level 1: Palace Rooftops

2.1
Overview: Level 1

2.2
Animated Character:
Palace Guard

2.3
Sound Effects Summary:
Level 1
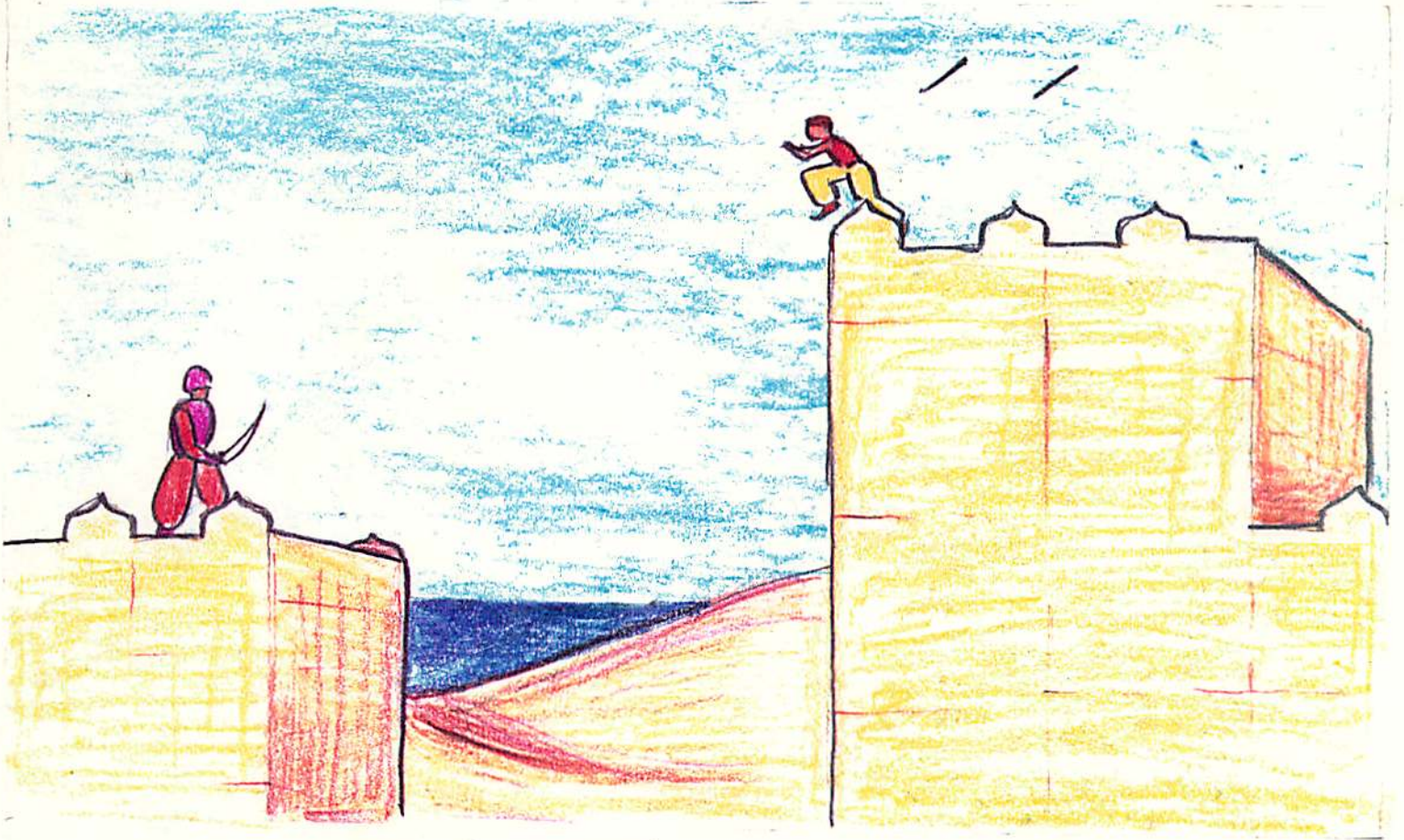
LEVEL 1 SAMPLE SCREEN.

Overview: Level 1
Palace Rooftops

Pursued by the Sultan's guards, the Prince must flee over the rooftops of the palace, and manages to escape by leaping onto a ship as it pulls away from the pier.

(Note: The following description, like all the level descriptions herein, is not meant as a blueprint; rather, it is intended to convey the *feel* of the level. The actual levels will be constructed by the level designer after the new opponents and any new traps have been implemented by the programmer.)

Palace Rooftops

The Prince jumps out of the stained-glass window of the throne room (shattering the glass) and lands on the roof of the palace. As he gets to his feet, player joystick/keyboard control takes over.

Run from right to left along the roof. The first guard is waiting for you. Draw your sword and fight him. He has three hit points and fights just like the guards in *Prince 1.*

When you succeed in killing the first guard, the difference between these guards and the *Prince 1* guards becomes apparent. A new guard *runs* onscreen and draws his sword. If you kill *this* guard, yet another one runs in to take his place; and so on. Thus, if you choose to hang around in one spot, you will be attacked by an endless succession of guards.

(For a more detailed explanation of the guards' behavior from a programming standpoint, see notes on "Guard Logic" and "Guard Corpse Disposal" below.)

These guards are all entering from a doorway a couple of screens over to the right. You can try to stem the tide of attacking guards by entering this doorway yourself, but you'll never get to see what's inside; the moment you enter, an unseen guard cuts you down on the spot and your body falls.

Anyway, there you are, fighting one guard after another. Eventually you realize that the guards will keep coming forever. So when the next guard comes charging at you, instead of fighting him, you turn and run away (to the left). He runs after you. Fortunately, a two-space gap is coming up. You jump it easily, landing on the rooftop below. Guess what? The guard comes after you -- jumping without your graceful style, perhaps, but with equal effectiveness -- and you have another fight on your hands.

If you succeed in dispatching this guard, a hail of arrows starts to rain down on you from the parapet above. You can't see the archers, but every arrow that finds its mark costs you one hit point, so you know they're up there.

These are the basic ingredients of the level: Solid rooftops, empty space, unseen archers, and guards that keep coming at you. There are no gates, loose floors, pressure plates, or other traps. The progress of the level is essentially from right to left, with plenty of daring leaps and tense battles at the edge of the rooftops. If you miss your footing at any point, or a guard backs you off the edge, you plunge to your death in the courtyard below.

When you land in the courtyard, there are a few people standing around. They stand staring in surprise as your body splats on the ground -- then look up to see where you came from.

Eventually you find a place where you can climb down far enough to jump safely from the roof to the streets below. (There should be two such places, the first of which is actually a shortcut -- since it saves you from having to fight the last of the rooftop guards -- but also requires greater skill to negotiate.)

Guards' Jumping Ability

The guards can manage a two- or three-space running jump, but a four-space leap is too much for them. The guards don't know how to grab onto the ledge. (Maybe they didn't read the documentation.) So, when you escape a guard by means of a four-space leap, most times he will stop chasing you. Every now and then, however (say, about one time in four) he will attempt to replicate your four-space leap, and plunge to his death with a gratifying scream.

Potions

Unlike the dungeons, where there were plenty of strength potions lying around in plain sight, on the rooftops there are none. However, there *is* a way to get strength potions. When you are standing beside a dead guard, press the joystick down. This will cause you to crouch and -- surprise -- search the guard's body. Any potion that the guard was carrying will then appear on the ground next to the guard, and you can (if you wish) drink it by pressing Button A.

Not all of the guards carry potions, but many of them do. They can also carry poison potions, so be careful. And one guard, somewhere on the level, carries a *super life potion* which will boost you from three to four hit points.

Waterfront

You jump down from the rooftop and land in the street. There is no way to get back up. Almost immediately after you have landed, a guard jumps down, and engages you in battle. If you try to flee to the right, you will find another guard waiting for you. Sandwiched between two guards, you won't last long. In any case, there is a dead end off to the right, so this is not the way you want to go.

The more sensible course is to keep moving to the left. Guards will continue to enter from the right and chase you. They will keep coming indefinitely. Also, arrows are

raining down on you from the parapet above, so you don't want to prolong this phase of the level too much.

When you knock a guard off the pier, a few moments later, you hear a *splash* as the guard hits the water far below, out of sight. (The water level is rather low at the moment.) Aside from giving the player a satisfying little thrill every time he dispatches a guard, this device is a convenient way for us to prevent guards' bodies from piling up in the street.

The pier ends at (A) (Fig. 1). If you jump off the pier (or fall off), you land in the water yourself, offscreen, with a great splash. *Press button to continue.*

The only escape is to take a running jump and land on the ship at (B) (Fig.2) as it is pulling away from the pier. If you just miss the ship, it is possible to grab onto it (by pressing the joystick button) just as you would grab onto a ledge, and climb on board. A guard will run up to the end of the pier, stand there for a moment taking a good look at you, then run off (presumably to inform Jaffar of your escape).

As the ship pulls away, we see a little white mouse (the Princess's friend) perched on the rail, waiting for you. This is a hint that you want to be on the boat. When you actually jump onto the boat, the mouse drops out of sight.

Technical notes

Guard Logic

Whereas in *Prince 1* there could be only two characters on the screen at any time, in *Prince 2* we would like to be able to have up to three -- that is, the player and two guards.

Guards have three modes of behavior -- running mode, waiting mode, and fighting mode. (In *Prince 1*, the guards had only two modes -- waiting mode and fighting mode.)

The level designer should be able to specify certain places as "guard generation points." A guard generation point may face either to the left or the right. If it faces to the right, this means that, at the appropriate moment, a new guard will be generated that will start running to the right. Ditto for the left.

In addition, the level designer should be able to place "waiting guards" in certain places, as in *Prince 1*. These guards, in "waiting mode," will just stand there and wait for the player to arrive -- until something triggers the guard to go into "running mode."

A guard in waiting mode will wait for the player to come within "en garde" range -- that is, until they are both on the same stretch of floor, with no obstacles in between them, and within the specified en garde distance -- and, at that point, the guard will draw his sword and attack the player.

Like the Prince 1 guards, once these guards are engaged in battle with the player, they will keep fighting until either the guard or the player is dead. If in the course of battle the

player backs off a ledge and lands safely on the level below, the guard will follow him without leaving fighting mode. If, however, the player somehow escapes from the guard in the course of battle -- say, by turning tail and fleeing, or by otherwise doing something that the guard is unable to reproduce within fighting mode -- the guard will put away his own sword and go into *running mode*, chasing the player according to the guard's normal running logic.

When in running mode, a guard will continue running, crossing screen boundaries as it comes to them, until it encounters either the player or an obstacle.

- If the obstacle is a one, two, or three-space gap, the guard will simply jump over it and keep running.

- If the obstacle is a wall, or a gap of five or more spaces, or a gap with no way to jump it (for instance, if the floor on the opposite side of the gap is higher than the floor on this side), the guard will consider this to be an *impassable obstacle*. He will stop a good distance away from the obstacle (about five spaces) and go into waiting mode.

- If the obstacle is a four-space gap, most times the guard will treat it as an impassable obstacle. However, a certain percentage of the time, the guard will attempt to jump the gap, and of course fail, plunging to his death with a horrible scream. The likelihood that a given guard will attempt to jump a four-space gap could vary for different guards, but for now let's make it a consistent 25% probability for all the guards.

Guard Corpse Disposal

All this raises the problem of how we will dispose of all the dead guards. The first guard that is killed on a given screen will simply fall dead in a heap, like the Prince 1 guards. In Prince 1, a dead guard was still considered to be "active"; that is, the program had to continue keeping track of its coordinates and status, and it had to be redrawn every frame. In *Prince 2*, this won't be practical. It would be more efficient, when a guard drops dead in a certain spot, to "flag" that spot, noting the exact position, color, type, and orientation of the guard. Then the guard becomes part of the background and doesn't need to be redrawn unless the player exits and re-enters that screen. When the player enters a screen, the program must check to see if any spots have been flagged, and draw any necessary dead guards.

Even with this change, however, maintaining the dead guards' corpses involves a certain amount of overhead. We would like to keep the number of dead guards on one screen at one time down to a maximum of three -- more than that would look silly. Also, it would look strange to have two dead guards overlapping with each other. Therefore, we have a second option for disposing of dead guards. Instead of dropping in a heap, the guard can fall over the edge of the parapet, and plunge out of sight, and out of our hair.

When you kill a guard, the program makes the determination as to whether the guard should drop dead or fall off the edge. The first guard to die on a screen will almost always drop dead. ("Almost" means about 75% of the time -- a certain random element is desirable to keep the player from perceiving the artificialness of the pattern. The remaining 25% of the time, the guard will fall off the edge.) Subsequent guards -- that

is, any guard that dies when there is already a corpse somewhere on the screen -- will have about a 50% chance of dropping dead, *if possible.* ("If possible" means, if the guard is not so close to an existing corpse that the two corpses would overlap in a way that would look silly.) When there are two dead guards on screen, the chance of dropping dead will drop to 25%; and when there are three dead guards, to zero. This means, in practice, that the player will have to kill a lot of guards on a single screen in order to accumulate three corpses.

Guard's Potions

The determination as to which guards carry which potions is made at the point of the guard's death. (Logically, it should be made at the point of the guard's generation, but what the player doesn't know doesn't hurt him. This way, the player won't be cheated of a potion if the guard happens to fall to his death, where he can't be searched.)

The distribution of the various potions will be decided after the new guards have been implemented, the level constructed, etc. The potion distribution will obviously have a considerable influence on the difficulty or ease of completing the level.

Technical Summary

Characters:

Prince
Palace Guards

Backgrounds:

20 custom-drawn full-screen backgrounds, based on 3 key screens.

Key screens: 3
      Rooftop
      Courtyard
      Waterfront

Variation screens: 17
      (based on 3 key screens)

Special animated effects:

- Window shatters & glass shards fall
- Hail of arrows rained down on you from above
- Bystanders in courtyard look up
- Ship pulling away from pier

Special sound effects:

- Window shatters & pieces tinkle on the roof below
- Guard screams as he plunges to his death
- Splash when body lands in water

Scheduling Notes

Because this level consists entirely of custom-drawn full-screen backgrounds and does not use a modular background set, the task of drawing the backgrounds should in this case be saved for last.

Step 1: (Animator) Create the new palace guard animations.

Step 2: (Programmer) Install new guard animations. Implement new guard logic, including chasing & fighting behavior.

Step 3: (Level designer) Create the level map, using only solid blocks and solid floorpieces. Specify placement of guards and potions. Play-test and debug level, paying special attention to pacing and difficulty.

Step 4: (Background artist) *Only when level map is final:* Create a custom background screen for each of the screens in the level map.
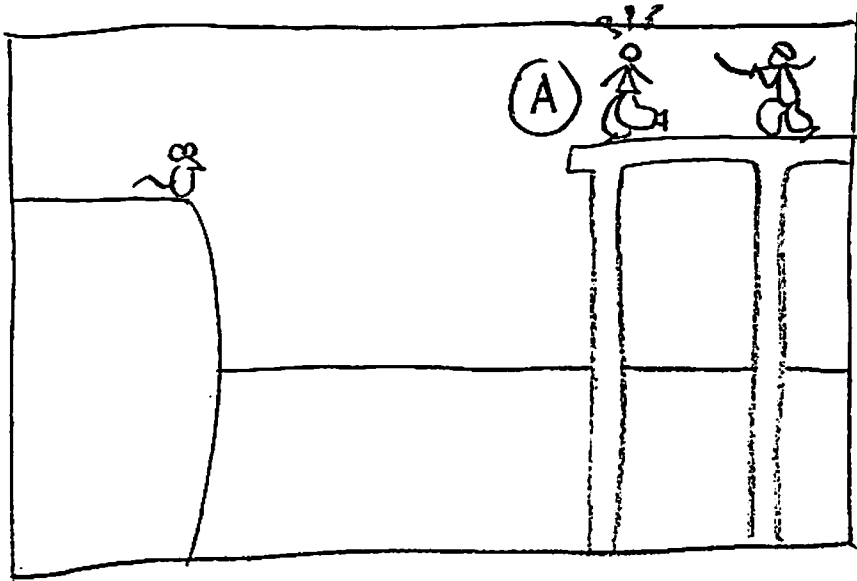
FIG. 1
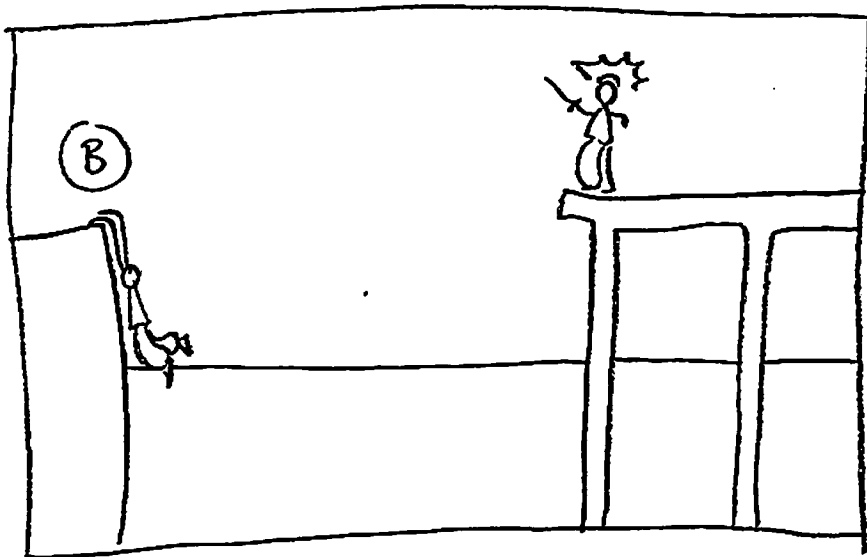
FIG. 2

Animated Character:
Palace Guard

Character Description

Essentially the old familiar palace guard from *Prince 1,* with new costumes and some new moves. Like the *Prince 1* guards, these guards' uniforms should come in at least 6 different colors. The costumes should be similar in style to the *Prince 1* guard costumes, but need not be identical.

Appears on level: 1.

Note: These same animations can be re-used virtually intact, simply by changing the guards' costumes and headdress, for the Bird-Headed Guards and Assassins.

Estimated Total # of Frames

Existing frames: 23
New frames: 46
Total frames: 79

Animations

Sword fighting
Run
Stop
Running jump & landing
Fall off edge
Drop dead
Turn while fighting

Sword fighting.

All sword fighting frames taken directly from *Prince 1.*

Est. # of frames: 23.

Run.

A full run.

Est. # of frames: 8.

Stop.

From a full run: stop, draw sword, and assume fighting stance.

Est. # of frames: 8.

Running jump & landing.

Like the Prince, a guard can jump a three-space gap but not a four-space gap. Unlike the Prince, the guard doesn't know how to save himself by grabbing on to the edge.

Est. # of frames: 12.

Fall off edge.

Stagger to edge of parapet (back edge), and fall off.

Est. # of frames: 6.

Drop dead.

The guard is killed by the Prince's sword and lands dead on the floor. (We're so tired of looking at the *Prince 1* "drop dead" sequence, it's about time for a new one.)

Est. # of frames: 6.

Turn while fighting

Just a few in-between frames to smooth the guard's "about-face" while fighting. He begins by facing "en garde" to the left, and ends in the same "en garde" position, but facing to the right. In *Prince 1*, the guards flipped instantly from left to right without any in-between frames, but this always looked cheesy.

Est. # of frames: 6

Reference materials

Prince 1 guard swordfighting animations; Prince's own running and jumping animations; additional video footage?

A11	A12	A13	A14	A15	A16	A17	A18
A21	A22	A23	A24	A25	A26	A27	A28
A31	A32	A33	A34	A35	A36	A37	A38
A41	A42	A43	A44	A45	A46	A47	A48
A51	A52	A53	A54	A55	A56	A57	A58
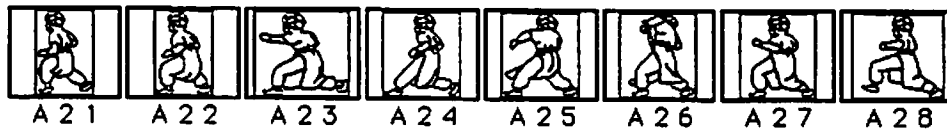
EXISTING "PALACE GUARD" FRAMES (FROM PRINCE 1)

TOTAL EXISTING FRAMES: 23

Animated Character:
White Mouse

Character Description

The little white mouse from *Prince 1.*

Appears on level: 1.

Estimated Total # of Frames

Existing frames: 3
New frames: 0
Total frames: 3

Reference materials

Prince 1 mouse.

C14

C15

C16

EXISTING "MOUSE" FRAMES (FROM PRINCE 1)

TOTAL EXISTING FRAMES: 3

3.0
On the Ship
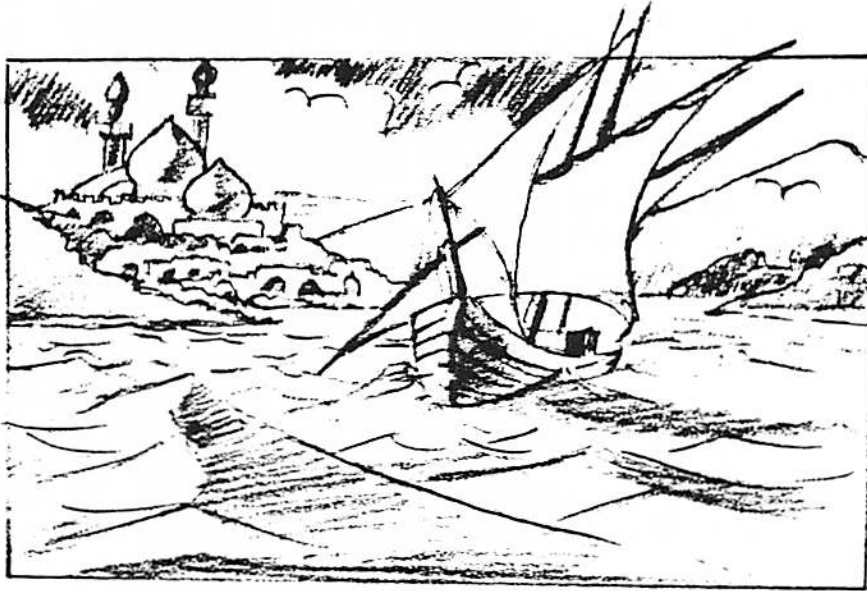
1.   The ship sets out to sea.

2.   Full-screen title card.

     The Prince leaves Persia as he arrived -- a ragged stowaway on a merchant ship: known to no one, scorned by all.

3.   Prince sits on deck looking forlorn and miserable. White mouse runs up and jumps up onto the Prince's shoulder.

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4. Close-up of Prince asleep.
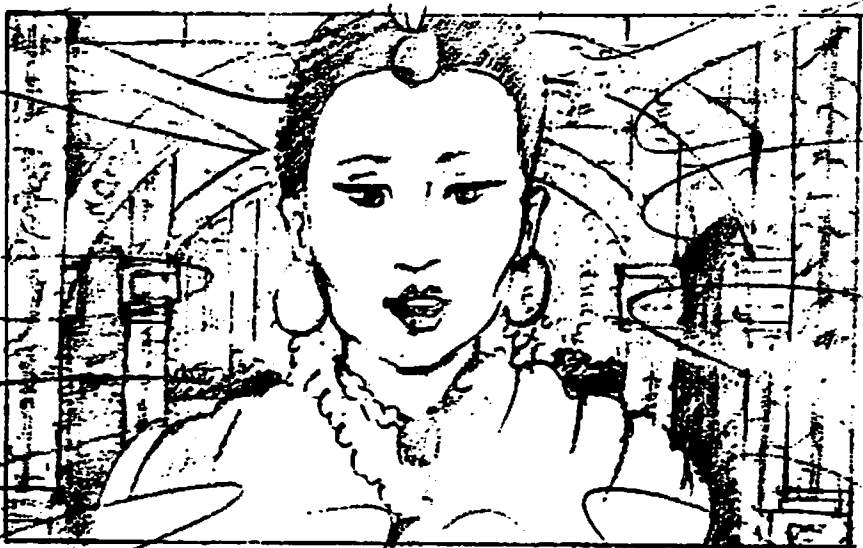
5. Prince's dream: Queen speaks to Prince from a magnificent marble hall. The hall has a distinctive architectural look that is very different from the Sultan's palace.

"Come to me!"

6. Prince is awakened by a thunderclap. It's raining. Mouse jumps off Prince's shoulder.
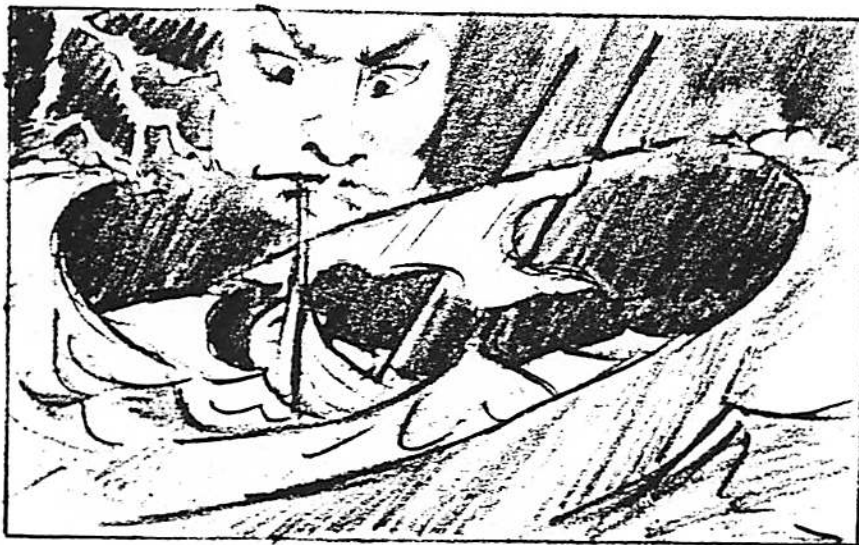
7. Ship is lashed by storm. . . huge thunderclouds are gathering overhead. As the ship struggles amidst the waves, Jaffar's face appears in the clouds.

Lightning strikes the mast and the ship sinks beneath the waves.

4.0
Level 2: Desert Island
(Mini-Level)

4.1
Overview: Level 2

Overview: Level 2
Desert Island
(Mini-Level)

Awakening to find himself lying on the beach (SOUND of the surf rolling in), the Prince gets to his feet, at which point joystick control takes over.

You can run left or right along the beach. If you run to the right, eventually you will run out of beach; a sheer cliff blocks your further progress.

If, instead, you run to the left, you will pass a crumbling stone wall with an Arabic number carved into its surface. Further along, you will encounter a wide patch of quicksand. On the far side of the quicksand is a massive stone door which looks like it might be the entrance to a cavern. If you try to cross the quicksand, you are sucked down into its depths. (SOUND of the Prince being sucked into quicksand. It shouldn't be a big splash, more like a "plop.") *Press button to continue.*

~~It's possible to climb up onto the stone wall and run along the top of it. At the far left end of the stone wall is a tile which, if you step on it, triggers a subterranean mechanism that causes a series of stepping-stones to rise up from the quicksand. Each stone has an Arabic character carved into its surface. (Fig. 1)~~

STEPPING STONES ARISE AFTER YOU ENTER

By leaping from one stepping-stone to another, you can make it to the other side of the quicksand. You can stand on a given stepping-stone as long as you like; but the moment you step *off* the stone, it sinks beneath the quicksand without a trace.

When you reach the other side, all the remaining stepping stones sink at once. You find yourself stranded in front of the closed door, with all the stepping-stones gone and no way to get back to the other side. You've blown it -- suicide is the only way out.

If you succeed in raising the stepping stones, but die in the quicksand anyway, you will be presented with a full-screen title card (with appropriately solemn music):

> Such is the fate of those who do not know the Book of Shahyizar.

This rather portentious message is accompanied by an illustration of a book open to the first page. The design on this page is identical to the design on the first page of the *Prince 2* user's manual. If the player still doesn't get it, there's always Tech Support.

The way to cross the stepping stones is to step on them in the correct order to spell out the magic word that will open the door. To learn the magic word, you must look up the appropriate page in the Book of Shayizar -- that is, the page of the user's manual corresponding to the number inscribed on the stone wall. (If the number written on the wall is 12, turn to page 12.) Every page contains four magic words, one in each corner, as part of the border design. Only one out of the four words is possible with a given set of stepping-stones. For example, if the stepping stones are C W H E L, and the four

magic words on page 12 are RTH, CEP, WHT, and CHL, it should be obvious that the only word you can spell out with these stepping-stones is CHL. (Note: In this example, I've used the Roman alphabet, but the actual game will use Arabic -- well, pseudo-Arabic -- characters.)

When you have spelled out the last letter of the word, the stone door opens, and you can enter the cavern. (Should you make a mistake in spelling, the door will never open, and you will wind up in the quicksand.)

This copy protection system is, in a sense, rather forgiving, in that the player can keep trying again and again until he gets it right. His chance of guessing the right sequence of 3 out of the five stepping stones is 1 in 60 (I think).

Technical Summary

Characters:

Prince

Backgrounds:

4 custom-drawn full-screen backgrounds:
  Beach #1 (far right end of beach)
  Beach #2 (place where you are washed up)
  Beach #3 (stone wall)
  Beach #4 (quicksand -- see Fig. 1)

Special animated effects:

- Stone door sliding open.
- Quicksand "plop" when Prince falls in.
- Stepping stones rising from quicksand.
- Stepping stones sinking beneath quicksand.
- Pressure plate atop wall sinks down when stepped on.

Special sound effects:

- Stone door sliding open.
- Quicksand "plop" when Prince falls in.
- Sound of waves rolling into shore.
- "Snick" when you step on pressure plate that activates mechanism.
- Hidden mechanism sound as stepping stones rise from quicksand.
- Little "plop" as each stepping stone sinks beneath quicksand.
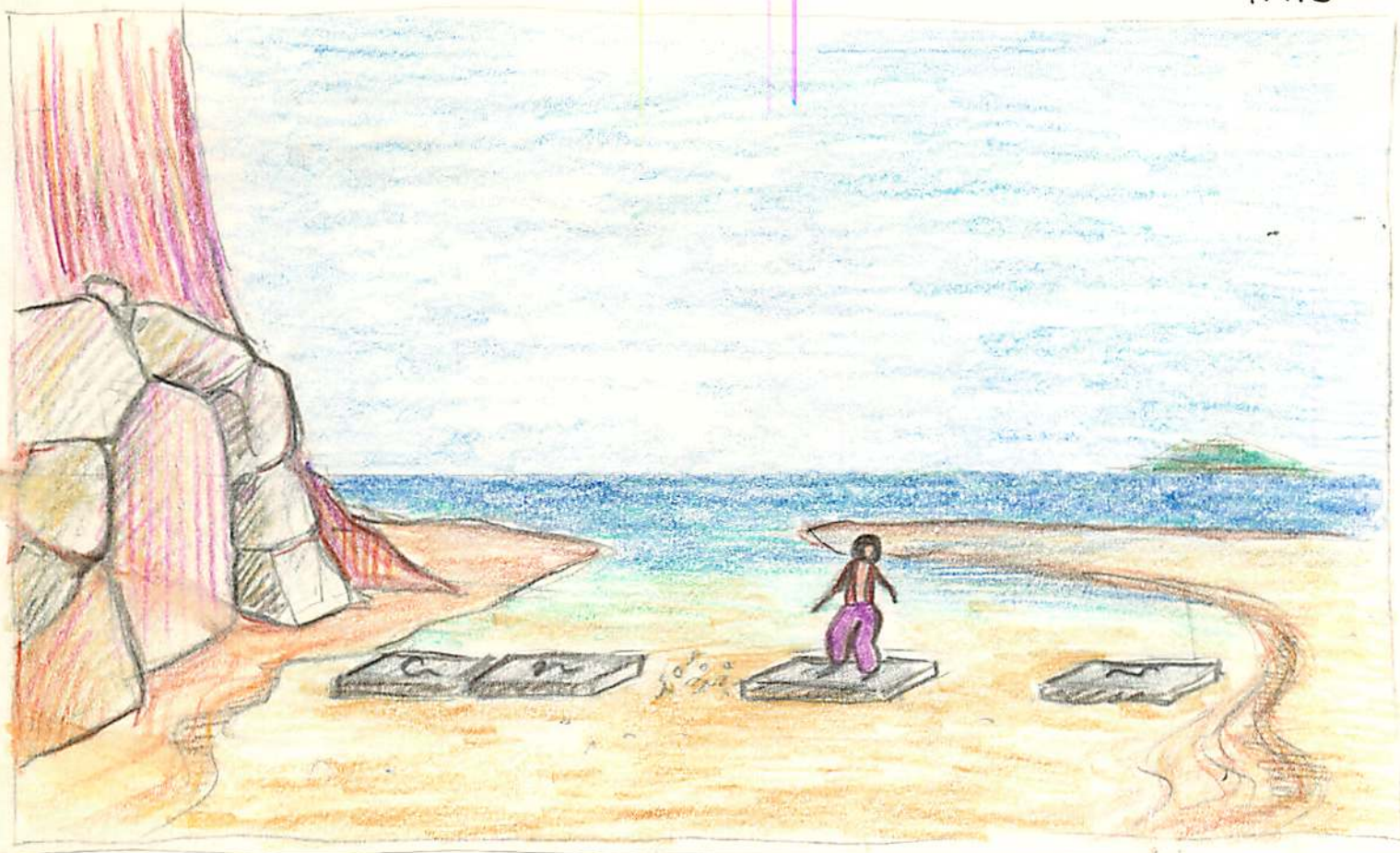
FIG. 1 — LEVEL 2 QUICKSAND TRAP

SOLID GROUND   "FREE" PLATE   SOLID GROUND
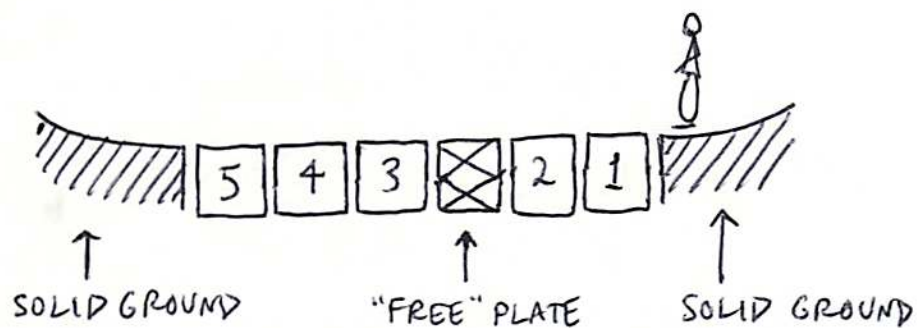
EXAMPLE: TO SPELL "5-1-3," JUMP TO FREE PLATE...
THEN TO 5 ... THEN TO FREE PLATE... THEN TO 1
... THEN TO 3 ... THEN TO SOLID GROUND.

5.0
Jaffar's Tyranny

Storyboard:
Jaffar's Tyranny

This sequence tells us what has been going on back in Persia while the player is having his various adventures. It is not tied to the completion of a specific level, but is presented after a certain amount of time has elapsed, independent of the player's activities. (For more information on the timing of this sequence and the other non-interactive sequences, see Appendix, "Timing of Non-Interactive Sequences.")

This sequence is preceded by a full-screen title card:

1. Meanwhile, back in Persia . . . the death of the Sultan plunges the kingdom into mourning.

2. Princess and False Prince standing over the Sultan's body. Princess is sobbing. False Prince puts his arm around her in a comforting gesture.

FULL-SCREEN
TITLE CARD

3. Seizing power, the new 'Prince' orders hundreds of the Sultan's 'enemies' arrested . . . and the streets run red with blood. The people soon begin to long for the days of the old tyrant, Jaffar.

4. Princess staring out window. False Prince is standing in the room behind her.

"Why do you look so sad, my love? Is there no one I can put to death to cheer you up?"

5. Princess looking out window at lush tree in garden.

"I wish I were dead myself."

6.0
Princess's Discovery

Storyboard:
Princess's Discovery

Like "Jaffar's Tyranny," this sequence is not tied to the completion of a specific level, but shows us what is happening back in Persia. (For more information, see Appendix E, "Timing of Non-Interactive Sequences.")

This sequence leads directly into sequence 8.0, "Tree Check."

1. The Prince's room at night. Princess parts curtains to see Prince asleep in bed.

2. Princess steals up behind the sleeping Prince. She reaches into the folds of her robe and draws out something with a long jeweled handle.
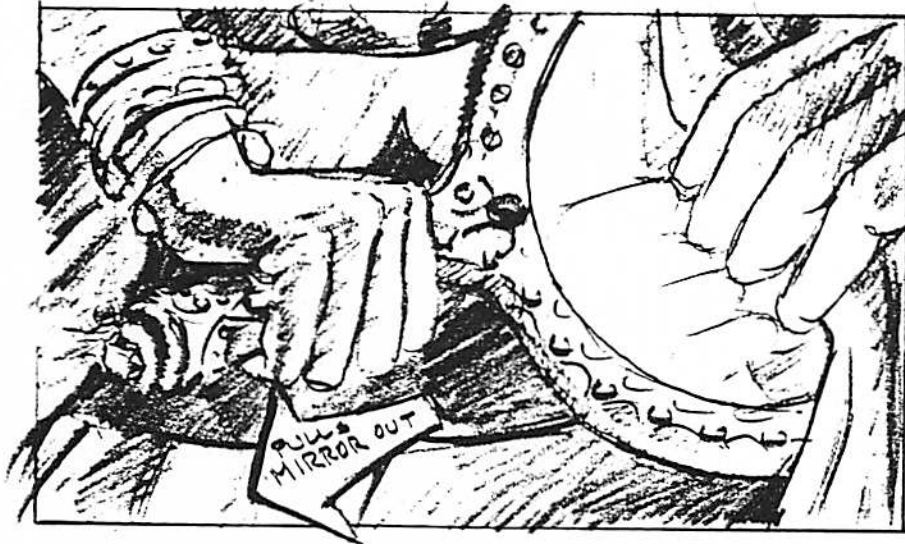
3. Close-up of the Princess's hand as she pulls a jewelled *mirror* out of her robe.

4. (Princess's POV) The Prince asleep in bed. As the Princess's hand brings the mirror down into frame, we see her *own* face reflected in the mirror.

As the Princess starts to tilt the mirror . . .

5. The Princess's face, as she continues to tilt the mirror . . .

6. (Same angle as 4) As the Prince's face comes into view in the mirror, we see that it is the face of JAFFAR. He is awake and looking straight at us!

7. The Princess backs away in terror --

8. The Prince rises up from the bed!

LIGHTNING FLASHES as the Prince raises his arms in a spell.

9. The Princess falls unconscious to the floor.

10. The Prince looking down at the Princess's body. With a touch of regret, perhaps.

11. Full-screen title card:

The Princess's sudden illness stuns the kingdom. The grieving 'Prince' orders the execution of hundreds of the Sultan's 'enemies' . . . as the Princess's life drains away . . .

8.0
Tree Check

Storyboard:
Tree Check

This sequence consists of a single shot of the tree in the Princess's garden. The condition of the Princess's tree depends on the amount of game time that has elapsed since the "Princess's Discovery" sequence. Immediately after the Princess's Discovery, the tree is fairly green; as we watch, a few leaves flutter to the ground.

Later in the game, the Tree Check will reveal a tree that is progressively more and more barren, with dead leaves accumulating on the ground . . . until, finally, just a few leaves are left.

We HOLD on the tree for a few moments while MUSIC plays. (The music should reflect the fact that the Princess is dying while all of Persia suffers under the harsh rule of the False Prince.) When the music ends, we IRIS IN to enclose the tree in a black circle; then we return to the game.
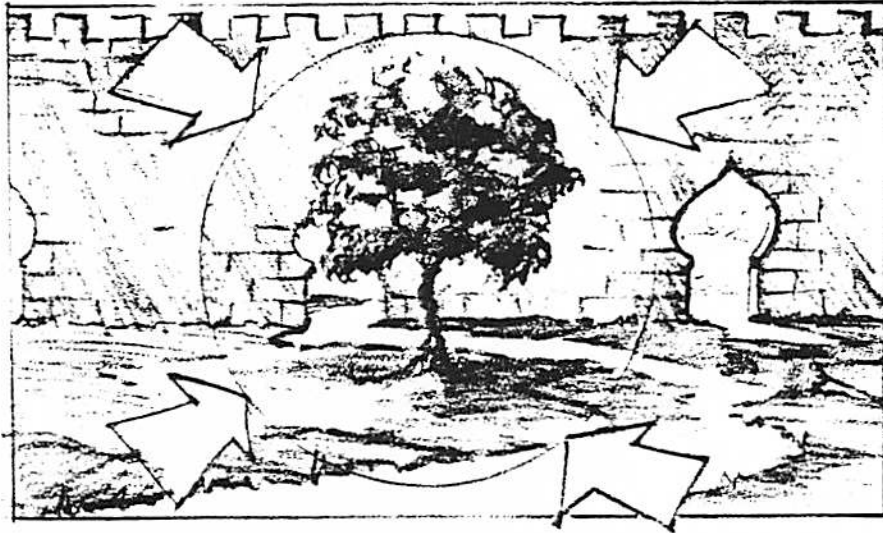
1. The tree in the Princess's garden. A few leaves flutter to the ground. IRIS down to enclose the tree.

9.0
Tragic Ending

Storyboard:
Tragic Ending

Wherever the player happens to be at the moment the clock runs out -- no matter what level he is on or what he is in the midst of trying to do -- we immediately CUT TO the "Tragic Ending" sequence.
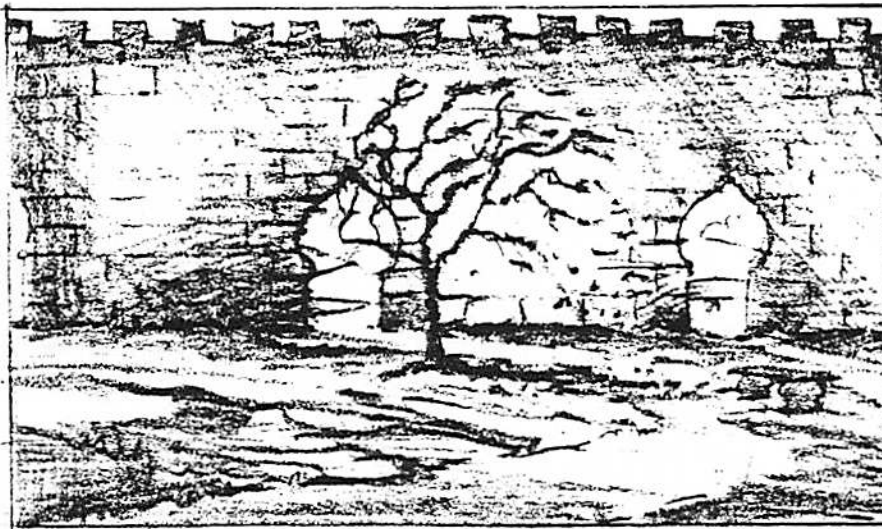
1. (Same as Tree Check) The one remaining leaf stirs in the wind.

    As we watch, a gust of wind comes up and blows the leaf away -- sweeping up and scattering all the dead leaves from around the base of the tree.

    As MUSIC SWELLS TRAGICALLY, we SUPERIMPOSE the words:

                    THE END

    And FADE TO BLACK.

10.0
Level 3: Caverns

10.1
Background Set 1:
Caverns

10.2
Overview: Level 3

10.3
Animated Character:
Fighting Skeleton

Background Set 1
Caverns

Modular background set to be used in Levels 3 and 4.

Historical note:

These are underground volcanic caverns, hewn out of solid rock, which the island's previous inhabitants used as a storehouse for their treasure.   This people vanished centuries ago, wiped out by a great storm that levelled the island. Now, only the caverns remain. The treasure is still there, as are the various deathtraps which its guardians installed to protect it from would-be thieves.

Some of the island's people sought shelter from the storm by retreating to the caves. Many of them fell victim to their own deathtraps; others to thirst and slow starvation. Their skeletons now haunt the caverns, and will fight to protect their treasure. The Prince is the first living human being to set foot inside the caves for three hundred years.

General appearance:

The caverns are in essence a variation on the old familiar *Prince 1* dungeons. Nevertheless, they should look as different as we can make them while still retaining the original modular construction.

The overall color palette of the caverns should be warm, with reddish earth tones predominating. The whole setting should have a rocky, uneven look, as if carved out of the solid rock, rather than being constructed of bricks.

The back wall should be approximately the same color as the floor, should appear to be made of the same material (i.e., solid, irregular rock), and should curve into the floor smoothly, as in the accompanying sketches, without a sharp line of demarcation.

FLOOR

EMPTY SPACE

BROKEN-OFF LOOSE FLOOR

RUBBLE
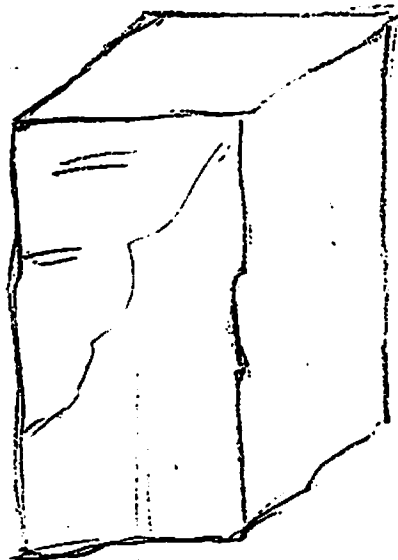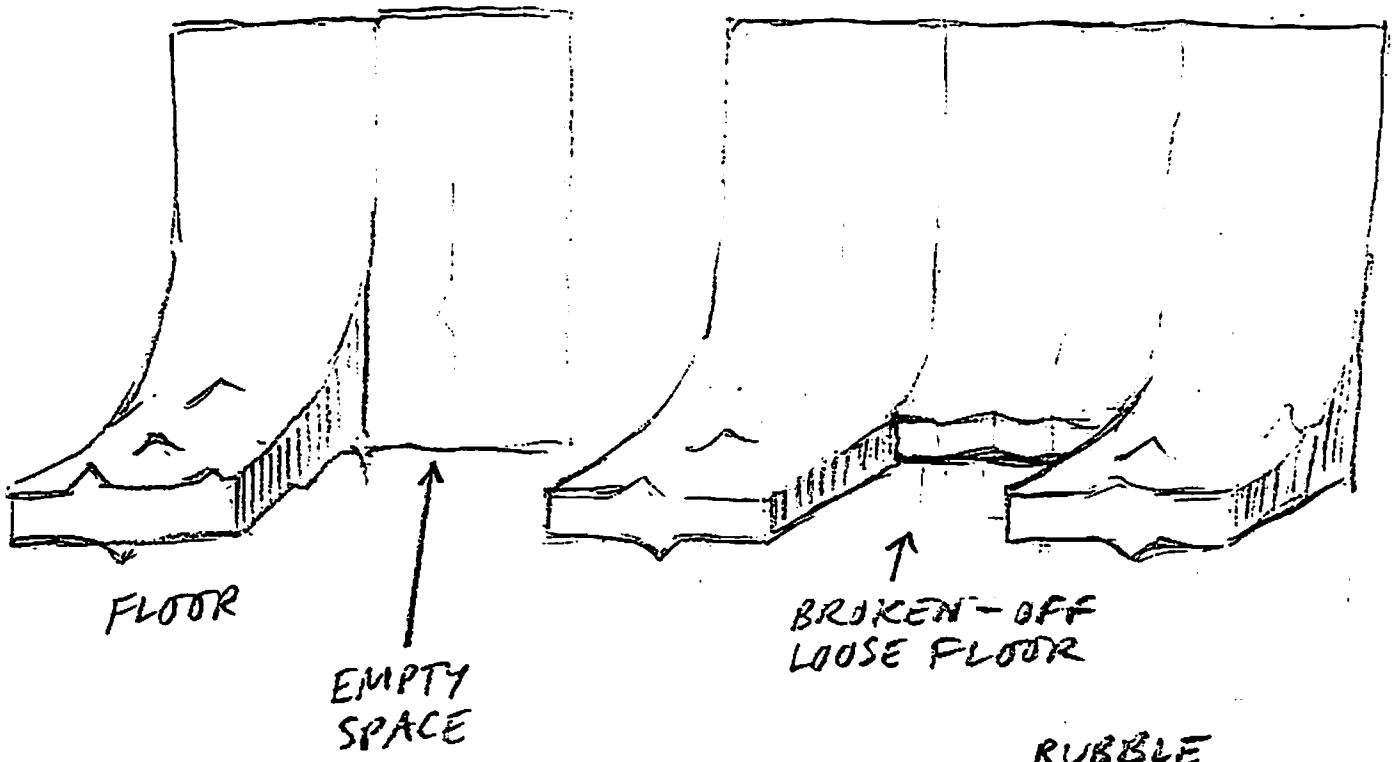
SOLID BLOCK.
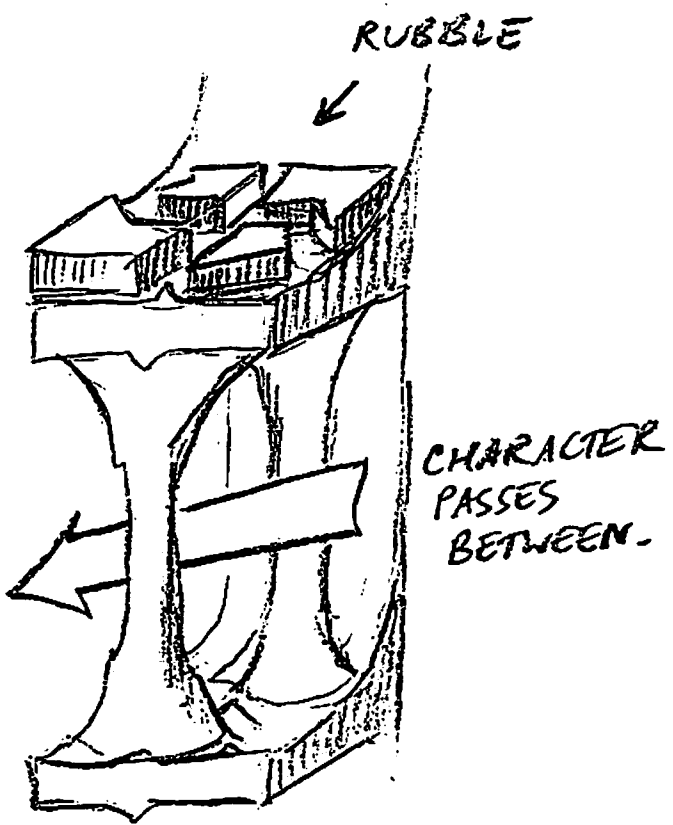
SMALL PILLARS.

CHARACTER PASSES BETWEEN.
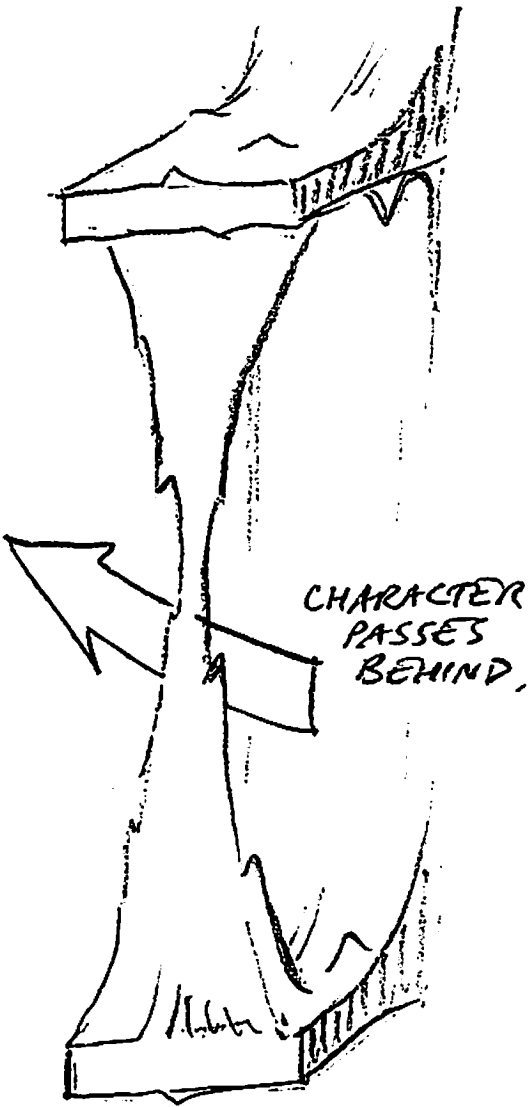
CHARACTER
PASSES
BEHIND.

LARGE PILLAR
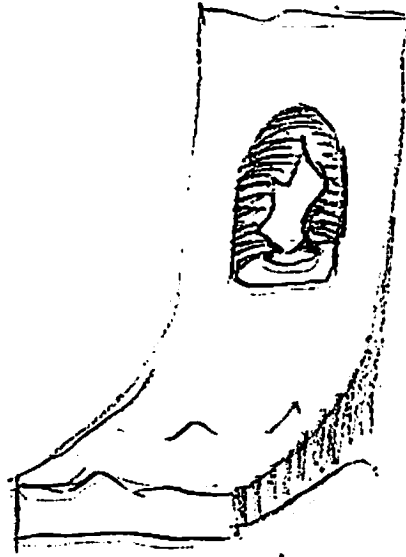
TORCH SHOULD
ILLUMINATE
INSIDE OF
ALCOVE.

TORCH
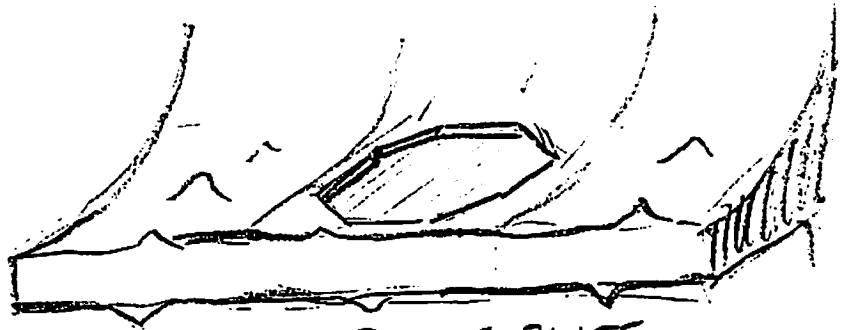
PRESSURE PLATE
(DEPRESSED)

LIFE POTION

NOTE:
CHARACTER
PASSES
BEHIND
POTIONS.

SUPER LIFE POTION
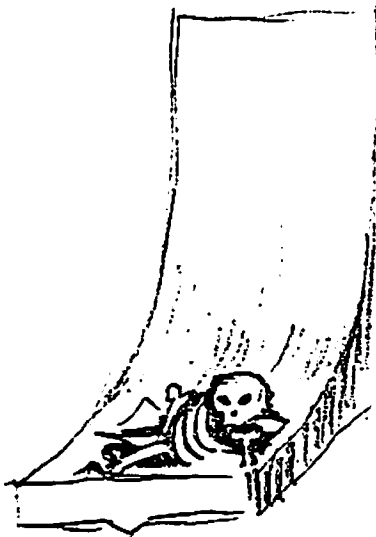
SKELETON.
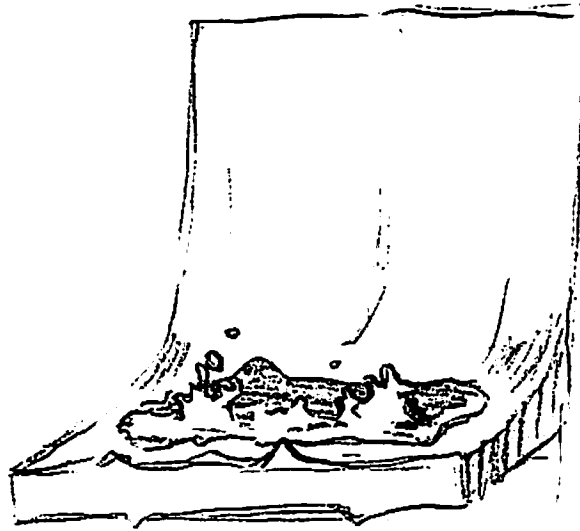
LAVA PIT
(2 SPACES WIDE)
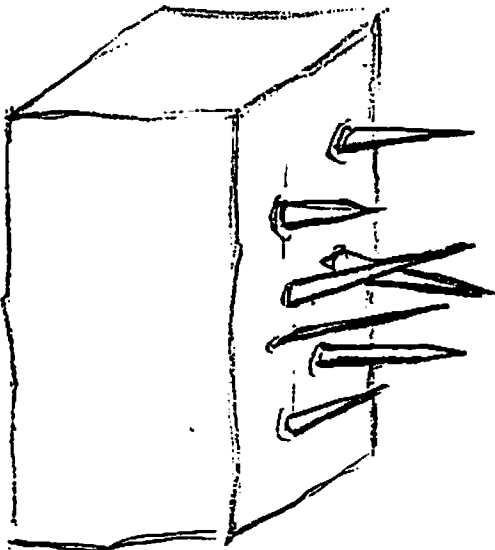
WALL SPIKES
(SPRUNG).

DART TRAP

DART

SHOOTER

GATE
CLOSING

PRE-CUT SLOT
FOR GATE

GATE CLOSED
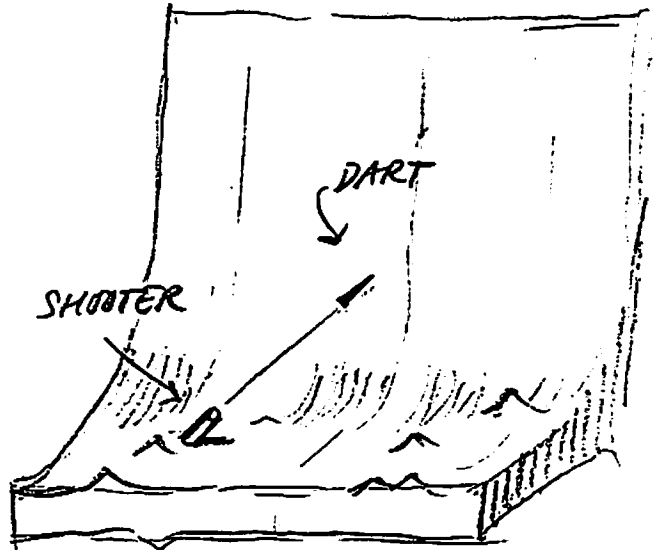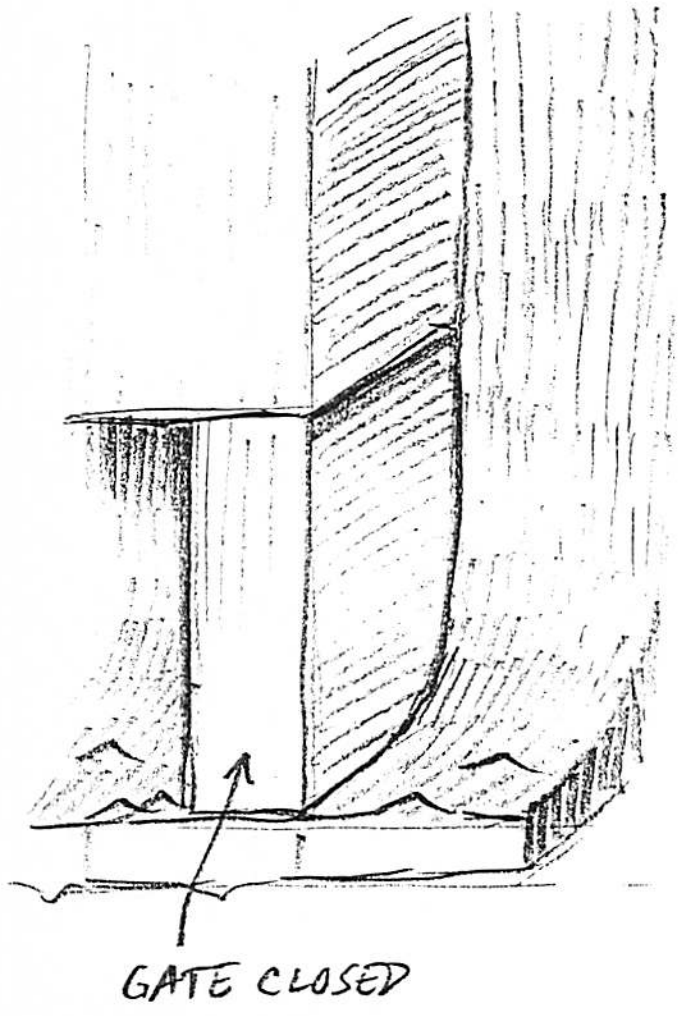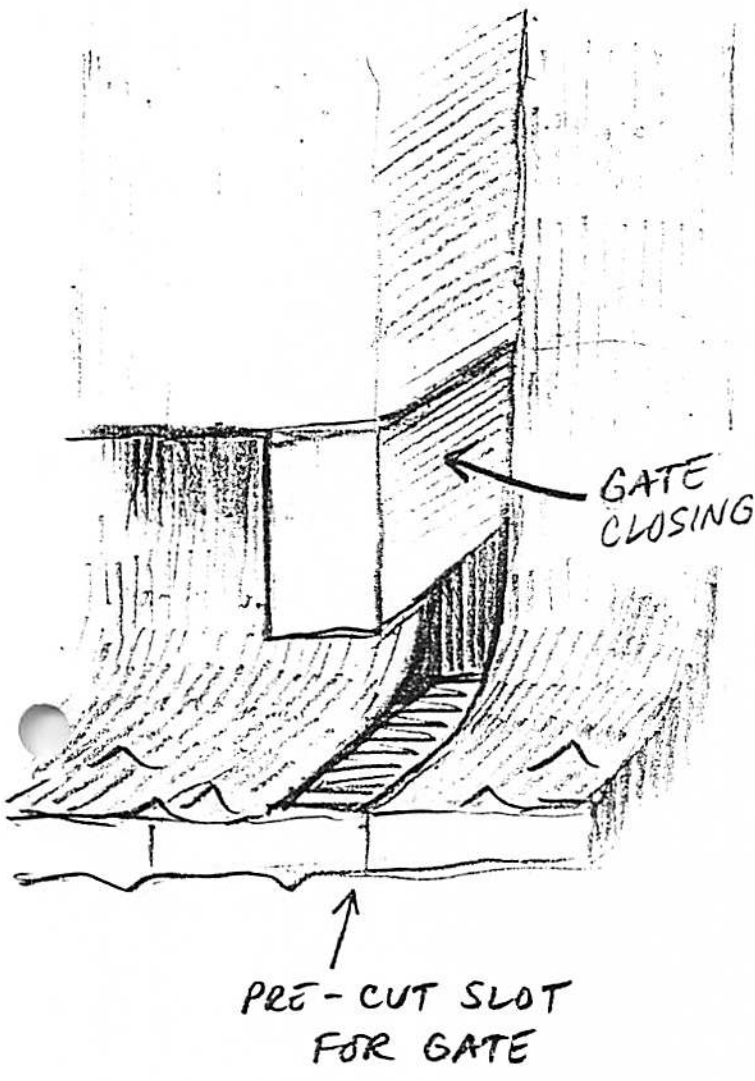
List of pieces:

Floor (3)
Empty space (3)
Loose floor
Broken-off loose floor
Rubble
Solid block (3)
Small pillars
Large pillar
Torch
Pressure plate
Gate
Life potion
Super life potion (corked)
Skeleton (2)
Exit
Lava pit
Wall spikes
Dart trap

Reference materials

The accompanying sketches are intended primarily to show the design, scale, and function of the different pieces. They are *not* meant to be definitive as regards color, texture, light and shadow, or cosmetic details. As long as the basic structure of each piece is preserved, the artists should feel free to elaborate and improve on the enclosed designs.

As a help in rendering the cavern's rocky floors, walls, and stalactites, I suggest referring to photographs of actual caves and rock formations.

Existing pieces

The following pieces are direct descendents of existing *Prince 1* pieces. While the cosmetic differences may be extreme, even radical, their underlying functions are directly analogous to those of their *Prince 1* counterparts.

Floor.

The floor should not be completely smooth, but should have stalagmites pointing up -- not big enough to trip over, but enough to give a sense of texture and of depth.

Unlike the floor pieces in the *Prince 1* dungeon, which were designed for a black back wall, the new floor pieces *include* the back wall. This wall should be approximately the same color as the floor, should appear to be made of the same kind of rock, and should curve into the floor smoothly without a sharp line of demarcation, as in the sketches.

Variations: At least three (3) different floor pieces with slightly varying irregularities in the back wall, stalagmites of different sizes and in slightly different positions, etc. The pieces must be able to be combined in any order.

Empty space.

In *Prince 1,* since the back wall was black, there was no need for a separate "empty space" piece. For the caves, however, we will need a special "empty space" piece that contains only the back wall, with no floor. There should be at least three (3) variations of the "empty space" piece, with slightly varying back-wall irregularities.

Loose floor.

Loose floor is indistinguishable from a solid floorpiece until you step on it. Like the loose floor in *Prince 1,* it wiggles, detaches and falls, shattering on the ground below. If you jump up and down near a loose floor, it should shake but not fall. These animations should take the same number of frames as their *Prince 1* counterparts.

Broken-off loose floor.

Note, in the accompanying sketch, that when a loose floor has fallen, it leaves a jagged, broken-off edge protruding from the back wall. This requires another piece, functionally identical to the "empty space," which we will call "broken-off loose floor."

Rubble.

Rubble, as in *Prince 1,* is a shattered loose floor lying on the ground. It is functionally identical to an ordinary floor piece.

Solid block.

Same idea as *Prince 1.* These blocks, however, are not made of bricks, but of solid rock, just like the floor and the back wall.

Variations: At least three (3) different blocks with slightly different irregularities, that can be combined in any order.

Small pillars.

These one-story-high pillars, like those in *Prince 1,* provide depth (especially when the Prince passes between the front pillar and the back pillar) and also help to give the setting a sense of physical solidity. The pillars should appear to have been formed by accident, where one especially large stalactite has grown into another especially large stalagmite. The front pillar, naturally, needs to be masked separately.

Large pillar.

Two stories high. It is just one pillar, which the Prince passes behind -- the rear support being provided by the back wall.

Note: The large pillar technically comprises two pieces, since it is two spaces high.

Torch.

Like the torches in *Prince 1*, these exist primarily to provide atmosphere and visual interest, and keep the screen from "going dead." They are actually not torches, but pots of fire set into alcoves in the wall.

As in *Prince 1*, there should be at least 8 different frames of fire, playable in any order.

The flame should, if possible, cast a flickering light on the inside of the alcove as part of the animation. The alcove itself is made of the same rock as the rest of the caverns, and is not ornamented.

These torches will have one new feature -- when they are extinguished (more on this later), they go out with a hiss of smoke. The smoke wisp should linger for about one second (10-12 frames) before vanishing.

Pressure plate.

There is only one kind of pressure plate. If a gate is closed or in the midst of closing, the pressure plate makes it start to open; if the gate is open or in the midst of opening, the same pressure plate will make it start to close.

When the pressure plate is in its "up" (normal) position, it is flush with the floor level. It should be subtly but clearly distinguishable from the surrounding floor. It is basically a hexagonal slab set into the rock floor. It should be big enough that it doesn't look as if you ought to be able to simply step around it.

When a character steps on the pressure plate, his weight depresses it slightly below floor level. The accompanying sketch shows a depressed pressure plate. (There are no frames in between the up & down positions.)

Gates.

Not iron gates as in *Prince 1*, but blocks of solid stone. (We will continue to call them "gates," however, for consistency.) They raise and lower slowly, with a stony scraping sound. A gate should be slightly less than half the width of the floorpiece.

Note, in the accompanying sketch, that the gate is perfectly rectangular, and that a groove has been carved into the surrounding rock to allow the gate to close.

For now, simply draw the gate in the fully open, fully closed, and halfway positions. Breaking it down into smaller, animatable shapes will involve programming decisions to be made later.

Life potion.

Same idea as *Prince 1*. Use the swirling-potion animation from the color Mac graphics. Feel free to give the flask any suitably Oriental shape and design.

Corked potion.

Again, feel free to play with the design of this flask. The only stipulation is that it should be fancier and more "special"-looking than the ordinary life potion, and that it be corked.

Note: The flask is a small shape that is simply superimposed on top of a standard floor piece. It does *not* include the floor or back wall.

Skeletons.

A collapsed pile of bones, as in *Prince 1;* except that, since there are so many skeletons in these caverns, there should be at least 2 different (interchangable) piles of bones, to avoid monotony. Each skeleton should have a sword, either partially concealed under the jumble of bones, or else lying nearby.

Like the flask, the skeleton is superimposed on the floor piece, and does not include the floor or back wall.

Exit.

As in *Prince 1*, the exit is a door set into the back wall, which raises to reveal a staircase to the next level. The stairs should be drawn to the same scale as in *Prince 1.*

I suggest stealing this exit directly from the color Mac graphics (which were in turn taken from the NEC). The Mac/NEC dungeon exit, with its two skulls, is appropriate for the lava caves and, what's more, has not yet been seen on the IBM.

Note: The exit technically comprises two pieces, since it is two full spaces wide.

New pieces

The following pieces are brand new and have no direct *Prince 1* equivalents.

Lava pits.

These bubble nicely, adding a certain sinister atmosphere to the caves. If you jump into a lava pit or try to run across it, you sink below the surface with a loud hiss.

There should be about 10-15 "bubbling" frames.

The lava pit, like the exit, is two full spaces wide.

Note: The "splash" which the Prince makes when he falls into the lava pit may require additional animation. I suggest saving this issue until the animation of the Prince falling into the lava pit has been completed.

Wall spikes.

A deceptively simple trap. It looks like an ordinary stone block, except that there are a few oddly spaced holes in it that are reminiscent of the holes in the floor that mark the presence of spikes in *Prince 1*. Sure enough, if you walk (or, worse, run) into this wall, the iron spikes spring out and impale you. It sounds easy to avoid, which is why the player will hate himself so much when he skewers himself for the third time on the same set of spikes. It can also, in swordfights, add new meaning to "having your back to the wall." Also, it is a very satisfying way to dispatch a guard (although we won't have flesh-and-blood guards in conjunction with wall spikes until the temple).

The spikes should be irregularly spaced and angled, and should spring out at slightly varying rates, like the floor spikes in *Prince 1*. They should also have "follow-through" -- that is, when they first spring out, they overreach slightly before retracting into their final position. Use the same number of frames as we did in the floor spikes.

Dart trap.

A tiny, almost unnoticeable shooter set into the floor at a 45-degree angle. Unlike most traps, this one doesn't kill you outright. It is loaded with a poison dart which merely costs you one hit point. When you run towards the dart trap from the wrong (i.e., business) end, it fires. You can beat the dart trap either by cautious steps, or by jumping over it. But you have to be careful about this latter method, since dart traps are most often found lined up in a row. They are most annoying when you are in a hurry to get someplace and can't be bothered to slow down.

If the dart misses you, it (presumably) sticks into the ceiling -- but we don't need to worry about that, because the angle at which the scene is drawn hides the ceiling from view.

The shooter itself doesn't look like much. When it fires, it should retract and sort of spit out the dart. This motion should be small and very fast, like the dart itself. About 6 frames should elapse between the time the dart fires and the time it hits the ceiling.

Sample screen

The sketch on the following page shows one way that the various pieces might be fitted together to form a complete screen. The diagram below identifies each piece in the 3 x 10 grid that makes up the screen.

Note 1: The torches in this sketch are an earlier, outdated design, based on the *Prince 1* torches. They should, in fact, be lava flows, as described and pictured in the preceding pages.

Note 2: The drawing includes stalactites hanging down from the ceiling. These are not part of the modular background set, but would be added by hand to the completed screens at a much later stage in the game's development. For now, ignore them.

SAMPLE CAVERNS SCREEN

EMPTY
SPACES

BLOCK	BLOCK	PILLAR	TORCH	TORCH
BLOCK	SPIKES	BLOCK		
		RUBBLE	FLOOR	

PILLAR	FLOOR			
	TORCH	TORCH	FLOOR	
	FLOOR		FLOOR	
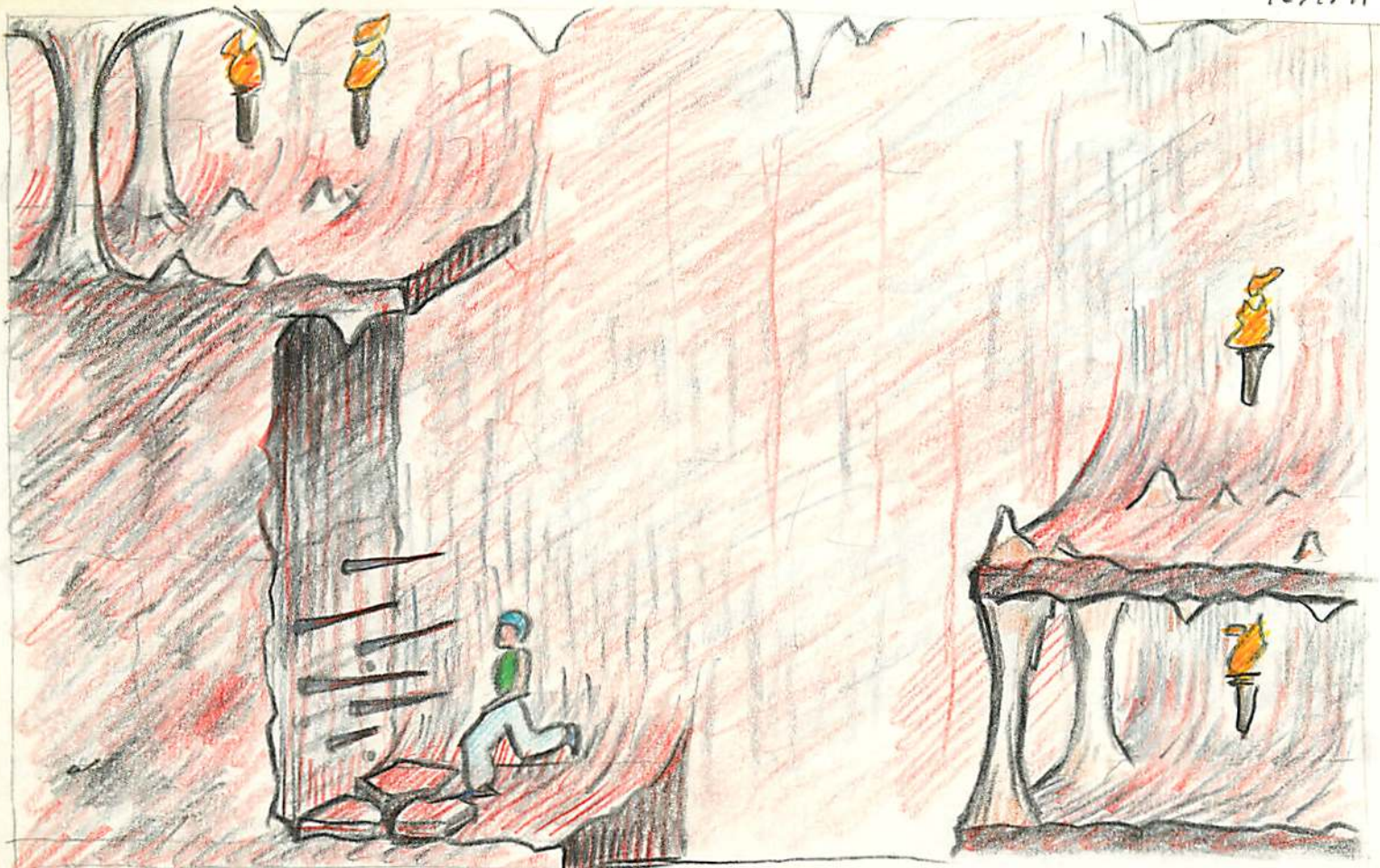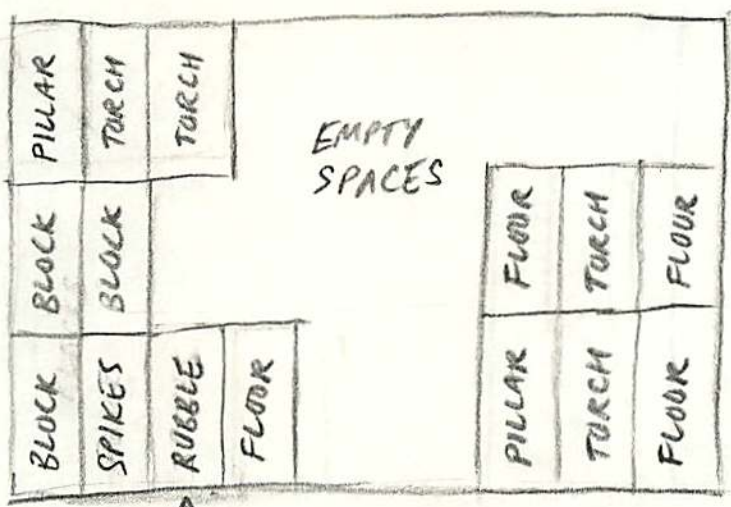
NOTE: SPIKES
ARE PART OF
PIECE TO LEFT.

jordanmechner.com

Overview: Level 3
Caverns

A network of underground volcanic caverns defended by fighting skeletons and diabolical deathtraps. A secret staircase leads to the next level.

The door slams behind you and you find yourself in the **entrance room** with sunlight shafting in from above. This is a specially-drawn background. Exiting to the left, you enter the caverns proper.

Throughout Level 3 you will encounter traps and simple puzzles involving the basic elements of the cavern background set (gates, pressure plates, loose floors, lava pits, wall spikes, dart traps).

You will also encounter skeletons that spring to life & attack you. Unlike the skeleton in *Prince 1*, these fighting skeletons have hit points (represented by a row of skull-&-crossbones symbols in the lower right corner of the screen). If you hit a skeleton enough times (usually 3 or 4), it will collapse back into a pile of bones. However, about 10 seconds later, it will rise up and attack you again. In other words, you can't kill a skeleton; you can only get it to calm down for a while. The only way to get rid of a skeleton for good is to knock it off a ledge, preferably into a bottomless pit.

The level ends with a hidden staircase on the back wall which will take you to Level 4.

Pool room

At the bottom of one room is a pool of water which you need to cross. The pool of water is not part of the modular background set, but is actually a special animation (the surface of the water should sparkle and shimmer slightly).

Unfortunately, the pool is five spaces wide -- just a hair too wide to jump over, even with a running start. Fortunately, the Prince is able to tread water. You can either lower yourself gingerly into the water feet first, or jump in with a terrific splash -- your choice. The Prince will disappear underwater for a second, then pop back up; all you see is his head bobbing along the surface. By moving the joystick left or right, you can dog-paddle to either side of the pool and climb back out. You can also go under (by pushing the joystick down). (See Appendix, "Player Controls" for a more complete discussion of how the Prince interacts with the water.) When the Prince climbs out, he is dripping wet, and has to shake himself dry.

Crossing the water poses no particular danger, and, in fact, should be kind of fun. But this is merely a practice session for what's coming up . . .

Flooding chamber

This room, like the pool room, features a pool of water at the bottom. Protruding from the wall just above the pool is an innocuous-looking pipe.

There's a pressure plate at the top of the room that you must step on in order to enter the room. When you step on the plate, there is a great gurgling sound from deep wthin the rock; a second later the pipe starts to spew water into the pool. No big deal. Until the water level starts to rise.

As long as the water level is below your waist, you can wade through the water (same running & jumping animations as usual, with water splashing around you). Once the water has risen above your waist, you can no longer run and jump; instead, you find yourself treading water. As before, you can see your head bobbing along the surface, and use the joystick to move left and right. If you pass under a ledge, you can grab it and pull yourself up. The problem is that eventually, the water level reaches the top of the chamber, and you drown.

The room contains a moderately challenging puzzle involving gates and pressure plates, which you must solve in order to escape out the top of the room.

Technical Summary

Characters:

Prince
Fighting skeletons

Backgrounds:

Modular set #1 (caverns).

3 custom-drawn full-screen backgrounds:
    Entrance room
    Two (2) other cavern screens still to be determined

Special animated effects:

-       Surface of water shimmers
-       Water level rising
-       Water ripples spreading out from Prince
-       Splash when Prince lands in water
-       Puddle-splashing as Prince runs through water

Special sound effects:

- Splash when Prince jumps into water
- Splashing when Prince runs or wades through water
- Sound of pipe spewing water into pool
- Prince shakes himself dry
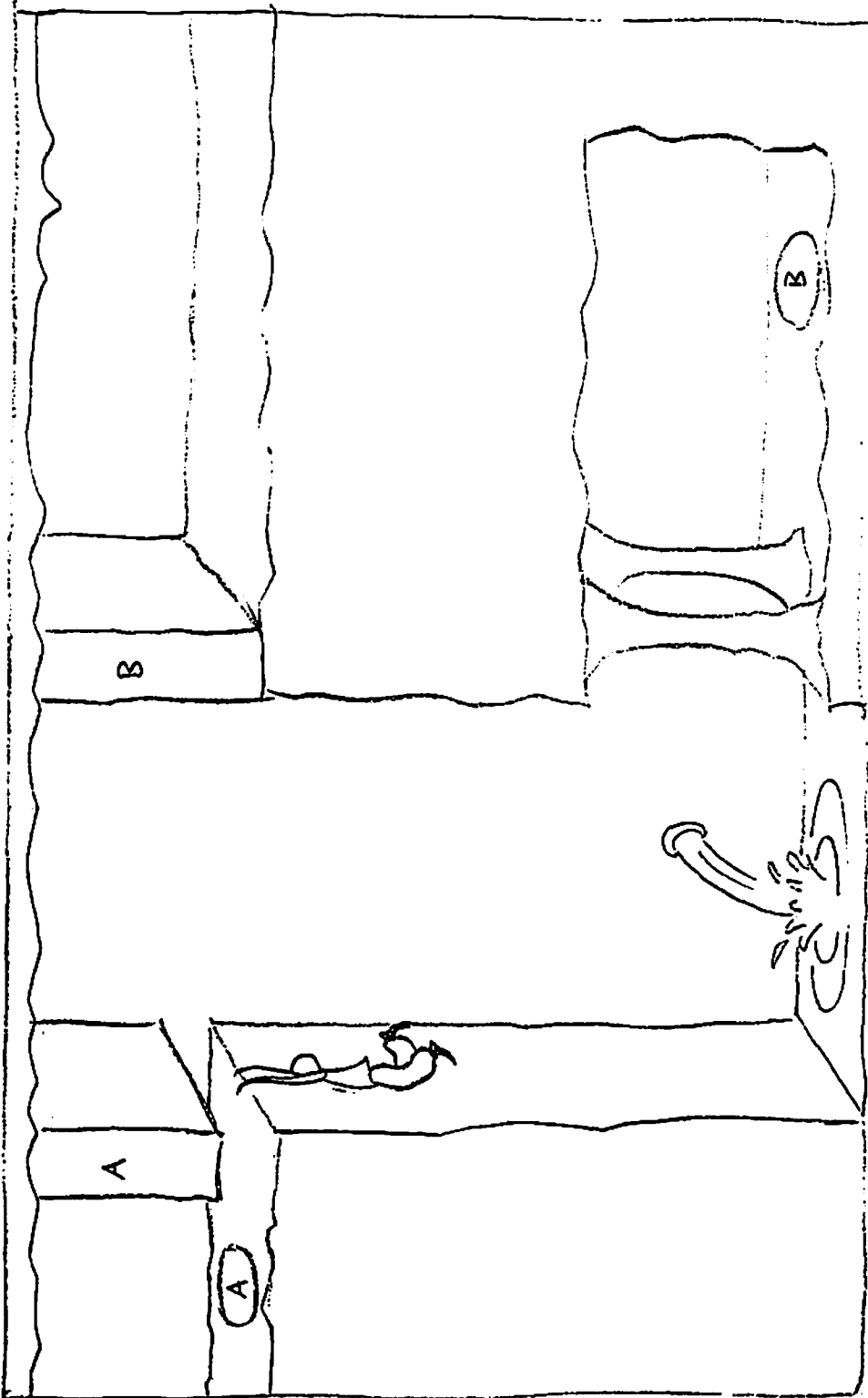
PRESSURE PLATE (A) TRIGGERS GATE (A) AND WATER PIPE ... PRESSURE PLATE (B) TRIGGERS GATE (B)
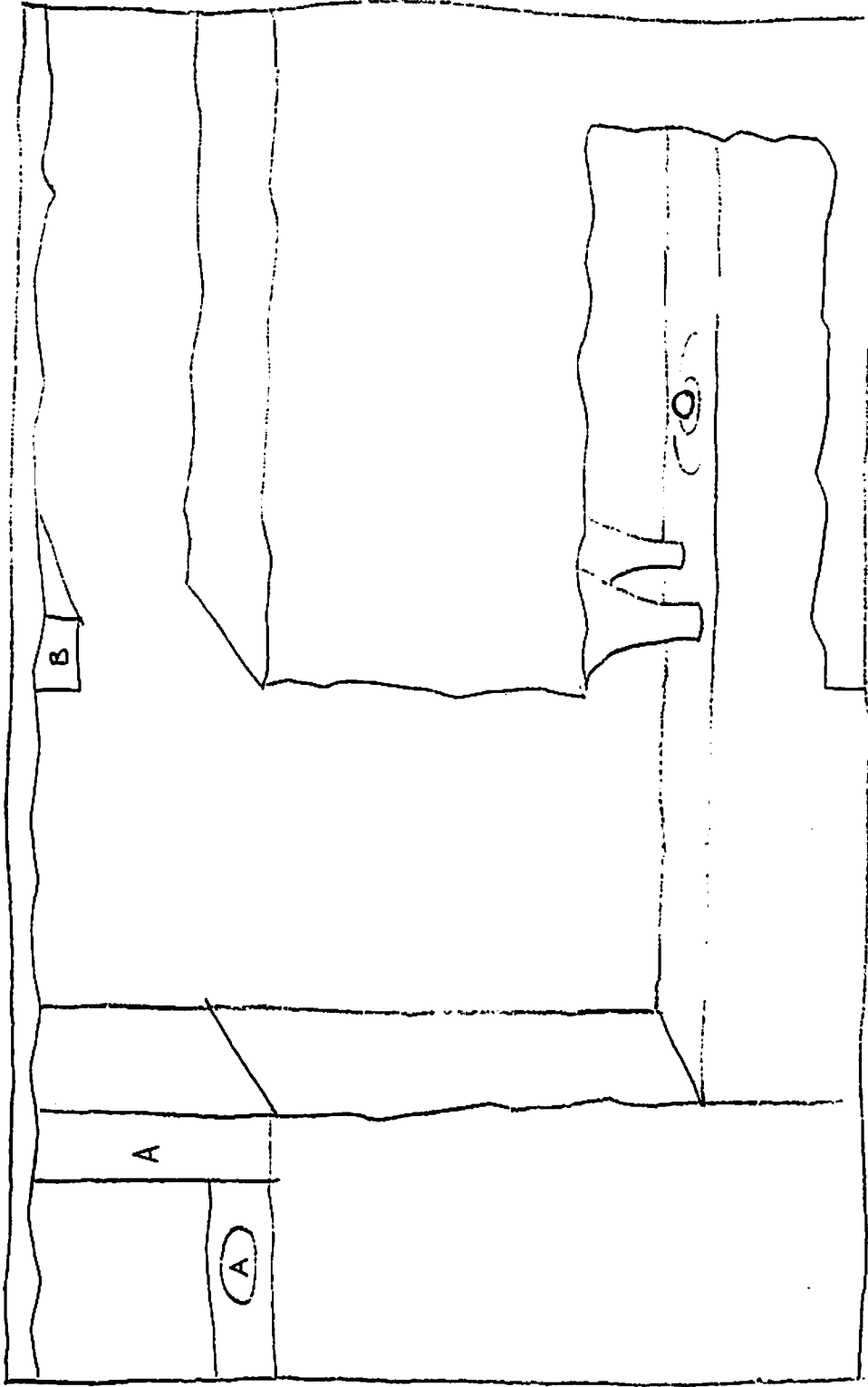
WATER LEVEL STARTS TO RISE ... YOU CAN TREAD WATER

10.2.5
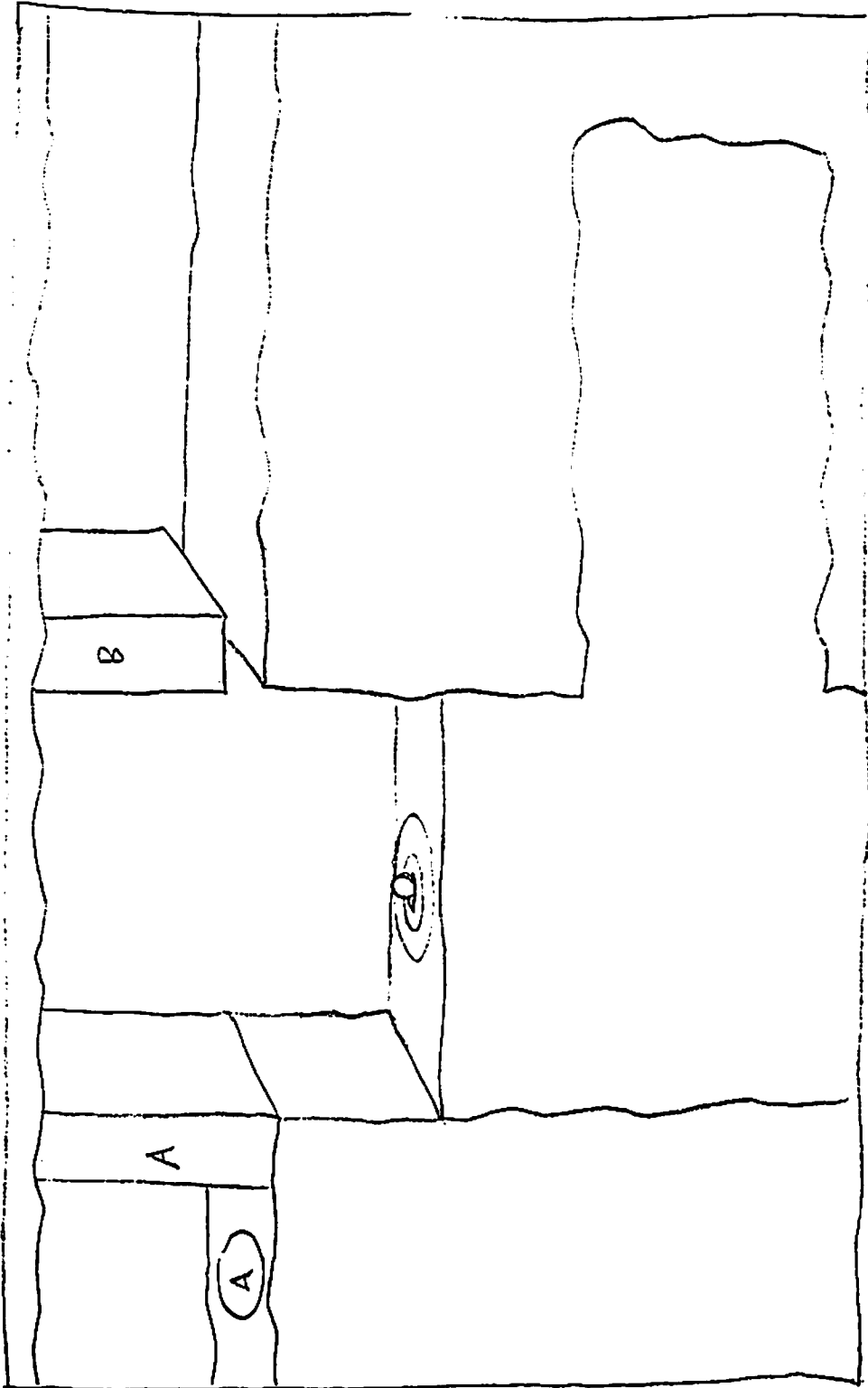
WATER LEVEL RISING... MUST EXIT BEFORE GATE (E) CLOSES... ELSE YOU DROWN WHEN WATER REACHES TOP OF CAVERN

Fighting Skeleton

Character Description

Same animations as the fighting skeleton from *Prince 1*, but with certain behavioral differences.

Appears on levels: 3 & 4.

Behavior

Unlike the skeleton in *Prince 1*, this skeleton has hit points – represented by a row of skull-and-crossbones symbols in the lower right-hand corner of the screen. If you hit a skeleton enough times, it will collapse back into a pile of bones. After about 10 seconds have passed (time interval varies with different skeletons), it will rise up and attack you again. The only way to get rid of a skeleton for good is to knock it off a ledge into a bottomless pit.

Estimated Total # of Frames

Existing frames: 25
New frames: 6
Total frames: 31

Animations

Sword fighting
Spring to life
Fall
Collapse into a pile of bones

Sword fighting
Spring to life
Fall.

These sequences can be taken directly from *Prince 1*.

Est. # of frames: 25.

Collapse into a pile of bones

This is the only new animation required for this character. When you have struck the skeleton a certain number of times with your sword, it will collapse back into a pile of bones. It should appear that the magical force that was keeping the bones suspended in midair has suddenly been withdrawn. Rendered lifeless, the bones fall with the force of gravity, and land in a careless pile. It would be good if the bones could bounce a little upon striking the ground, the way a bunch of real bones would if you dropped them onto a hard surface.

Est. # of frames: 6.

Reference materials

Prince 1 fighting skeleton.

Palette NEW		A 1 3	A 1 4	A 1 5	A 1 6	A 1 7	A 1 8
A 1 1	A 1 2						
A 2 1	A 2 2	A 2 3	A 2 4	A 2 5	A 2 6	A 2 7	A 2 8
A 3 1	A 3 2	A 3 3	A 3 4	A 3 5	A 3 6	A 3 7	A 3 8
A 4 1	A 4 2	A 4 3	A 4 4	A 4 5	A 4 6	A 4 7	A 4 8
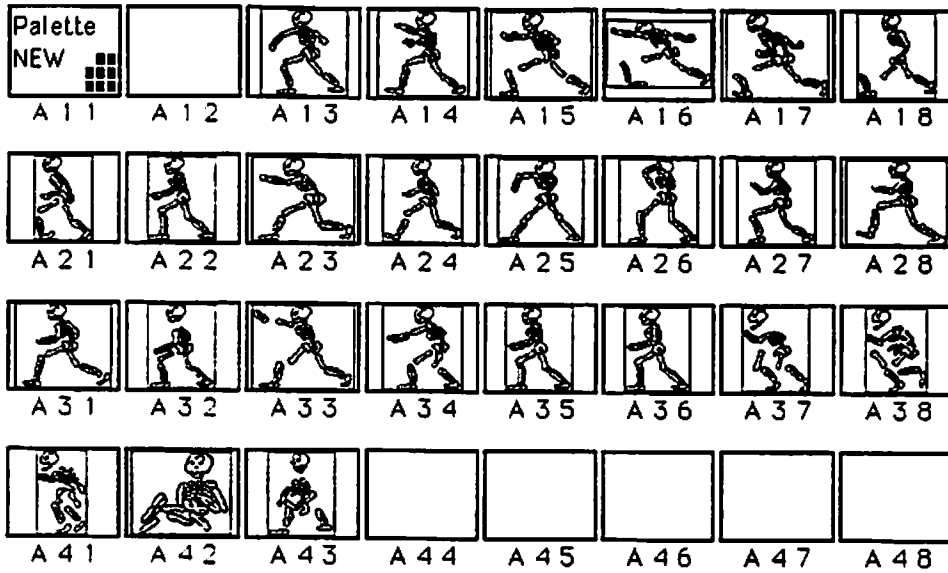
EXISTING "FIGHTING SKELETON" FRAMES (FROM PRINCE 1)
TOTAL EXISTING FRAMES: 25

11.0
Level 4: Caverns

11.1
Overview: Level 4

11.2
Sound Effects Summary:
Levels 3 & 4

Level 4
Caverns

*The Prince escapes from the underground caverns by means of a magic carpet --
losing his sword in the process.*

Start Level 4 in front of an entrance on the back wall, which slams shut behind you. (As
in *Prince 1.)*

As in Level 3, you will encounter both death traps and fighting skeletons.

Flying carpet puzzle

About halfway through the level, you enter a vast, high-ceilinged cavern (**Fig. 1**) which
we will call the **carpet room.** On the floor is a Persian carpet.

When you step onto the carpet, the carpet rises a foot or so above the ground . . .
hovers a moment in the air . . . then swoops upward at an incredible speed, smashing
you against the solid rock of the cavern's ceiling and killing you instantly. (**Fig. 2**) The
carpet remains pressed against the surface of the ceiling, repeatedly pushing itself
upwards in an obstinate attempt to get through the rock. Meanwhile, a couple of drops
of blood drip down through the carpet and land with a plop on the cavern's floor far
below. *Press button to continue.*

On your next trip through the level (**Fig. 3**), perhaps you will notice a useful-looking
stone plate set into the ceiling of the carpet room at (A). This is the switch to open the
skylight. To reach it, you must exit to the right at (B), make it through the rest of the
level, and re-enter at (A) at the top of the carpet room. This will open the skylight at (C).

Skeleton bridge puzzle

To get there, you must cross a chasm by means of a narrow bridge which is guarded by
the toughest of all the fighting skeletons. (**Fig. 4.**) At the far end of the bridge (A) is
a gate which can be opened with the pressure plate at (B). When you step on the
pressure plate, this awakens the skeleton. What makes this skeleton so much tougher
than the others is that when you kill him, he comes back to life almost instantly,
affording you hardly any respite.

Suppose you try the old trick of exchanging places with the skeleton, so that you are on
the right and he is on the left. Then, at a judicious moment -- when you've just killed
him, for instance -- you can turn and run, hoping to make it through the gate before the
skeleton catches up with you. Unfortunately, the skeleton is too smart for this trick. If
you do manage to get past him in this fashion, and run for the gate, then instead of
chasing after you, he will simply hurry back to the pressure plate at (B) and close the
gate. He will then wait for you at the far end of the bridge.

The only way to beat this skeleton is to force him to the center of the bridge. Under your combined weight, the bridge will collapse, plunging the skeleton into the abyss. Naturally, when he falls, you fall, too, and you must grab on to the bridge with both hands to save yourself. Your sword falls into the abyss. **(Fig. 5)** You pull yourself back up, but now you're swordless. This is no accident. You can try as many times as you like, but there is no way to get past this skeleton without losing your sword.

Re-entering the central cavern, you hit the switch to open the skylight, jump down onto the flying carpet, and . . . onwards & upwards!

Tree Check

The player's successful completion of Level 4 is followed by a tree check showing us the state of the Princess's tree.

Technical Summary

Characters:

Prince
Fighting skeletons

Backgrounds:

Modular set #1 (caverns).

3 custom-drawn full-screen backgrounds:
> Flying carpet room
> Skeleton bridge room
> One (1) other cavern screen

Special animated effects:

- Bridge collapses
- Flying carpet rises off ground, hovers in midair, then goes up fast
- Flying carpet mashing itself against ceiling
- Blood drips through carpet & plops on cavern floor
- Skylight slides open at top of flying carpet room

Special sound effects:

- Bridge collapses
- Flying carpet takes off (Whoosh!)
- Flying carpet hits ceiling
- Skylight slides open

Sound Effects
Levels 3 & 4
(Caverns)

The sound effects in the underground caverns should differ significantly from their *Prince 1* counterparts, in order to enhance the illusion of being in a totally new place.

Especially, it would be nice if we could use echoes to give a sense of the acoustic ambience. The caverns are a large, acoustically live space, with hard rock surfaces that would tend to reflect rather than absorb sound. In *Prince 1*, all the sounds were very dry and fell on dead silence. Is there any way we can do this?

Dripping water. This should be an ever-present, intermittent sound, very subtle. The sound of droplets falling into a vast underground body of water somewhere off in the distance.

Footsteps. Not too loud. The Prince is barefoot (or, at best, wearing thin sandals) and running on rock.

One-story drop.

Two-story drop. Knocks the wind out of the Prince, rendering him unable to get up for a few seconds; costs him one hit point.

Splat. Three or more story drop.

Flying carpet smashes you against ceiling. Same sound as ordinary splat?

Falling scream. This can be the same as the *Prince 1* scream -- after all, it's the same guy. It might go on a little longer, if we have the memory for it.

Bump into wall.

Unsheathe sword.

Resheathe sword.

Swords clash. Should be a different sound from *Prince 1*.

Sword thrust misses.

Bones leap to life.

Skeleton collapses. After you've hit the fighting skeleton a certain number of times, it collapses back into a pile of bones.

Hit skeleton with sword. The sound of a sword rattling bones.

Stabbed by opponent.

Wall spikes spring out.

Wall spikes retract.

Impaled by wall spikes.

Gate sliding up. The new gates are actually solid blocks of stone, and should make a stony scraping sound.

Gate coming down slowly. Ditto.

Gate reaches bottom. A resounding thud cutting off escape forever.

Gate stops at top. A subtle sound, as of a mechanism clicking into place.

Exit opens. Should be different somehow from the ordinary gate-opening sound. It's a more ornately finished door, as opposed to a simple stone slab, and perhaps a finer mechanism.

Exit slams shut. Can be similar to the exit-slams-shut sound in *Prince 1*.

Loose floor rattles and detaches.

Loose floor lands. And shatters into pieces. Should be nice and loud.

Drink potion. Here, we can use the same sound as *Prince 1*.

Grab on to ledge.

Step on pressure plate. A subtle *click* -- or is it more like a *snick?*

Whew! The sound the Prince makes every now and then, when he's just pulled off a particularly dangerous or tiring maneuver.

Torch extinguished by water. With a hiss, please.

Bubbling lava pits. Should simmer and burble in a way that suggests that if you go anywhere near them, you will be seared like a tuna steak.

Step into lava pits. A *very loud* hiss -- the sound of flesh vaporizing; perhaps something like water being thrown onto a hot griddle. And perhaps the lava pit could give a cheerful extra burble or two as you sink below the surface.

Dart trap shoots a dart. A short simple sound.

Dart imbeds into ceiling. Very subtle -- perhaps no sound at all.

Dart hits you. Not too dramatic. It only costs you one hit point.

Water gushing from pipe. A continuous, rather loud sound, like a bathtub filling up. A strong stream of water is gushing from the pipe and hitting the surface of a body of water several feet below.

Water gushing from pipe (underwater). When the water rises high enough to swallow the pipe, the sound changes -- it's still continuous but very soft, almost inaudible. We might even choose to cut out the sound entirely at this point.

Splashing footsteps. The sort of footsteps you might make running through puddles of water.

Splash. A large object, such as a Prince of Persia, falling into a large pool of water.

Jumping out of water. The Prince, having been floating along with just his head visible, summons his strength for a mighty surge that takes him up out of the water -- to grab onto a ledge, say.

Shake dry. Having climbed out of the water to stand once again on dry land, the Prince shakes himself dry. Like the "Whew!" this is one of those human-interest sound effects that could be rather amusing.

12.0
Flying Carpet

Storyboard:
Flying Carpet

This non-interactive sequence follows the player's successful completion of Level 4. The sequence is fully animated, in color, with sound effects and music.

1. (Long shot) The Prince riding through the air on the flying carpet.

2. (Medium close-up) The Prince comes into frame, skidding to a stop in mid-air. He stares in horror at something offscreen.

3. What the Prince sees: The ruins of the palace in the distance, a mist of evil lying around it. SCARY MUSIC.

(Note: No storyboards yet for this sequence.)

13.0

Level 5: Ruins

13.1
Background Set 2:
Caverns

13.2
Overview: Level 5

13.3
Animated Character:
Goblin Heads

13.4
Animated Character:
Snake

Background Set 2
Ruins

Modular background set to be used in Levels 5, 6, and 7.

Historical note:

These are the ruins of a once-magnificent palace. Fifteen years ago, the palace was stormed by an ambitious young nobleman who, in his quest for power, had made an unholy alliance with the forces of darkness. (This man is now King of Basra.) His army sacked and burned the palace. Since then, the walls have crumbled, and the palace has been overgrown by weeds and plants.

Many skeletons lie among the ruins -- the bones of the palace's former inhabitants, men, women and children alike. Among the bones there are, however, no skulls. The reason for this is particularly horrible. The witch who helped the King of Basra devastate the palace subsequently put a curse on it. Painting on the walls the symbol of the dread Serpent God, she wove a spell of evil around the entire palace that ensured that its slain victims would remain and haunt the ruins as ghouls. No longer human, their heads flit about, gnawing on the weeds that have grown up through the cracks of the marble floors. Should any traveller dare to enter the precincts of the palace, the severed heads will attack him in a frenzy, gnashing their teeth, and will not stop until they have torn him to shreds.

Apart from the goblin heads and the weeds, the only living inhabitants of the palace are snakes. The symbol of the Serpent God that is drawn on the walls frightens all other living things away.

General appearance:

Structurally, the ruined palace consists of basically the same pieces as the *Prince 1* palace. The main difference is that whereas the *Prince 1* palace was in good working order, this one was sacked & burned 15 years ago. The marble walls and floors are cracked and crumbling; weeds are growing through the floor; blue sky shows through gaping holes in the back wall.

A subtle point: Although the ruined palace uses essentially the same style of Islamic architecture and ornamentation as the palace in *Prince 1,* it is in a different kingdom, on the other side of a vast desert, and thus the style should not be absolutely identical.

List of pieces:

Floor (3)
Loose floor
Rubble
Solid block (3)
Small pillars (2)
Large pillars
Up pressure plate
Down pressure plate
Gate
Normal potion
Corked potion
Skeleton (4)
High scythe
Low scythe
Crevice
Dead-end crevice

Reference materials

The accompanying sketches are intended to show the design, scale, and function of the different pieces. They are *not* meant to be definitive as regards color, texture, light and shadow, or cosmetic details. As long as the basic structure of each piece is preserved, the artists should feel free to elaborate and improve on the enclosed designs.

For architecture, color schemes, etc., I suggest referring to the several books of Islamic architecture which I've supplied. Basically, we want to take what's in the books, knock down a few walls, and burn it all to the ground.

Back wall

In the ruins -- unlike the caverns -- the modular pieces do not include the back wall. Instead, for each screen, the back wall will be pre-drawn as a full-screen background. The modular pieces that make up the screen will then be superimposed over the full-screen background.

We will need about half a dozen different back-wall screens. Some of these screens will contain a substantially intact back wall, giving us an "interior" look; in others, the wall will have crumbled away almost completely, revealing blue sky behind and giving us an "outdoor" look. Other screens will contain a partially-crumbled back wall.
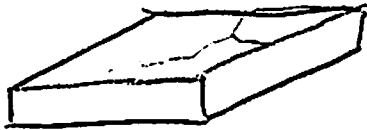
FLOOR
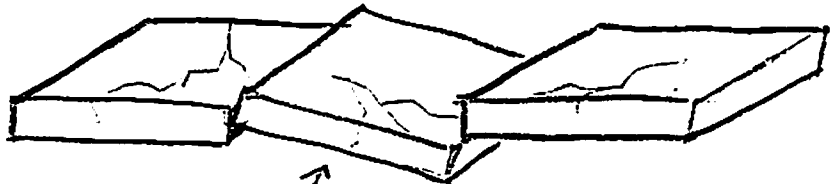
LOOSE FLOOR
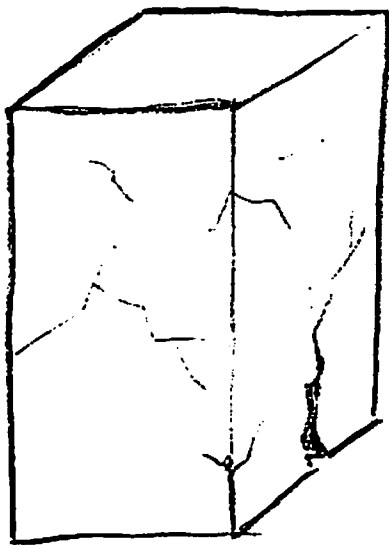
RUBBLE

SOLID BLOCK
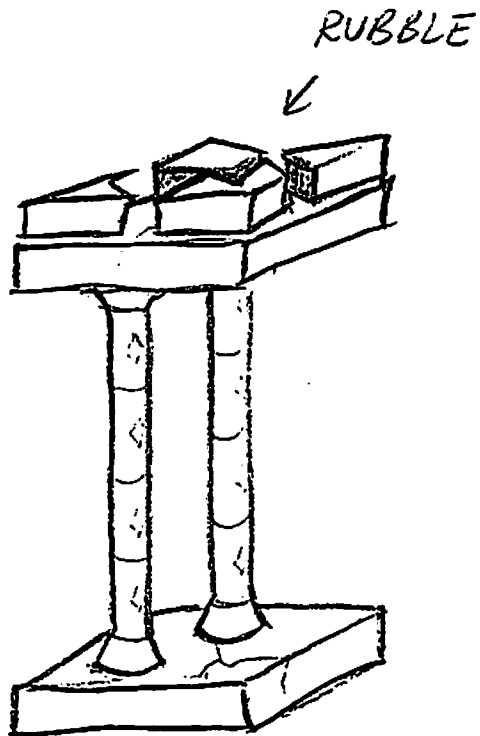
SMALL PILLARS
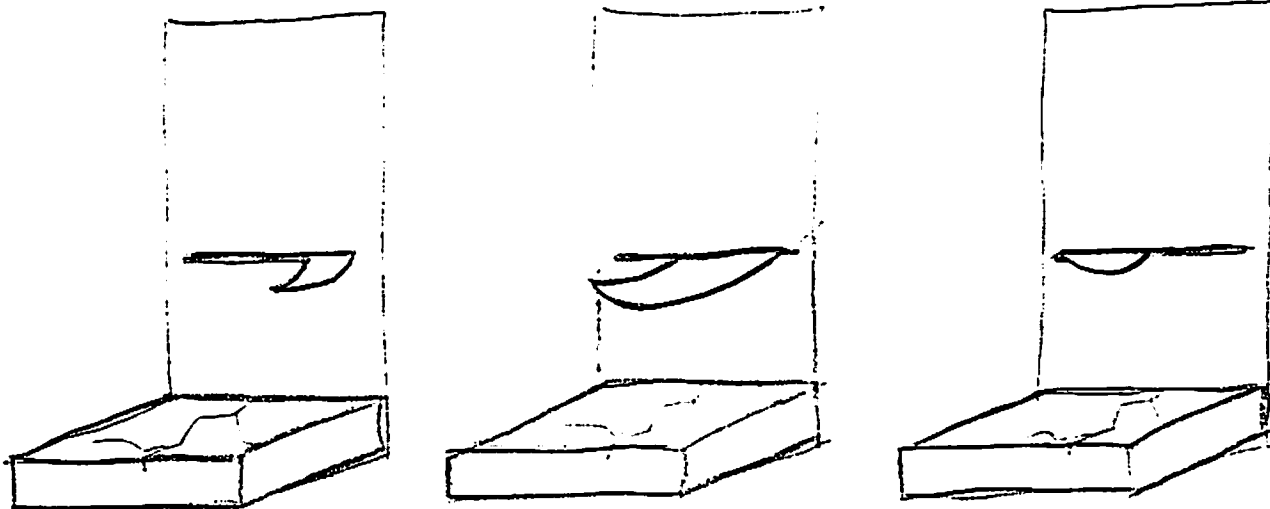
HIGH SCYTHE.
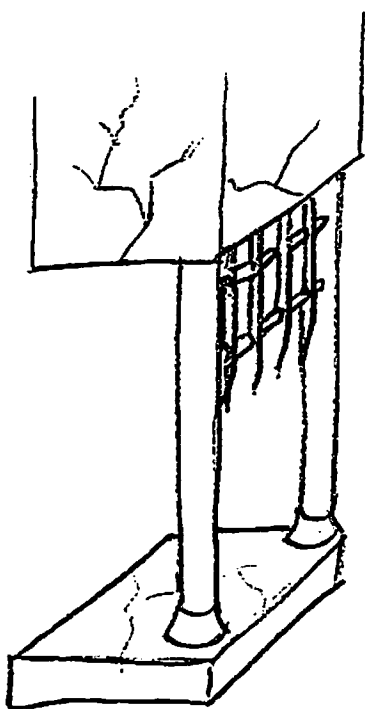
GATE.
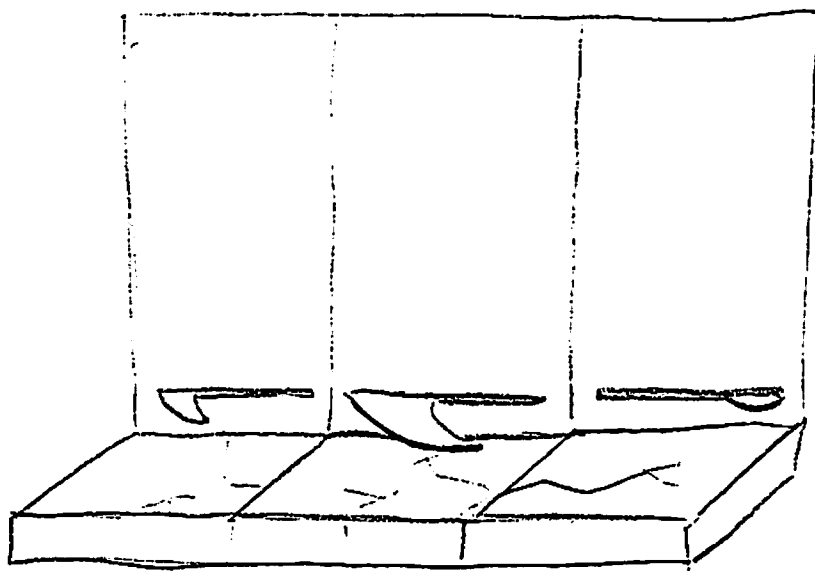
LOW SCYTHE.
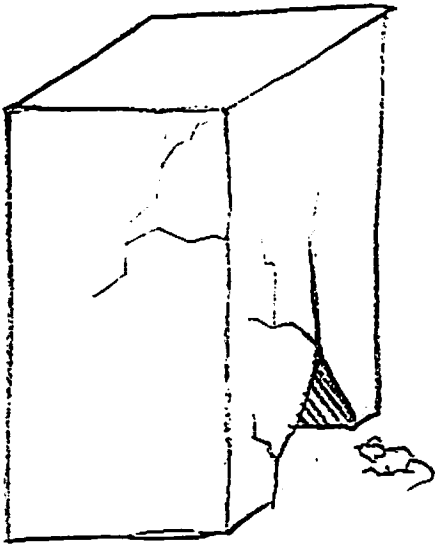
CREVICE
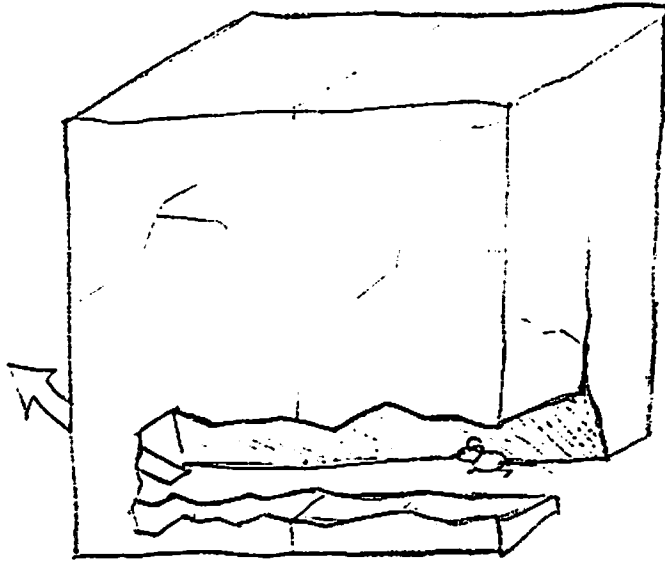
CREVICE (EXPOSED)
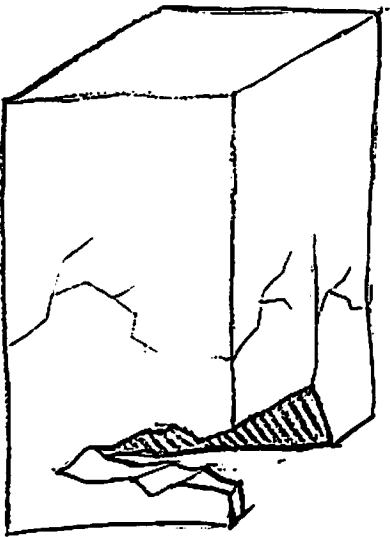
DEAD-END CREVICE.

NOTE —
CREVICE IS
JUST LARGE
ENOUGH FOR
PRINCE TO
CRAWL THRU.

Floating flaws

The weeds, cracks in the blocks, and other types of damage to the palace which we would like to look "natural" (i.e., irregular) will be supplied by means of the same "floating flaw" device that we used to lend variety to the dungeon blocks in *Prince 1.* In other words, the weeds and cracks will be drawn in such a way that they can be superimposed *after* the rest of the screen has been modularly drawn.

(Note that this eliminates the need for full-screen mattes, which is an alternative method proposed in an earlier draft of this document.)

An important floating flaw is the symbol of the Serpent God, which was painted onto the back wall in various places, in thick, dripping black brush strokes, by the witch who cursed the ruins. (See Fig. 1 on following page.)

Existing pieces

The following pieces are direct descendents either of existing *Prince 1* pieces or of pieces from Background Set 1 of *Prince 2.* Any differences are basically cosmetic.

Floor.

Variations: At least three (3) different floor pieces with cracks in different places. The pieces must be able to be combined in any order.

Note that, since the back wall is not shown, there is no need for a separate "empty space" piece.

Loose floor.

Loose floor is indistinguishable from a solid floorpiece until you step on it. Like the loose floor in *Prince 1,* it wiggles, detaches and falls, shattering on the ground below. If you jump up and down near a loose floor, it should shake but not fall. These animations should take the same number of frames as their *Prince 1* counterparts.

Rubble.

Rubble, as in *Prince 1,* is a shattered loose floor lying on the ground. It is functionally identical to an ordinary floor piece.

Solid block.

Same idea as *Prince 1.*

Variations: At least three (3) different blocks with slightly different irregularities, that can be combined in any order.
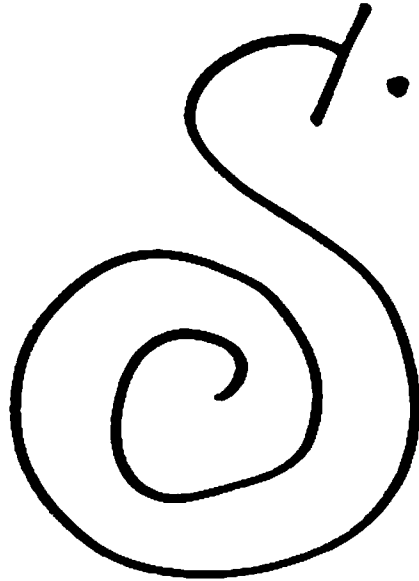
FIG. 1. SYMBOL PAINTED
ON BACK WALL

Small pillars.

These one-story-high pillars, like those in *Prince 1*, provide depth (especially when the Prince passes between the front pillar and the back pillar) and also help to give the setting a sense of physical solidity.

Variations: Two (2). In one variation, the pillars should be intact; in the other, they should be partially crumbled, with the tops missing.

Large pillars.

As in *Prince 1*. Note that the large pillar technically comprises two pieces, since it is two spaces high.

Up pressure plate.

Same as *Prince 1*.

Down pressure plate.

Same as *Prince 1*.

Gate.

As in *Prince 1*, the gates are made of iron bars -- spaced wide enough for a snake to crawl through.

Normal potion.

Same as *Prince 1*. Use the swirling-potion animation from the color Mac graphics. Feel free to give the flask any suitably Oriental shape and design.

Corked potion.

Again, feel free to play with the design of this flask. The only stipulation is that it should be fancier and more "special"-looking than the ordinary life potion, and that it should be corked.

Note: The flask is a small shape that is simply superimposed on top of a standard floor piece. It does *not* include the floor or back wall.

Skeletons.

There should be at least 4 variations on the skeleton. Some of them should be female skeletons. All the skeletons are headless.

New pieces

The following pieces are brand new and have no direct *Prince 1* equivalents.

High scythe.

At a distance, all you see is a horizontal slit in the back wall, about waist high. When you get within a few paces of this rather sinister-looking slit, a curved blade whips around very fast. About a second later, the blade whips around again. You can either approach this as a timing puzzle (you have, obviously, to miss the blade), or take the coward's way out and crawl under the scythe. Crawling, of course, costs you precious time. . . .

Low scythe.

Looks just like the high scythe, except that it is positioned rather lower on the wall, so low in fact that you can't crawl under it; you must, rather, jump over it.

Crevice.

Most of the time a crevice looks just like an ordinary solid stone block with a slight gap between it and the floor. (See illustration.) The difference becomes apparent when, having thrown yourself flat on the ground, you crawl into the gap. Suddenly, the face of the stone block is cut away, and we can see that the block contains a crevice that goes all the way through to the other side.

Crevices can be lined up one after another to make a crevice as long as you like.

Dead-end crevice.

Looks like any other crevice until you are inside it -- at which point it becomes apparent that there is no way to get out the other side. Should you find yourself in a dead-end crevice, you had better turn tail and run back the way you came, *fast*, before a snake comes in after you.

Sample screen

The sketch on the following page shows one way that the various pieces might be fitted together to form a complete screen. The diagram below identifies each piece in the 3 x 10 grid that makes up the screen.

This sketch also shows how the back wall might be added as a background screen (and weeds as floating flaws). The back wall is made of the same kind of stone as the floorpieces and solid blocks. The sky behind it should be clear blue and cloudless.

Note that in the sample screen, the back wall has been substantially broken away at the top. We will need about half a dozen different full-screen background mattes for the back wall, showing various types of crumbling.

SAMPLE RUINS SCREEN

NOTE: THESE 2 PIECES
BELONG TO SCREEN TO LEFT.

Overview: Level 5
Ruins

The flying carpet deposits the Prince outside a ruined palace. The Prince enters the palace but, without a sword to defend himself, he is hard pressed by the snakes and goblin heads that haunt the ruins.

Entrance to palace

At the left of the screen, we see the front gate to the Old Palace of the King of Basra. The gate has been knocked down and weeds have grown up around it; the walls are crumbling; the palace lies in ruins.

The flying carpet enters from the right, with the Prince standing on it.   As the carpet approaches the gate, it slows down . . . then comes to a complete halt, hovering about five feet off the ground, as if reluctant to get any closer to the palace. Suddenly, you hear a woman's disembodied voice speak the words:

> "Come to me!"

(Note: If memory limitations make it unfeasible to digitize these words for the MS-DOS disk version, we could settle for a bolt of LIGHTNING and a clap of THUNDER which split the sky.)

At this, the carpet instantly takes off, without the Prince, and is gone -- dumping the Prince ignominiously in the dirt.

At this point, as the Prince gets to his feet, joystick control takes over, and he is able to enter the palace through the ruined gate.

In the palace

The progress of the first ruins level is essentially from right to left. There are three tiers to the level -- *sky, ground,* and *underground.* (See illustration several pages hence, "The 3 Tiers of Ruins.") On ground level, the Prince will seem to be standing in what used to be the interior of the palace, built on solid ground, with a crumbling but mostly intact back wall. At sky level, the back wall is gone entirely, and the feeling will be that Prince is climbing high above the ground, on a rickety scaffolding-like structure. Underground, of course, there is no sky visible at all.

Most of the challenges in the "sky" tier will involve running, jumping, and loose floors, with the ever-present risk of falling to your death. In the "ground" and "underground" tiers, there will be more puzzles involving gates, pressure plates, and -- especially in the underground tier -- scythes. In the ground and underground tiers, the Prince will also be menaced by snakes and goblin heads.

Since the Prince starts this level without a sword (he lost it in the caverns), he has no way to defend himself against the snakes and goblin heads; he must simply flee whenever he sees one coming.

Totally loose floor

The difference between a loose floor and a *totally* loose floor is this: When you run across a loose floor, it wobbles for about one second before detaching, giving you enough time to make it safely to the other side. When you step on a *totally* loose floor, it collapses so fast that you don't have time to cross it. Stepping on a totally loose floor is like stepping out into empty space.

Totally loose floors look just like normal floorpieces. They are easy to detect, however. All you have to do is jump up and down on the floor nearby -- or, from below, jump up and hit the ceiling -- and any totally loose floors in the vicinity will immediately break loose and fall. (Note that, if you jump up and hit a totally loose floor right above you, you will assuredly get clunked on the head when it falls -- you have no chance, as you do with a normal loose floor, to duck out of the way.)

Totally loose floors use the same graphics and animation as regular loose floors.

Apparent dead end

At one point, the Prince reaches a solid wall that seems to be a dead end. However, there is a gap between the bottom of the wall and the floor, about twelve inches high. If the Prince throws himself down flat on the floor and crawls into this gap, the front wall will "open up" to reveal a crevice that will take the Prince through the wall into the next part of the level. This is the player's introduction to "crawling," which is something that you could not do in *Prince 1.* There will be more puzzles involving crawling in levels 6 and 7.

Broken Sword

Midway through Level 5, the Prince finds a broken sword lying amidst a pile of bones in one of the underground rooms. From then on, he will be able to defend himself. It's *possible* to complete this level without finding the sword -- difficult, but barely possible. Should the Prince be so unfortunate as to miss the sword on Level 5, there is another broken sword to be found at the beginning of Level 6.

If you hit a goblin head with the broken sword, it will scream and fly away. Striking and blocking, with the broken sword, have the same effect. To kill a goblin head, you need to strike it (as opposed to blocking) with a *good* sword.

Bridge to Level 6

The second palace level (Level 6) is in the main building of the palace, which is accessible only by means of a bridge high above the ground. To get to the bridge, the Prince must venture up into the "sky" tier, and negotiate the rickety scaffolding.

Technical Summary

Characters:

Prince
Snakes
Goblin heads

Backgrounds:

Modular set #2 (ruins).

Six (6) back-wall screens.

Two (2) full-screen backgrounds:
- Front gate of palace (where flying carpet drops you)
- Bridge to main building of palace (Level 6)

SKY

GROUND

UNDER-
GROUND
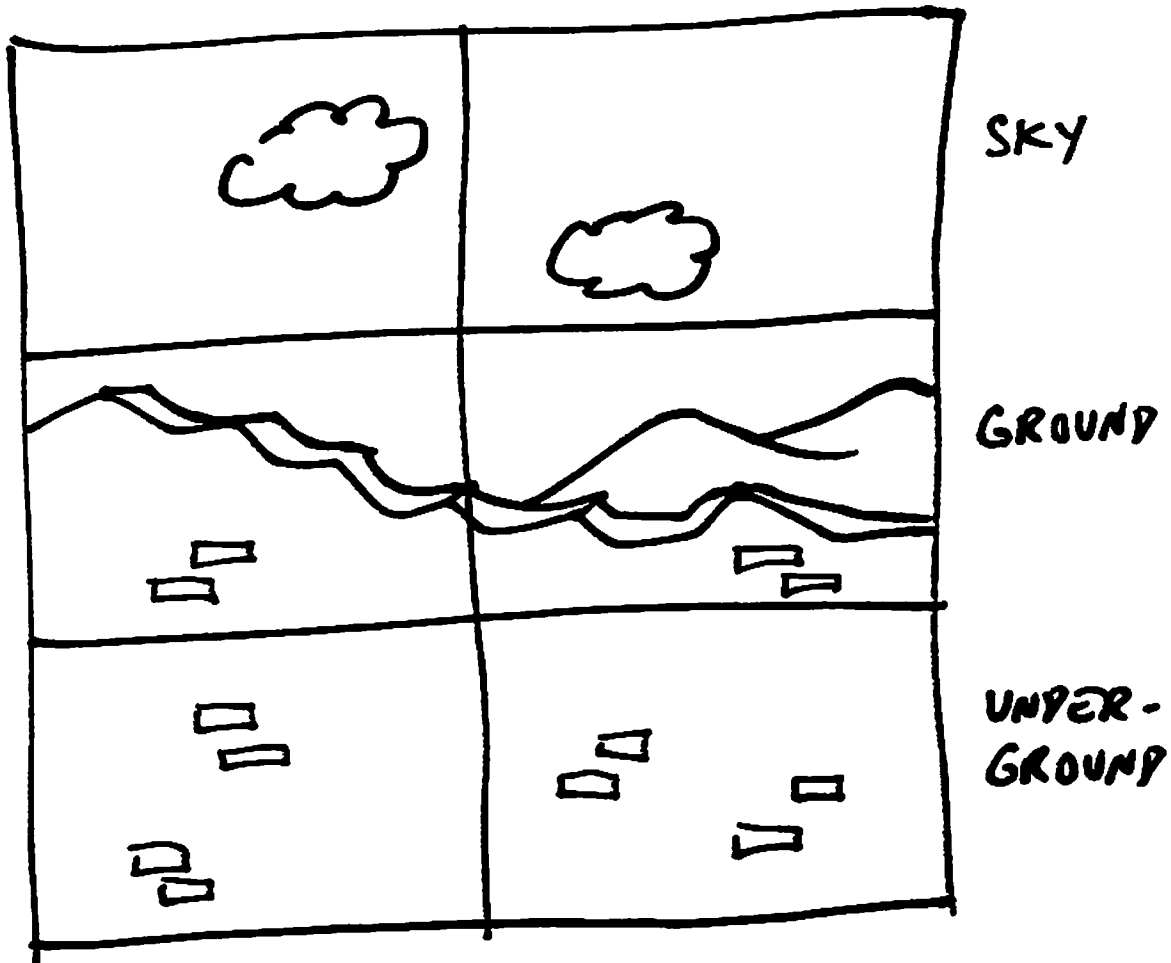
THE 3 TIERS OF RUINS
(BACKGROUND SCREENS)

Animated Character:
Goblin Heads

Character Description

Fifteen years ago, a marauding army sacked the palace and slaughtered everyone in it
-- men, women, and children alike. An evil witch then put a curse on the ruins.
Painting on the walls the symbol of the dread Serpent God, she wove a spell of evil
around the entire palace that ensured that its slain victims would remain and haunt the
ruins as ghouls. No longer human, their heads flit about, gnawing on the weeds that
have grown up through the cracks of the marble floors. Should any traveller dare to
enter the precincts of the palace, the severed heads will attack him in a frenzy, gnashing
their teeth, and will not stop until they have torn him to shreds.

(Historical note: The ambitious young nobleman who was responsible for this act of
genocide is now King of Basra. As for the witch -- well, more about her later.)

Appears on levels: 5, 6, 7.

Behavior

In their normal, placid state, the severed heads are not particularly ghastly in
appearance. They still resemble the individuals from whose bodies they were
struck, although the skin is somewhat pale -- almost white -- in color. The heads trail
off, wraithlike, at the neck into a wisp of smoke. The hair comes in a variety of colors --
purple, green, blue, etc.

Mostly a head will just flit about peacefully, passing the time of day -- until it sees you,
an intruder. Then, it assumes a frightful aspect: its eyes open monstrously; its hair
stands up bristling; and, gnashing its teeth, it will strike itself upon the floor three times --
bounding like a ball -- and then fly straight at you, attempting to bite and tear you with its
jaws.

If you *block* a head with your sword, it will screech and fly away. Some heads are more
aggressive, and will return repeatedly to attack you again and again.

To kill a head, you must *strike* it with your sword. The head will give a hideous scream
and fall to the ground, where it vaporizes on contact, with a hiss of steam.

Estimated Total # of Frames

Existing frames: 44
New frames: 49
Total frames: 93

Animations

Rotate (calm)	8
Flit about peacefully	0
Get angry	2
Rotate (angry)	6
Strike upon floor	4
Attack	2
Chomping	8
Injured by sword	2
Fly away screaming	4
Killed by sword	6
Vaporize	7
Total (Set 1)	49
Total (Set 2)	44

Note: There should be 2 complete sets of head shapes -- one male and one female (with long hair). Since the second set can be modelled closely on the first set, and assuming that the last 5 of the "vaporize" frames will be sufficiently vague to be shared by both sets, I've counted this as 44 existing frames and 49 new frames.

Each head should also have 4 different color palette variations (with different shades of wildly colored hair). This will give us a total of 8 different heads.

Rotate (calm)

In their normal, placid state, the severed heads are not particularly ghastly in appearance. They still resemble the individuals from whose bodies they were struck, although the skin is somewhat pale -- almost white -- in color. The heads trail off, wraithlike, at the neck into a wisp of smoke.

The heads should be able to rotate 360° in 3-D.

Est. # of additional frames: 8 (can be flipped L-R to make 16).

Flit about peacefully

This animation actually requires no new frames beyond the "calm rotating" frames. The heads are different from all the other animations in *Prince of Persia* in that they often do not change in appearance from one frame to the next. Instead, their personality is expressed by *motion*, that is, by the change in X and Y coordinates over time.
At first glance, the heads may seem to be easy animations because they require so few frames. In fact, however, this is one of the most difficult kinds of animation to do, and it

will take a great deal of tweaking -- and an especially close cooperation between animator and programmer -- to get it right.

Est. # of additional frames: 0.

Get angry

When a head sees you, it assumes a frightful aspect: its eyes open monstrously; its hair stands up bristling; it gnashes its teeth..

Est. # of additional frames: 2

Rotate (angry)

Also a 360° rotation, but it requires fewer frames, since the heads move much faster when they are excited.

Est. # of additional frames: 6 (can be flipped L-R to make 12).

Strike upon floor

Gnashing its teeth, the head strikes itself upon the floor three times -- bounding like a ball -- and then flies straight at you, attempting to bite and tear you with its jaws.

Like a ball, the head should "squash and stretch" when it bounces; but again, the most important aspect of this animation will be the change in X and Y coordinates. The effect should be that the head is somehow gathering speed and momentum, "charging itself up" by bouncing on the floor before it attacks.

Est. # of additional frames: 4.

Attack

When it attacks -- right after the third bounce -- the head flies straight at you, unerringly going for the throat.

Est. # of additional frames: 2.

Chomping

Once the head has reached you, it fastens on to you and starts chomping away furiously, trying to bite and tear you with its jaws. Individual heads will differ in their aggressiveness -- some will take a couple of bites and then fly away, to return again a few moments later; others will fasten on to you, chewing away, and not give up until you are dead.

The "chomping" animation itself should be a sequence about 15 frames long, which can be repeated, if desired, indefinitely.

While chomping, the head remains effectively attached to the Prince at the point of contact (the Prince's throat). Its X and Y coordinates will change as a result of the Prince's movement. For example, once a head has fastened on to the Prince's throat, even if the Prince turns and runs away, the head will stay stuck on him, chewing away.

Est. # of additional frames: 8

Injured by sword

Ow!

Est. # of additional frames: 2

Fly away screaming

When injured, the head will fly away screaming -- perhaps a little unsteady in its flight -- and, depending on its personality, may or may not come back to worry you again.

Est. # of additional frames: 4

Killed by sword

The head dies with a hideous scream and promptly falls to the ground, landing with a slight bounce, and lies still.

Est. # of additional frames: 6

Vaporize

Lying dead on the ground, the head vaporizes with a hiss of steam, and is no more.

Est. # of additional frames: 7

Notes to Animator

Even more important than the animation of the head itself (gnashing teeth, etc.) is the *movement* of the head as it flits, bounds, and attacks. It's the movement, more than the internal animation, that will give the heads their uniquely terrifying character. This animation will require a great deal of tweaking, and close cooperation between the animator and programmer.

CALM
HEADS

ANGRY
HEADS

DEAD
HEAD

Animated Character:
Snake

Character Description

The snakes are the only living inhabitants of the palace, apart from the weeds and the goblin heads. The symbol of the Serpent God that is drawn on the walls frightens all other living things away.

Appears on levels: 5, 6, 7.

Behavior

Snakes can slither (along the ground), turn around, and stop (coiling for a strike). From its coiled, waiting position, a snake can do any of three things: it can duck (when you swing at it with your sword), strike (a very fast and deadly move), or it can go back to slithering.

We will save ourselves some trouble by *not* giving the snakes the ability to slither up and down walls. Instead, we will give them an ability that is far more viscerally disturbing, as well as being easier to animate & program. They can slither into holes in the back wall, *and* out of them. Their tails should give a little flick as they disappear into the hole.

This back-wall feature will also save us from having to do a special "turning around" animation. If a snake wants to turn around, it can simply slither out a hole in the back wall, and then slither back in via the same hole, or another one close by.

Estimated Total # of Frames

Existing frames: 0
New frames: 52
Total frames: 52

Animations

Slither along ground	8
Slither into hole	8
Slither out of hole	8
Coil for a strike	8
Hiss	4
Duck	4
Strike	4
Die	8
Total:	52

Slither along ground.

A simple repetitive slither cycle of approximately 8 frames. (Animate the snake slithering from right to left; this sequence can then be flipped to show the snake slithering from left to right.)

The snakes should slither like real snakes, not computer-game snakes. Study true-nature films of snakes to get the movement right.

Est. # of frames: 8.

Slither into hole.

This sequence should flow smoothly out of the normal slither-along-ground cycle. The snake makes a right-angle turn and disappears into a hole in the back wall. Its tail should give a flick as it disappears into the hole.

Est. # of frames: 8.

Slither out of hole.

The snake slithers headfirst out of a hole in the back wall. This sequence should flow smoothly into the slither-along-ground cycle.

Est. # of frames: 8.

Coil for a strike.

From slithering along the ground, the snake comes to a full stop and rears up, flattening its head back.

Est. # of frames: 8.

Hiss.

While in the coiled position, facing its antagonist (that is, the Prince), the snake hisses --
moving its head slightly. It might do this in response to a threatening movement
on the Prince's part.

Est. # of frames: 4

Duck.

From its coiled position, the snake makes a very fast ducking movement, which enables
it to avoid getting its head lopped off by your sword. After ducking, it returns
immediately to its coiled position.

Est. # of frames: 4.

Strike.

A very fast and deadly move, after which the snake returns to its coiled position.

Est. # of frames: 4.

Die.

This is what happens to a snake that doesn't duck. Your sword lops off its head, which
lands, hissing and twitching, about one foot behind the snake. Both halves of the
snake should hiss and writhe, then lie still. It's hard to kill a snake -- they move awfully
fast -- but when you do, it is quite a sight.

Est. # of frames: 10.

Reference materials

I strongly recommend going to a true-life video (Disney or National Geographic) to study
the slithering, coiling, hissing and striking behavior of real cobras and
rattlesnakes. However, the animator shouldn't feel constrained to adhere too closely to
reality. What we want is a sort of archetypal, evil creature which embodies all our worst
fears about snakes.

Overview: Level 6
Ruins

The Prince makes his way into the ruined throne room, where he is given a vision of a temple shining on top of a mountain.

After you cross the bridge to Level 6, you find yourself inside the main building of the palace.

Broken sword #2

There is a broken sword to be found at the beginning of Level 6, lying near a pile of bones. If you picked up the broken sword on Level 5, you don't need this one. If you pick up this sword anyway, you will automatically drop the other one. You can carry only one sword at a time.

First glimpse of throne room

About midway through Level 6, you poke your head into a large hall that was once the throne room of the palace. This is the same room from which the queen spoke to you in your dream -- only, in your dream, it was in much better condition. The walls have crumbled away, letting in sunlight. Trees and flowers are growing through the cracks in the marble floor. Bones of various skeletons are strewn about the floor. The throne itself is empty. (Note: The throne room is a full-screen background.)

Lying on the ground in front of the throne is a sword -- gleaming and intact, in comparison to the wretched, broken one you are now holding.

When we first see the Throne Room, a portentious MUSIC CUE tells us that this room is Special. Ideally, this music should be thematically linked to the music that accompanied the Prince's dream on the ship. This will give the player a subtle clue that *this* is the destination to which the queen of his dream has summoned him.

You would like to enter the room, but can't, because there is a massive stone wall in your way. So, for now, you will have to content yourself with this brief glimpse of your destination.

To get into the throne room, you have to go down underground, negotiate the byzantine labyrinth of passageways beneath the ruined palace, and come back up into the throne room. Meanwhile the snakes and the severed heads give you no rest.

Throne room

When you climb up into the throne room, you hear the MUSIC again -- the music associated with the Queen.

The object that dominates the room is, naturally, the throne, which sits on a raised platform at the left. The sword is lying in front of the throne.

MUSIC CONTINUES as you approach the throne. As you pick up the sword, THUNDER and LIGHTNING split the sky, and you fall senseless to the ground.

As the Prince lies unconscious on the ground, the LIGHTNING continues, and even intensifies, as the MUSIC BUILDS. The sense should be that magic forces are swirling and gathering around the Prince, and are building up to something. As the MUSIC reaches its CLIMAX --

Second Dream

We SEE a series of still pictures, separated by fades, culminating in the vision of a shining temple at the top of a mountain. (For a storyboard of this sequence, see following chapter, "Second Dream.")

After the final image fades away, we return to the throne room, with the Prince lying unconscious on the ground where we left him. The MUSIC fades away too. A few moments later, the Prince gets slowly to his feet, and control is returned to the player.

When the Prince gets to his feet, he lifts up his sword (the new one) and holds it high in the air, admiring it, before sheathing it. His old, broken sword is lying on the ground. Of course, if you wish, you can take the old broken sword and leave the shiny new one -- but that would be a mistake. (More on this below.)

The magic is now gone from the throne room. There is no more music, and no more thunder and lightning. The Prince may climb up onto the throne platform and run around at will, leave the room and reenter it, etc., but no matter what he does, nothing special will happen; the ghost that had lived in the room is gone.

End of Level 6

Exiting the throne room to the left, the Prince enters Level 7.

A note on the broken sword

It is technically possible to play through the rest of the game, and even win it, using only the broken sword -- but you will be at a severe handicap, because the broken sword does only *half* a point of damage. That is, if you face a guard with three hit points (who would normally take three hits to kill), you will have to hit him *six* times. This applies to all your future opponents: the Bird-Headed Guards, the Jinnee, the Assassins, and Jaffar himself.

Technical Notes

Characters:

Prince
Snakes
Goblin heads

Backgrounds:

Modular set #2 (ruins).

Six (6) back-wall screens. (Note: These are similar to the back wall screens of
Level 5, but should have different coloring and texture to help distinguish the two levels.)

One (1) full-screen background:
    - Throne room

Storyboard:
Second Dream

When a blinding flash of light, towards the end of Level 6, knocks the Prince to the ground, we go to the following sequence:

A series of sepia-toned stills, separated by fades.

1.   Queen's head.

2.   Queen placing infant in river . . . horsemen galloping towards palace in b.g.

3.   Palace being sacked.

4.   Temple at top of mountain.

After the last image fades away, we return to Level 6, with the Prince lying unconscious on the ground where we left him. A few moments later, he gets slowly to his feet, and control is returned to the player.
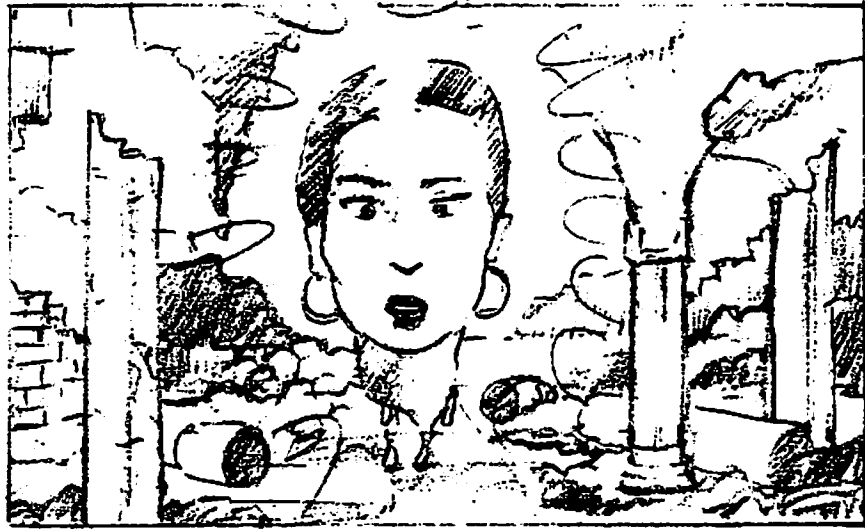
1.

2.

3.
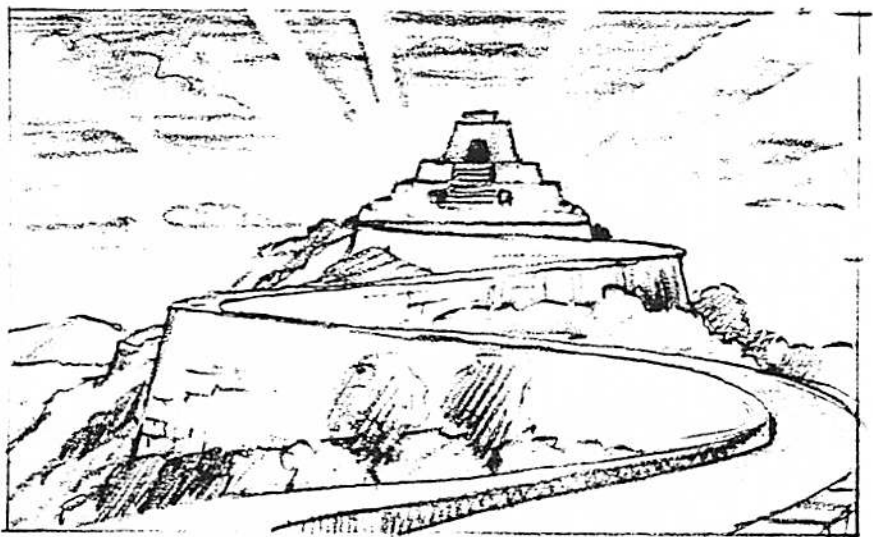
4.

16.0

Level 7: Ruins

16.1
Overview: Level 7

16.2
Animated Character: Horse

16.3
Sound Effects:
Levels 5, 6 & 7

Overview: Level 7
Ruins

Palace

As you try to get out of the ruins, the heads with the gnashing teeth attack you more furiously than ever. Also, there are more snakes than before, and they seem to have something personally against you. This is the toughest level yet. Fortunately, you have a sword, and can slash your way through the wave upon wave of attackers. Each head dies with a hideous scream.

> (Note: Level 7 uses the same back-wall screens as Level 6.)

Plateau

Finally you emerge from the palace out onto the plateau, moving from right to left. You can see mountains in the distance.

> (Note: The plateau consists of 5 custom-drawn full-screen backgrounds, on top of which modular elements can be drawn. These backgrounds should not be drawn until the level map has been play-tested and finalized.)

As the ruins end, you pass a marble statue of a horse mounted high on a pedestal. There is no way for you to climb up onto the pedestal.

Two screens further along, you come to a wide chasm. On the other side of the chasm, you can see a ziggurat-shaped temple, high up and far off in the distance. It is the temple you saw in your dream. The chasm, however, is much too wide for you to leap. If you try it, you will land at the bottom of the canyon.

A few screens back, there is a way for you to climb up onto the roof of the ruins. You can then jump from column to column -- this is a tricky business, since many of the floors are loose and will crumble away beneath your feet -- and arrive at a high platform from which you can leap down onto the back of the marble horse.

You must negotiate the roof of the ruins perfectly, without an error. If you misstep, you won't die (you'll fall only two stories), but because you've knocked down some vital sections of the floor, there is no way to get to the high platform without restarting the level.

When you land on the horse, he comes to life. With you on its back, he leaps down off the pedestal, and takes off at a gallop. As you approach the canyon, he gallops faster and faster, until finally -- with a great leap -- he clears the canyon and lands safely on the other side.

Technical Summary

Characters:

Prince
Snakes
Goblin heads
Horse

Backgrounds:

Modular set #2 (ruins).

Five (5) full-screen backgrounds:
- Plateau screen #1
- Plateau screen #2
- Plateau screen #3 (w/statue of horse)
- Plateau screen #4
- Plateau screen #5 (wide chasm w/temple visible in distance)
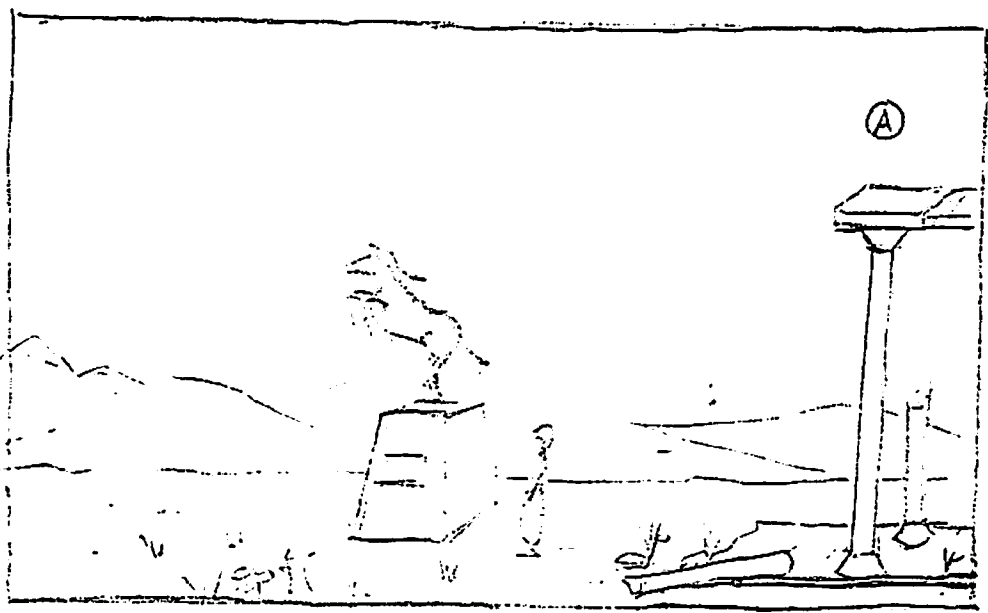
AS YOU EMERGE FROM RUINS, YOU PASS
MARBLE STATUE OF HORSE.
NOTE HIGH PLATFORM AT (A).
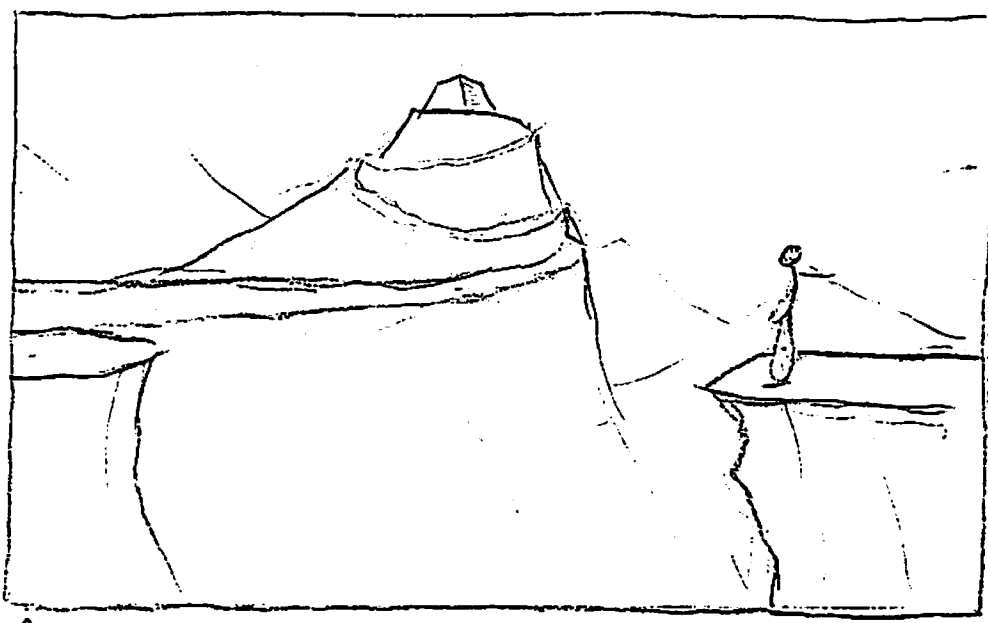
A CHASM TOO WIDE FOR YOU TO CROSS.

Animated Character:
Horse

Character Description

An enchanted horse that once belonged to the old King of Basra. (The old King of Basra was deposed and defeated by the *new* King of Basra, whose army sacked and burned the palace.) The horse has been transformed into a marble statue which stands on a pedestal outside the palace.

Part of the enchantment of this horse is that only the King of Basra can ride it. To anyone else, it is just a marble statue.

(A brief historical note: Shortly after his victory, the new king mounted the horse, thinking -- in his naiveté -- that since he was now King of Basra, he would now be able to ride it. But when he climbed on the horse, nothing happened. He tried every magic word he knew, and still nothing happened. He then summoned the sorceress who had helped him win his victory, and ordered *her* to activate the horse. She took one look at the horse, and scornfully told him to forget it. The sorceress knew, at a glance, that the horse's enchantment was more ancient and more powerful than anything else in the palace. Merely usurping the throne wasn't enough; it could only be ridden by the *true* king of Basra.)

Should the true king of Basra ever mount the marble statue, it will come spectacularly to life as a dazzling white stallion. It can run like the wind, across any kind of terrain; it can also, if need be, fly through the air. When the king dismounts, it turns back into a marble statue, and will remain thus indefinitely until he mounts again.

At the present moment (Level 7), the horse has been a statue for fifteen years. It has been that long since the old King died; and his legitimate heir (if he has one) has not yet appeared.

Note: When the Prince is seated on the horse, the horse and Prince are still drawn separately. The Prince is drawn on top of the horse.

Appears on levels: 7, 12.

Estimated Total # of Frames

Existing frames: 0
New frames: 45
Total frames: 45

Animations

Statue	1
Gallop	16
Stop and rear up	16
Jump	12
Total # of frames:	45

Statue

Like every horse statue, this one shows the horse in a glamorous pose -- rearing up on its hind legs, its tail and mane blown by the wind, a wild and magnificent stallion frozen into marble.

Est. # of frames: 1

Gallop

From its "reared-up" (statue) position, the horse sets off at a gallop. The gallop should be a repeating cycle. I've estimated 8 frames to get from the reared-up position to a full gallop, and 8 repeating gallop frames. However, this is just an estimate. We should do whatever it takes to make it look real, based on our study of live-action footage.
Est. # of frames: 16

Stop and rear up

From a gallop, the horse comes to a stop and rears up on its hind legs. The apex of the "rear-up" sequence should match the "statue" frame.

Est. # of frames: 16

Jump

From a full gallop, the horse makes a mighty leap (big enough to clear a five- or six-space chasm) and lands on the other side. This sequence should flow smoothly back into the gallop cycle.
Est. # of frames: 10

Reference materials

Muybridge did some nice work on horses. However, the horses in his book don't seem particularly spirited or enthusiastic about what they're doing.   Also, I don't think he photographed rearing-up and jumping. Muybridge is still a good reference, but I think we will probably also want to look at some live-action footage, which fortunately is not hard to come by. (Westerns, Civil War films, etc.)

17.0
On Horseback

Storyboard:
On Horseback

This non-interactive sequence follows the player's successful completion of Level 7. The sequence is fully animated, in color, with music.

A single background screen, visually spectacular, showing a mountain ridge against the setting sun. In the distance we see the ziggurat-shaped Temple of Fire.

We see the Prince on horseback in an extreme long shot. He is just a tiny silhouette as he gallops along the ridge, moving diagonally from right to left towards the temple in the distance. (We see him in a back three-quarter view, so technically he should be getting smaller as he moves away from us; but if he is far enough away and the scene is a short one, and if we pretend we're using a telephoto lens, that shouldn't be a problem.)

The MUSIC accompanying this scene is the music associated with the temple. It should be somber and dignified, maybe something like the Masonic music in *The Magic Flute.*

(Note: No storyboards yet for this sequence.)

18.0

Level 8:
First Temple Level

18.1
Background Set 1: Temple

18.2
Overview: Level 7

18.3
Animated Character:
Bird-Headed Guard

Background Set 3
Temple

Modular background set to be used in Levels 8, 9, 10 and 11.

Historical note:

The Temple of Fire is a very old temple. The temple is guarded by its priests who wear headdresses resembling the heads of birds. The priests are savage swordsmen who are bound to kill anyone who sets foot in the hallowed precincts.

The greatest treasure of the temple is the magic blue flame which is the center of this religion; but the temple's defenses were really built to protect the flame from desecration, not from thieves. Nobody has ever tried to steal the magic fire before. because the fire consumes and destroys anyone who touches it.

General appearance:

Functionally, most of the elements of the Temple are variations on existing pieces in the lava caves and ruins of *Prince 2* and the dungeon and palace of *Prince 1*. However, the Temple of Fire should have a unique architectural style of its own, as different from the palace of Levels 5-6-7 as it is from the palace of *Prince 1*. There should be two distinct color palettes: one for Levels 8-9, one for levels 10-11. The two palettes should be as different as possible, while still preserving the essential character of the temple.

List of pieces:

Floor
Empty space
Loose floor
Rubble
Solid block (3)
Small pillars
Large pillar
Torch
Up pressure plate
Down pressure plate
Gate
Normal potion
Corked potion
Exit
Wall spikes
Dart trap
Water pipe
High scythe
Low scythe
Moving wall
Trap door

Reference materials

Sorry, no sketches yet.

Back wall

The modular pieces will not include a back wall. Instead, for each screen, the back wall
will be pre-drawn as a full-screen background. The modular pieces that make up
the screen will then be superimposed over the full-screen background. More on this
later.

Existing pieces

The following pieces are direct descendents either of existing *Prince 1* pieces or of
pieces from Background Sets 1 or 2 of *Prince 2.* Any differences are basically cosmetic.

Floor.

Empty space.

Loose floor.

Loose floor is indistinguishable from a solid floorpiece until you step on it. Like the loose floor in *Prince 1*, it wiggles, detaches and falls, shattering on the ground below. If you jump up and down near a loose floor, it should shake but not fall. These animations should take the same number of frames as their *Prince 1* counterparts.

Rubble.

Rubble, as in *Prince 1*, is a shattered loose floor lying on the ground. It is functionally identical to an ordinary floor piece.

Solid block.

Same idea as *Prince 1*.

Variations: At least three (3) different blocks with slightly different irregularities. that can be combined in any order.

Small pillars.

These one-story-high pillars, like those in *Prince 1*, provide depth (especially when the Prince passes between the front pillar and the back pillar) and also help to give the setting a sense of physical solidity.

Large pillar.

Two stories high. It is just one pillar, which the Prince passes behind -- the rear support being provided by the back wall.

Note: The large pillar technically comprises two pieces, since it is two spaces high.

Torches.

Like the torches in *Prince 1*, these exist primarily to provide atmosphere and visual interest, and to keep the screen from "going dead." The torch should cast a flickering glow on the surrounding walls as part of the animation.

Up pressure plate.

Same function as *Prince 1*.

Down pressure plate.

Same function as *Prince 1*.

Gate.

Not iron gates as in *Prince 1*, but blocks of solid stone. (We will continue to call them "gates," however, for consistency.) They raise and lower slowly, with a stony scraping sound. A gate should be slightly less than half the width of the floorpiece.

For now, simply draw the gate in the fully open, fully closed, and halfway positions. Breaking it down into smaller, animatable shapes will involve programming decisions to be made later.

Normal potion.

Same idea as *Prince 1*. Use the swirling-potion animation from the color Mac graphics. Feel free to give the flask any suitably Oriental shape and design.

Corked potion.

Again, feel free to play with the design of this flask. The only stipulation is that it should be fancier and more "special"-looking than the ordinary life potion, and that it is *corked*.
Note: The flask is a small shape that is simply superimposed on top of a standard floor piece. It does *not* include the floor or back wall.

Exit.

As in *Prince 1*, the exit is a door set into the back wall, which raises to reveal a staircase to the next level. The stairs should be drawn to the same scale as in *Prince 1*.

Note: The exit technically comprises two pieces, since it is two full spaces wide.

Wall spikes.

As in the lava caves. A deceptively simple trap. It looks like an ordinary stone block, except that there are a few oddly spaced holes in it that are reminiscent of the holes in the floor that mark the presence of spikes in *Prince 1*. Sure enough, if you walk (or, worse, run) into this wall, the iron spikes spring out and impale you. It sounds easy to avoid, which is why the player will hate himself so much when he skewers himself for the third time on the same set of spikes. It can also, in swordfights, add new meaning to "having your back to the wall." Also, it is a very satisfying way to dispatch a guard.

The spikes should be irregularly spaced and angled, and should spring out at slightly varying rates, like the floor spikes in *Prince 1*. They should also have "follow-through" -- that is, when they first spring out, they overreach slightly before retracting into their final position. Use the same number of frames as we did in the floor spikes.

Dart trap.

A tiny, almost unnoticeable shooter set into the floor at a 45-degree angle. Unlike most traps, this one doesn't kill you outright. It is loaded with a poison dart which merely costs you one hit point. When you run towards the dart trap from the wrong (i.e.,

business) end, it fires. You can beat the dart trap either by cautious steps, or by jumping over it. But you have to be careful about this latter method, since dart traps are most often found lined up in a row. They are most annoying when you are in a hurry to get someplace and can't be bothered to slow down.

If the dart misses you, it (presumably) sticks into the ceiling -- but we don't need to worry about that, because the angle at which the scene is drawn hides the ceiling from view.

The shooter itself doesn't look like much. When it fires, it should retract and sort of spit out the dart. This motion should be small and very fast, like the dart itself. About 6 frames should elapse between the time the dart fires and the time it hits the ceiling.

Water pipe.

As in the lava caves, the water pipe is set into the back wall, and looks innocent enough -- until water starts to gush from it and fill the chamber.

High scythe.

As in the ruins. At a distance, all you see is a horizontal slit in the back wall, about waist high. When you get within a few paces of this rather sinister-looking slit, a curved blade whips around very fast. About a second later, the blade whips around again. You can either approach this as a timing puzzle (you have, obviously, to miss the blade), or take the coward's way out and crawl under the scythe. Crawling, of course, costs you precious time. . . .

Low scythe.

Looks just like the high scythe, except that it is positioned rather lower on the wall, so low in fact that you can't crawl under it; you must, rather, jump over it.

New pieces

The following pieces are brand new and have no direct equivalents in existing background sets in either *Prince 1* or *Prince 2*.

Moving wall.

This looks like an ordinary stone wall until you step on a pressure plate -- at which point, with an ominous grinding of stone, the wall starts to move. If you miss your chance to get out of the way, you find yourself trapped in an ever-narrowing space as the walls close in on you, ultimately closing together with a resounding *ker-chunk*. A moment later, a few drops of blood ooze out from the crack.

Trap door.

Another simple trap. An innocent-looking floor piece gives way beneath your feet, spins around, and deposits you on the floor below -- or, if there doesn't happen to be any floor below, to something worse. The difference between a trap door and a loose floorpiece is, with a trap door, you can't get back up. You can detect trap doors by jumping up and down in place; when you land, any trap doors in the vicinity will rattle slightly.
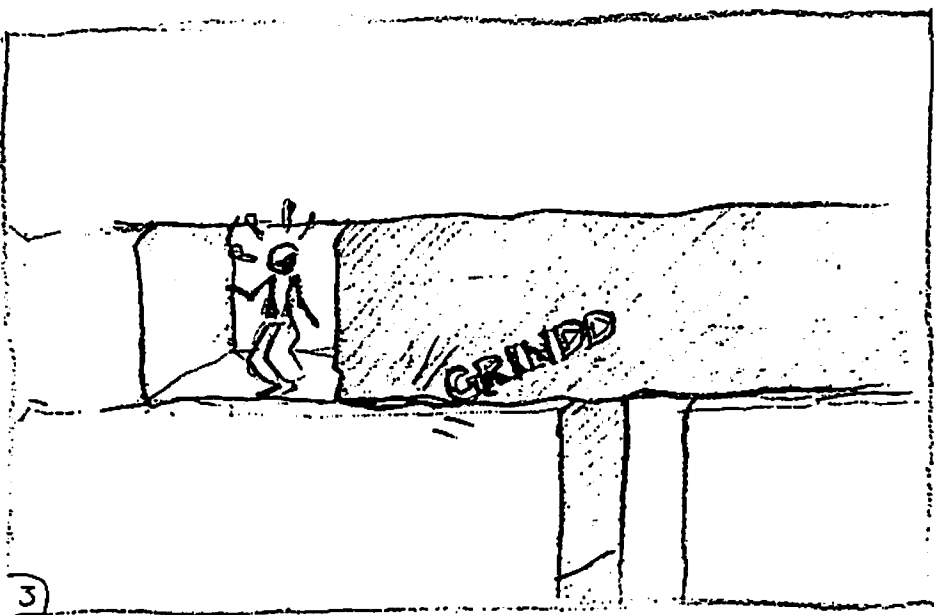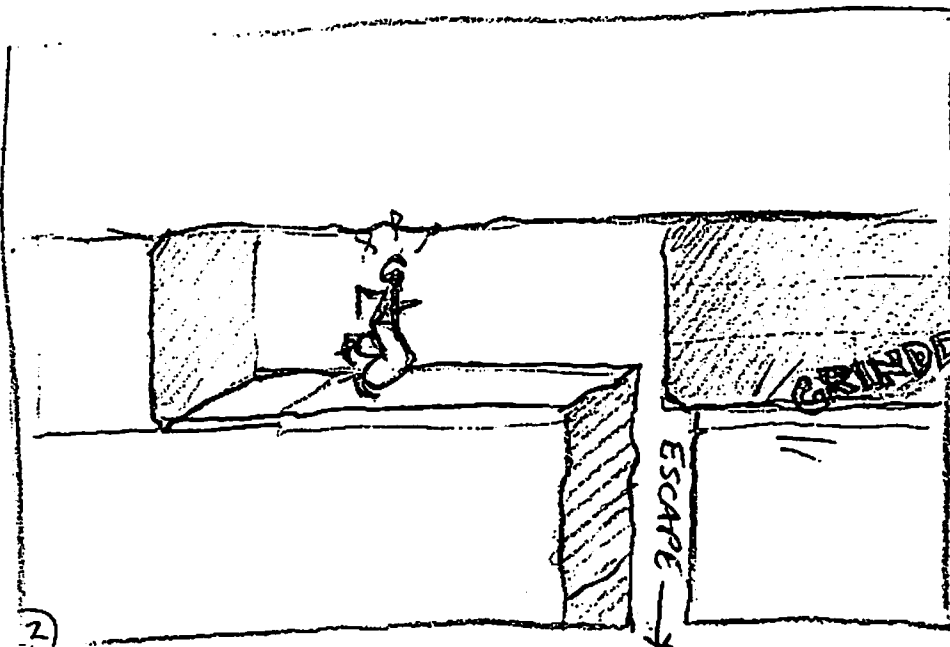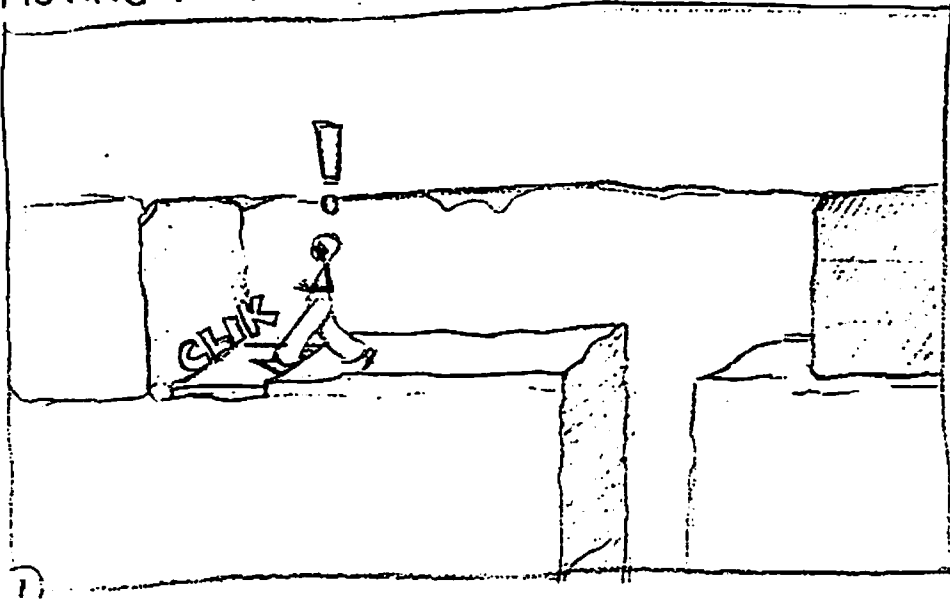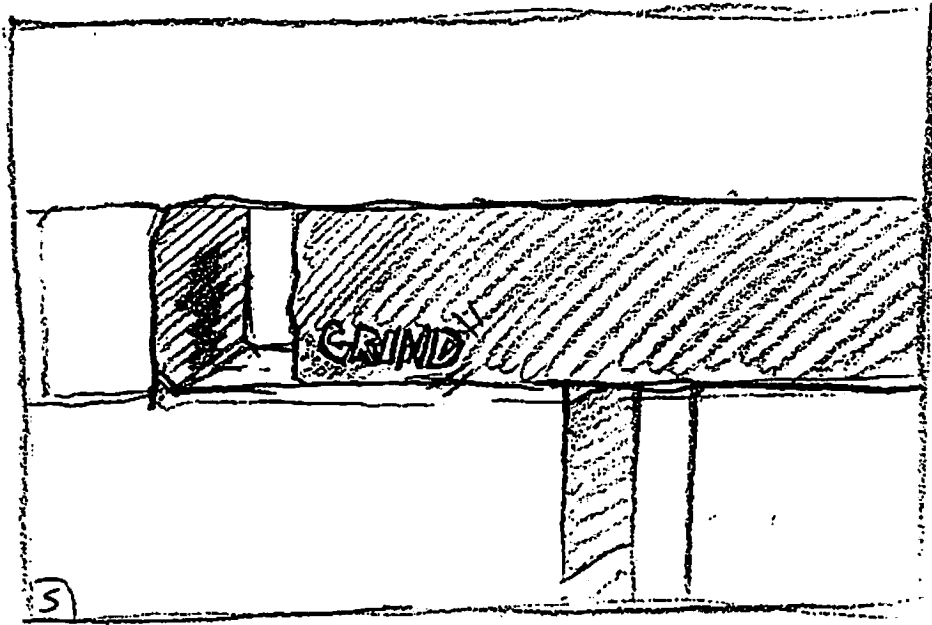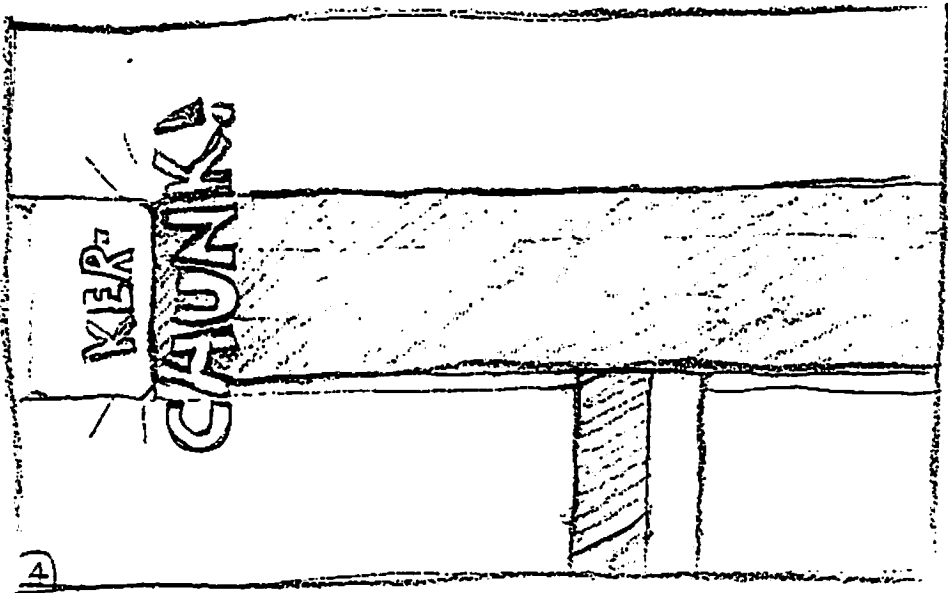
Overview: Level 8
First Temple Level

Levels 8-9-10-11, all set in the Temple, are interior levels, like the the dungeon and palace in *Prince 1.* The primary opponents are the bird-headed guards of the temple.

At the end of each of the three levels 8-9-10 is a staircase that will take you up to the next level.

The highlights of Level 8 include:

Dark room

You enter the room at the lower right. There is a bird-headed guard standing at the upper left. The instant he hears you enter, he throws a switch, plunging the room into darkness. All you can see are the guard's eyes, waiting for you.

You must rely on your memory of the layout of the room, and on sound effect cues, to navigate your way through the room in the darkness. You can, in fact, just barely see yourself -- your color palette has been shifted so that you are very dark, almost invisible. Your surroundings, however, are entirely black.

When you fight the guard, you see two flashing swords in the darkness. The moment you kill the guard (or he kills you), the lights come on.

Delayed-action floating potion

The effects of this potion go beyond the simple reduced gravity of the weightlessness potion in *Prince 1.* While you are in your floating state, you float gently through the air, arms and legs akimbo, and you can guide yourself by pushing the directional controls -- not only left and right, but also *up.*

It will be quite a thrill to drink a potion and float up three, four, five stories to a high ledge that you had no idea of how you were going to reach. The catch is, of course, that the potion wears off eventually; and, if you are in midair four and a half stories up at the time, this is a serious catch indeed.

There can also be situations where, for instance, two moving walls at the top of the screen are slowly coming together as you rise up towards the narrowing gap. If you misjudge the timing, you could discover that you have floated upwards into a gigantic Prince press. But just imagine the thrill if you squeak through just in time -- two massive stone blocks coming together with a solid *ker-chunk,* and there you are, floating peacefully above them, without a care in the world.

Technical Summary

Characters:

Prince
Bird-headed guards

Backgrounds:

Modular background set 3 (temple).

Three (3) custom-drawn full-screen backgrounds.

Animated Character:
Bird-Headed Guard

Character Description

These are priests who wear headdresses that give them the heads of birds. The priests are savage swordsmen who are bound to kill anyone who sets foot in the hallowed precincts of the Temple of Fire.

Behavior

Identical to the Palace Guards from Level 1.

Note: We can use the Palace Guards animations virtually intact, simply by changing the costume and headdress.

Appears on levels: 8, 9, 10, 11.

Estimated Total # of Frames

Existing frames: 63
New frames: 5
Total frames: 68

The Bird-Headed Guards should have at least seven (7) different color palettes to simulate different types of uniforms.

Animations

All Palace Guards animations except:
          - Fall off edge (6 frames)

Total # of existing frames: 63

Impaled on wall spikes   1
Sliced in half by scythe   4

Total # of new frames: 5

Impaled on wall spikes

One frame should do it.

Est. # of additional frames: 1

Sliced in half by scythe

The scythe cuts the guard in half at the waist, and dumps both halves unceremoniously in a heap on the ground.

Est. # of additional frames: 4

Reference materials

Palace Guards; costumes in Book of Suleyman; other Persian costume books.

19.0

Level 9:
Second Temple Level

19.1
Overview: Level 9

19.2
Animated Character:
Jinnee

Overview: Level 9
Second Temple Level

Highlights of Level 9 include:

Jinnee

The Jinnee lives in a corked bottle which is indistinguishable from the corked bottles that contain the super life potion. If you crouch next to this bottle and press the button to drink it, before you have a chance to drink it, a foul odor emanating from the bottle will cause you to throw it down. The bottle lands on its side. Out runs a little man about two inches high. The little man then turns to face you, and grows rapidly to twice your height. He is a giant Jinnee holding a wicked-looking scimitar. The Jinnee lets out a horrible laugh and attacks you.

Needless to say, the Jinnee is quite tough. A single swipe of his sword will take away five of your hit points -- if you have that many! Two swipes will kill you.

The timid player might conclude that it's better not to open this particular bottle, and avoid it from then on. If he does this, however, he will miss out on a wonderful reward. You must block every one of the Jinnee's blows religiously, wait for your opening, and then lunge with your sword. When you have hit him for the third time, he lets out a terrible bellow of pain and rage, and then shrinks back down to tiny man size (about two inches tall) and runs away.

Should you manage thus to vanquish the Jinnee, the open bottle will still be left lying on the floor. (Astute viewers will notice that it is now missing its cork.) If you go over and drink it now, you will get a huge boost in your strength -- all the damage done by the Jinnee will be repaired, plus *two* additional hit points. Without this boost, you will be at a disadvantage in the later temple levels.

Note that you have not killed the Jinnee, but merely driven him away.

Crazy potion

Shortly after you drink this potion, the joystick suddenly reverses its controls. When you push left, the character runs right, and vice versa. (Up and down remain the same.) The effect wears off after about 20 seconds, if the Prince is lucky enough to survive that long; more often, he puts himself out of his misery by jumping into a chasm or running into a wall of spikes.

The successful completion of Level 9 is followed by --

Tree Check

-- showing us the condition of the tree in the Princess's garden, with suitably somber music. Just to remind us of the gravity of the situation.

Technical Summary

Characters:

Prince
Bird-headed guards
Jinnee

Backgrounds:

Modular background set 3 (temple).

Three (3) custom-drawn full-screen backgrounds.

Animated Character:
Jinnee

Character Description

The Jinnee lives in a corked bottle on Level 9 of the temple. If the Prince uncorks the bottle to drink it, a foul odor makes him throw it down in disgust. The bottle lands on its side on the floor, and a little man about two inches high runs out. Turning to face the Prince, the little man suddenly grows rapidly into a giant Jinnee, close to twice the Prince's height, and holding a wicked-looking scimitar. The Jinnee lets out a horrifying laugh and attacks you.

If you defeat the Jinnee (by hitting him the requisite number of times with your sword), he lets out a bellow of pain and rage, shrinks back down to tiny man size, and runs away. Note that you have not killed the Jinnee, but merely driven him away. He will come back to fight you again on Level 11.

Note: Although the Jinnee is very large, his animations are still based on the regular swordfighting. The Prince is able to block and strike the Jinnee's blows like those of any ordinary guard. Naturally, the position of the Jinnee's sword must be consistent with the fighting interaction -- that is, he must aim low in order to hit the Prince.

Appears on levels: 9, 11.

Estimated Total # of Frames

Existing frames: 23
New frames: 8
Total frames: 31

Animations

Sword fighting   23
Run & turn (as tiny man)   *

Total # of existing frames: 23

Shrink down to tiny man size   8
Grow to giant size   0

Total # of new frames: 8

Sword fighting.

Sword fighting frames taken from *Prince 1*. (See Chapter 2.2, "Palace Guard.)

Est. # of frames: 23

Shrink down to tiny man size

When the Jinnee has been hit three times, he lets out a bellow of pain and rage and shrinks down rapidly to tiny man size (about two inches tall).

Est. # of frames: 8

Grow to giant size

When the Jinnee arrives at giant size, he is already in fighting stance with his sword drawn. Can use the same frames as the shrink down animation, but in reverse.

Est. # of frames: 0

Run & turn (as tiny man)

Because the tiny man is only two inches high, we can simply take the Prince's normal running & turning shapes, reduce them, and clean them up. At that size, nobody will be able to tell. I suggest that we take only every other frame from the Prince animations, in order to make the little man move twice as fast.

Although the Little Man will require about 12 frames, I haven't included him in the totals, because he should be such an easy job compared to the other animations,

Est. # of frames: 12

Reference materials

Existing Guard and Prince animations. For ideas for the Jinnee's costume, see illustrated *Arabian Nights* storybooks, the Book of Suleyman, etc.

20.0

Level 10:
Third Temple Level

20.1
Overview: Level 10

20.2
Animated Character:
Flaming Sword

Overview: Level 10
Third Temple Level

Highlights of Level 10 include:

Flaming sword

One of the doors is guarded by a blazing sword that fights by itself. When you enter the room, the sword leaps up off the ground, bursts into flame, and launches a furious attack. You must fight it by blocking and parrying. You can't score any points off it (obviously, because it's just a sword), but when you have blocked it a certain number of times (say, 10), its fire goes out, it falls to the ground and lies there inert.

After defeating the sword, you have a "grace period" of approximately 30 seconds to find your way out of the room. When the grace period ends, the sword will "flame on" and attack you again.

Transport potion

When you drink this potion, you disappear in a puff of smoke, and reappear in a different part of the temple -- perhaps a room you can't reach any other way.

Technical Summary

Characters:

Prince
Bird-headed guards
Flaming sword

Backgrounds:

Modular background set 3 (temple).

Three (3) custom-drawn full-screen backgrounds.

Animated Character:
Flaming Sword

7/15/92

Character Description

The sword is a magic sword which has been put there to defend a certain door in the temple. When you enter the room, the sword leaps up off the ground, bursts into flame, and launches a furious attack. You must fight it by blocking and parrying. You can't score any points off it (obviously, because it's just a sword), but when you have blocked it a certain number of times (say, 10), its fire goes out, it falls to the ground and lies there inert.

The sword's fighting logic is exactly the same as if it were wielded by a guard. The only difference is that there is no guard behind it -- which means that it does not have to worry about getting hit, nor (since it has no feet) does it have to worry about whether there is solid floor underfoot.

Visually, the sword is exactly like a guard's sword, except that it is on fire.

Appears on level: 10.

Estimated Total # of Frames

Existing frames: 25
New frames: 6
Total frames: 31

Animations

Sword fighting   25

Total # of existing frames: 20

Clatter on ground   6
Jump up   0

Total # of new frames: 6

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Sword fighting

Same as the normal swords used by the guards, except that it is on fire. There should be about 8 different frames for the sword's "ready" (en garde) position, which can be cycled endlessly in random order, so that the fire keeps on burning and the animation doesn't go dead.

Est. # of frames: 25

Fall & clatter on ground

When the sword has been blocked a sufficient number of times, its fire goes out (instantaneously) and it falls to the ground and lies there inert. One frame should be sufficient for the fall. The rest of the frames are allocated for the "bounce," with accompanying clattering noise. when the sword strikes the floor.

When the sword falls. of course. it should accelerate like any falling object.

Est. # of frames: 6

Jump up

The sword starts out lying on the ground, as at the end of the "fall" animation. It jumps up and ends in the flaming "en garde" position.

Est. # of frames: 0

Reference materials

Sword swallowers? Sous chefs?

21.0

Level 11:
Final Temple Level

21.1
Overview: Level 11

21.2
Animated Character:
Shadowman

21.3
Sound Effects:
Levels 8, 9, 10 & 11

Overview: Level 11
Final Temple Level

Early on this level, you encounter an Arabic inscription carved on the wall, accompanied by ominous music, and thoughtfully translated by a caption:

He who dares to approach the Blue Flame must die.

Make of that what you will.

Jinnee

Towards the end of Level 11, you must fight the Jinnee. (This is the same Jinnee that lives in a corked bottle on Level 9. Regardless of whether or not you chose to uncork the bottle and fight the Jinnee on Level 9, you must fight him now.)

As you approach a particularly massive and important-looking gate, a tiny little man about two inches high comes running at you and stops a good distance away. Then, before your eyes, he grows into a giant Jinnee, close to twice your height, and holding a wicked-looking scimitar. The Jinnee lets out a horrifying laugh and attacks you.

The Jinnee is pretty tough. A single swipe of his sword will take away five (5) of your hit points -- if you have that many. Two swipes, obviously, will kill you.

To defeat the Jinnee, you must block every one of his blows religiously, wait for your opening, and then lunge with your sword. When you have hit him for the third time, he lets out a terrible bellow of pain and rage, and then shrinks back down to tiny man size and scurries off from whence he came.

After defeating the Jinnee, you have your choice of two paths to the altar room:

Corridor

The altar room stands at the far left end of a long corridor protected by bird-headed guards. This flame is what the entire temple was built to hold, and what the guards are sworn to protect, so they are not about to let you get near it. Here, for the first time, the guards show no compunction about attacking you two at a time. They run in from both sides, one after another, ready to sacrifice themselves in order to protect the sacred flame from being defiled by this trespassing stranger. This makes things somewhat difficult.

Secret passage

Fortunately, there is a secret passage which opens directly into the altar room. Unfortunately, it can only be reached by a rather circuitous route, requiring you to solve the most difficult and devilish traps yet. At any rate, you have your choice of two routes.

Altar room

Whether you arrive in the altar room by the secret door, or by fighting your way through the army of guards, you will end up in the same place. The fire is burning in the altar, and a bird-headed guard is stationed there to protect it. The fire is blue.

It's not difficult to kill the guard, since he is something of a pushover -- especially compared to the other guards on this level. The problem arises when you try to get the flame. It's easy enough to *reach* the flame -- in fact, when you approach it, it jumps into your hand, filling the room with light, as if it *wants* you to take it -- but then, a moment later, it consumes you, reducing you to a pile of charred bones. It's a problem.

The clue is in the inscription at the beginning of the level: *He who would steal the sacred flame must die.* And that's exactly what you must do: You die. In other words, you let the guard kill you. This will probably go against every trained instinct and fiber of your being, since you are a much better sword fighter than he is; but if you can manage to restrain yourself, here is what will happen:

The guard kills you. Funeral dirge. The usual message appears: *Press button to continue.*

Only, this time, you *don't* press the button to continue. (If you do, you will simply start again at the beginning of the level.)

After you have been dead for a few moments, the "Press button to continue" message disappears. A strange light begins to gather around you; and out of your dead body steps -- Shadowman! (Shadowman, as *Prince 1* players will recall, is your evil reflection. He split off from your body on Level 4, when you jumped through Jaffar's magic mirror, and thereafter played all kinds of nasty tricks on you until, facing each other at the top of Level 12, the two of you merged back into one.)

While the guard (who can't see or hear Shadowman) just stands there, Shadowman runs over to the blue fire, takes it (just as you would have), and runs back to where you are lying dead on the floor. Shadowman re-enters your body with the fire and -- miracle of miracles -- you get to your feet. A light fills the room. You are now imbued with the sacred flame. When the bird-headed guard sees this, he prostrates himself before you -- as will every bird-headed guard you encounter from now on.

Leaving

As you run down the corridor, the guards all fall to their knees and bow down before you. This should be quite satisfying.

As you run offscreen, the level ends (sparing us the mundane details of your exit from the temple), and we CUT directly to --

Tree Check

-- showing us the condition of the tree in the Princess's garden, with suitably somber music. Just to remind us of the gravity of the situation.

Technical Summary

Characters:

Prince
Bird-Headed Guards
Jinnee
Shadowman

Backgrounds:

Modular background set #3 (temple)

Six (6) specially drawn full-screen backgrounds:
- Inscription room
- Jinnee room
- 3 corridor screens
- Altar room

22.0
Flying Horse

Storyboard:
Flying Horse

This sequence comes right after the tree check that follows Level 11.

A single background screen showing the Prince on horseback, galloping through the sky to the accompaniment of rousing hero-to-the-rescue music (something along the lines of "Ride of the Valkyries").

(Note: This sequence can use the same Horse & Prince shapes as the interactive portions of the game.)

23.0

Level 12:
Battle with Jaffar

23.1
Overview: Level 12

23.2
Animated Character:
Jaffar

23.3
Animated Character:
Assassin

23.4
Sound Effects:
Level 12

Level 12
Battle with Jaffar

This level is actually a sequence of seven (7) linked scenes, or *sub-levels*.

1) Tower Rooftop

The horse gallops through the air at about a 45° angle and touches down on the rooftop of the palace tower. (This is a specially drawn background.) When the Prince dismounts, the horse transforms back into a marble statue. (See sketch on following page)

The outer walls of the tower are sheer; but at the right side of the screen, at the bottom, we can *just* see the top of something that *might* be a tall, narrow window. If the Prince takes careful steps up to the edge of the roof, turns around so that he is standing with his back to empty space, climbs down so that he is hanging off the roof, and then lets himself drop (!) --

-- we CUT to the screen below, which shows the sheer face of the tower dropping away to nothingness, just as the Prince catches on to the window ledge. If he manages to hang on, he can then pull himself up to stand in the window ledge. He can then step down coolly into the room.

Of course, if the Prince misses the ledge, he will plunge offscreen, with a scream, to his (presumed) death.

2) Princess's Room

When the Prince steps down from the window ledge, he lands in the Princess's Room. The Princess, still under Jaffar's spell, is lying in bed at the left side of the screen. She is lying on her back with her hands folded over her chest, like Snow White. Jaffar (that is, the False Prince) is standing over the sleeping Princess, his back to the window.
(Note: Jaffar uses all the same shapes as the Prince, but he is wearing differently colored clothing. Hopefully, we can accomplish this by means of a palette shift.)

When Jaffar hears the Prince land, he whirls to face him.

The Prince, at this point, is under the player's joystick control. Maybe the Prince will run towards Jaffar, maybe he will draw his sword, maybe he will turn to climb back out the window -- whatever he does, it doesn't matter, and this is why: The instant Jaffar sees the Prince, he raises his arms in a spell. There is a flash of LIGHTNING, and the entire room disappears, taking Jaffar and the Princess with it. At least this is the way it appears to us. What has actually happened is that Jaffar has transported the Prince to a new location.
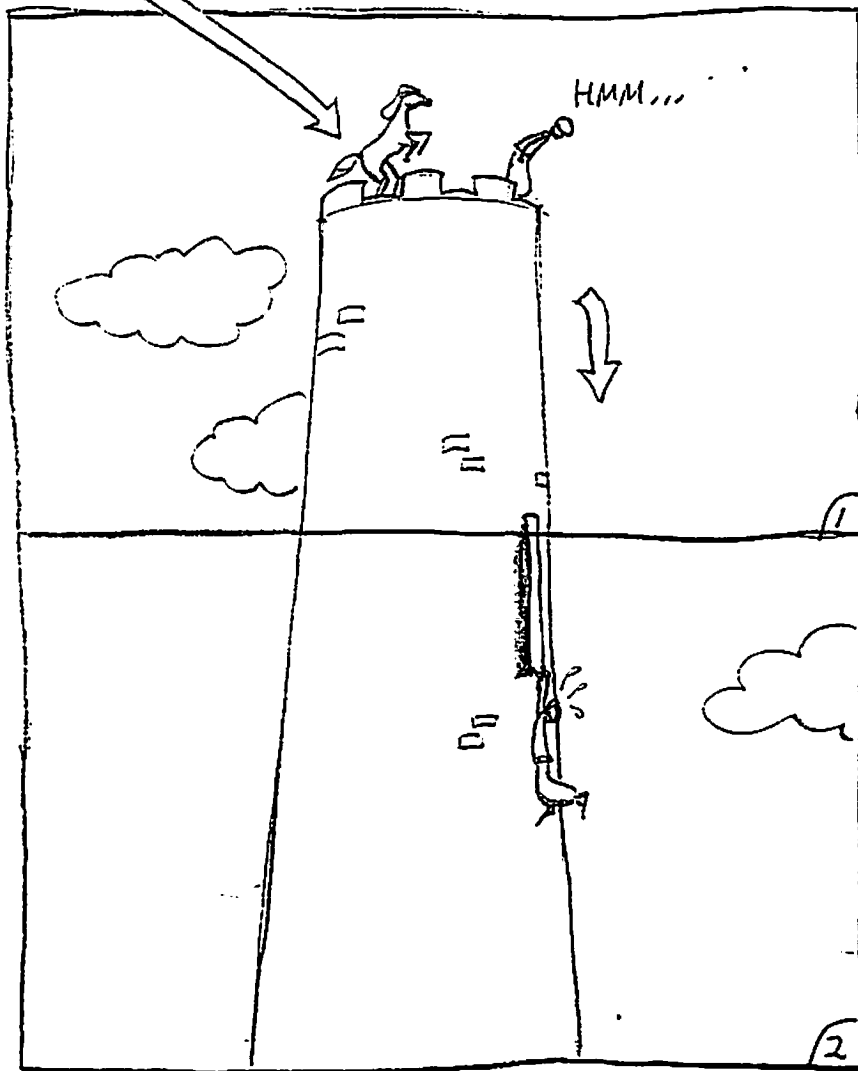
LEVEL 12 (TOWER ROOFTOP)

3) Dungeon

The Prince lands in the dungeon. Yes, that's right -- the old familiar dungeon from *Prince 1*. (Actually, a specially-drawn full-screen background designed to evoke the *Prince 1* dungeon.) When the Prince lands, he is still in the midst of whatever action he was in the midst of at the moment Jaffar transported him -- running, turning, drawing his sword, or whatever.

Almost immediately, an ASSASSIN runs in and attacks you. The Assassins are Jaffar's personal honor guard. They wear black robes and turbans, and behave pretty much like the rooftop guards from Level 1, except that they are much better fighters. Assassins also have one additional ability: In the midst of battle, an Assassin is apt to crouch and spring over your head, turning as he leaps through the air, and land *en garde* facing you from your other side.The real fun comes when you have to fight two assassins at once -- which you'll have a chance to do almost immediately, as they come at you from all sides (though, in the interests of fairness, you never actually have to fight more than two at a time -- although it should seem like more.)

Some of the assassins carry potions. Some of them even carry *super-potions.* If you have managed to arrive at this point with fewer than the maximum of ten (10) hit points, it would be well worth your while to fight assassins and drink their super-potions until you have built your strength up to the maximum of 10. You'll find out why soon enough.

The beginning of the dungeon sub-level is the **first milestone** of Level 12. That is, from this point on, if you get killed, you are returned to the beginning of the dungeon -- not to the tower rooftop.

The goal of the dungeon sub-level is to make it through the several dungeon screens (moving from right to left). At the left edge of the leftmost of the dungeon screens, there is a wide chasm. You need a running jump to clear it. It's hard to get that running start, though, because the assassins keep attacking you. However, the assassins come in waves; so as soon as they give you an opening, act quickly; you'll have just enough time to jump the chasm before an assassin cuts you down.

Your jump is not *quite* good enough to clear the chasm; but if you grab on to the ledge, you can pull yourself up to safety -- leaving the assassins stuck on the other side with no way to get to you. Running offscreen to the left, you find a staircase on the back wall, similar to the staircases in the *Prince 1* dungeon. There is also one last assassin waiting for you. He carries a super-potion. If you are not at full strength, you would do well to fight this assassin and drink his potion. (If you run up the stairs without fighting him, or if you knock him into the chasm, you lose the potion.)

The stairs will take you to . . .

4) Palace Hallway

You climb up out of a grate in the floor and find yourself standing at one end of a grand hallway with tapestries hanging on the back wall. The gate to your right is barred and there is no way to get through it.

Run to your left. The hallway is two screens wide. As you enter the second screen, Jaffar is waiting for you at the far end of the hall. Instead of attacking you, he turns and runs offscreen. There's not much to do but follow him into . . .

5) Multiple Prince Room

When you enter, you see not one, but *nine* False Princes, all standing around like statues. Each one of them looks just like the False Prince -- that is, just like you, except for their clothes, which are identical to the clothes worn by the False Prince. As soon as you strike at one with your sword, it shimmers and vanishes.

One of them, however, is really Jaffar. And, if you are so incautious as to put yourself within his striking distance, he will draw his sword and kill you.

(A little programming deviltry here: Since Jaffar *could* be any of the phantom Princes, the computer doesn't actually have to decide which one of the phantom Princes in fact *is* Jaffar until the moment he reveals himself -- that is, until he draws his sword and kills you. In other words, if we really want to make things difficult for the player, we can make it so that the *first* time you expose yourself by turning your back on one of the Princes, he will turn out to be the Jaffar-Prince and kill you. In practice, though, we probably shouldn't stack the deck quite that strongly; otherwise, people might think this game is rigged!)

Therefore, you must exercise great caution, and eliminate the phantom Princes one by one -- being careful not to turn your back on any of them -- until only one is left. (By the aforementioned programming deviltry, Jaffar can *always* be the last one left -- although, again, in the interests of apparent fairness, we might want to just make him one of the last two or three.)

When you've killed all but one or two of the Princes, Jaffar will turn and run from the room; any remaining phantom Princes will shimmer and vanish.

6) Unreality Room

This is the **second milestone**. (If you die from this point on, you are returned to the beginning of the Unreality Room.)

As you enter this room, you see Jaffar standing at the far end of the room; then he turns and runs offscreen. When you try to follow him, you discover that all the floorpieces are really empty space, and all the empty spaces look like floorpieces. The rule: Nothing is what it seems. The walls are real, though, as are the spikes at the bottom of the pit.

In theory, this room shouldn't be too hard to get through, once you learn the trick. I have a feeling that in practice, though, twelve (or twenty-four) levels' worth of acquired *Prince* reflexes will be harder to suppress, and the player will find himself plunging to his death again and again through phantom floorboards -- and blaming himself every time!

7) Duel Room

Jaffar is waiting for you with his sword already drawn.

This is it -- the final conflict -- the great duel with Jaffar.

You draw your sword; the two of you duke it out. He is a somewhat better fighter, perhaps, than he was in *Prince 1*, but it shouldn't be too hard to beat him.

Except for one thing that is rather unfair. Right after you score the second-to-last hit -- the hit that brings Jaffar down to one hit point -- your sword suddenly *flies* out of your hand at an incredible speed and imbeds itself in the opposite wall. (!) Now, *that's* magic. As you stand there gaping, Jaffar cuts you down.

After repeating this exercise a couple of times, it should dawn on you that you are up against a sorcerer, and a simple iron sword just isn't going to do the trick. (You might wonder how it is that Jaffar managed to become so much more powerful in the few months since your first encounter. One day, you may learn the answer to this question. But for now, you've got a more pressing problem on your hands.)

The problem is this: Jaffar is a sorcerer. You aren't. You can't kill him.

But Shadowman can.

Remember the magic fire? You may have been wondering, irritably, why you went to the trouble of getting it, since it doesn't seem to be good for much of anything. Well, there *is* a way you can use the fire; and the clue lies in what you did to obtain it. The fire consumes anyone who touches it. You couldn't handle it; but Shadowman could. It's Shadowman who must now wield it against Jaffar. A fitting way for Jaffar to die, since it was his own magic mirror that brought Shadowman into being in the first place.

The way to beat Jaffar is not to fight him. Instead of drawing your sword, do the Shadowman thing: Shake the joystick from left to right, several times, in rapid succession. Jaffar will stand there, staring in astonishment, as your strength bottles start to burst. When you begin to flicker between yourself and Shadowman, Jaffar will turn and *run*. By the time your body crumples to the ground and Shadowman (with a flash of lightning) steps forth, Jaffar will be in full flight.

Note: It costs you seven (7) of your strength bottles to become Shadowman. If you try it with fewer than eight hit points, you will die. (See Appendix A, "Player Controls," for more on this subject.)

If you started out with the full complement of ten bottle, becoming Shadowman should have left you with three (3). A supernatural bluish glow around Shadowman will tell you (and Jaffar!) that you have the fireball.

If you *don't* have that bluish glow, this means that you have fewer than three hit points left, which means that you can't throw the fireball. In this case, Jaffar will realize that it was premature of him to run away from you. He will stop running; and, in full confidence that he has nothing to fear, will chase you down and kill you with his sword.

> **Note:** If you have arrived at the Duel Room with fewer than ten bottles, there is only one way to remedy the situation. You must go back through the Unreality Room, through the Multiple Prince Room (which is now empty), through the hallway (which is also empty), climb down through the grate, and emerge in front of the staircase in the dungeon. When you cross to the other side of the chasm, the assassins will attack you. Some of them are carrying super-potions. You must kill, frisk, and rob as many as are necessary to give you ten hit points. (Note: If you die in the dungeon, any milestones you have achieved will be undone. That is, when you "press button to continue." you will restart from the beginning of the dungeon. This is actually a kindness, since it saves you the trouble of making repeat trips through all the empty rooms.)

Back to the duel room. It is essentially a horizontal layout of three or four screens, with plenty of cul-de-sacs and alternative routes. It's an ideal location for a chase. You (Shadowman), glowing with the blue flame of righteousness, are trying to corner Jaffar so that you can peg him with the fireball. He's trying to keep his distance.

If you throw the fireball and miss -- say, if Jaffar ducks -- the fireball will incinerate the wall behind him, leaving a charred blast hole.

In order to throw a fireball, you (Shadowman) must have three hit points. When you're strong enough to throw a fireball, you know it because of the magical blue glow that surrounds you -- and because Jaffar is scared of you. Hurling the fireball uses up all but one of your strength points -- and, the instant you throw it, the blue glow disappears.

To throw the fireball again, you have to drink a potion. There are four (4) potions in various places around this level. If you miss with the fireball, you'd better head straight for one of the potions. (Note: These are double-potions; one potion gives you two hit points. So a single potion is sufficient to restore you to your full strength of 3.)

The trouble is that as soon as Jaffar sees that you're impotent, he stops running, and starts to *chase* you. He is only afraid of you when you have a fireball to throw.

If Jaffar catches up to you (Shadowman), he will fight you in the usual way, with his sword. Sword thrusts hurt Shadowman, and they hurt you too: When Shadowman dies, you die. Since throwing the fireball has reduced you to one hit point, fighting Jaffar while in this weakened state is something you want to avoid. So, you'd do best to run.

The best thing about this level is that, in addition to being one of the most thrilling sequences in the game, it should be fairly easy to implement. Because Jaffar looks

exactly like you, he can run, jump, climb, etc., using all the normal Prince animations. There is thus no need for new animations. The real programming challenge of this level is the logic Jaffar uses to chase and flee from you. However, because the Duel Room consists of only a few screens, and because they are always the same, this logic can be pretty much hard-wired, with a few alternative paths from which Jaffar can choose randomly.

Theoretically, the fireball is an inexhaustible weapon. In practice, however, the number of fireballs you can throw against Jaffar is limited to five, because there are only four potions in the vicinity.

Also, there is the problem of the time limit. As Shadowman, you can spend only sixty seconds away from your body before you die. (Note: Based on play-testing, we might want to extend this time limit, or even suspend it entirely; we'll see if it's necessary.)

If you hit Jaffar with the fireball, the flames consume him, transforming him into a human torch. He runs shrieking to the window and jumps out.

From this, we cut directly to the non-interactive sequence "Happy Ending."

Technical Summary

Characters:

Prince
Horse
Assassin
Jaffar
Shadowman

Backgrounds:

Fourteen (14) specially drawn full-screen backgrounds:
- Tower rooftop
- Tower with window
- Princess's room
- 3 Dungeon screens
- 2 Palace Hallway screens
- Multiple Prince room
- 2 Unreality Room screens
- 3 Duel Room screens

Animated Character:
Jaffar

Character Description

Jaffar has cast an illusion spell that makes him look exactly like you, the Prince. The only difference is that (by the time you catch up with him on Level 12) he is wearing different clothes from those which you have been wearing throughout the game. This we can accomplish by means of a palette shift.

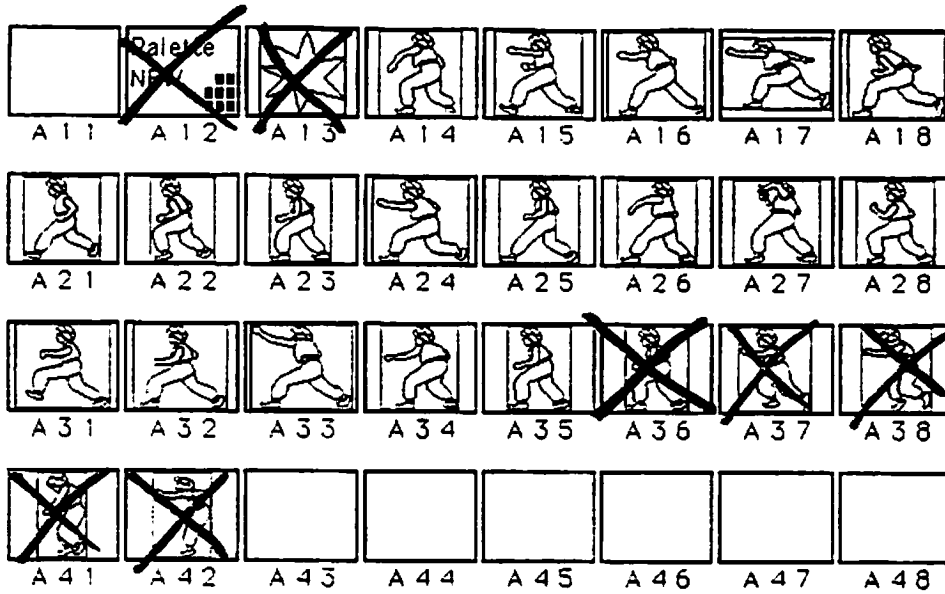We will use the regular Prince animations for all of Jaffar's behavior except the fighting. For the fighting, we will use the Shadowman fighting frames from *Prince 1.*

Appears on level: 12.

Estimated Total # of Frames

Existing frames: 0
New frames: 0
Total frames: 0

Quite a bargain, isn't it?

EXISTING "JAFFAR" FIGHTING FRAMES
(TAKEN FROM PRINCE 1 "SHADOWMAN")

TOTAL EXISTING FRAMES: 18

Animated Character:
Assassin

Character Description

Jaffar's personal honor guard. Swathed in black turbans and capes, they are among the toughest fighters in the game. They use the same fighting animations as the ordinary guards -- with one additional ability: In the midst of battle, an Assassin is apt to crouch and spring over your head, turning as he leaps through the air, and land *en garde* facing you from your other side.

Note: We can use the Palace Guards animations virtually intact, simply by changing the costume. In fact, we just *might* get away with using the actual Palace Guard shapes with a different palette.

Appears on level: 12.

Estimated Total # of Frames

Existing frames: 63
New frames: 15
Total frames: 78

Animations

All Palace Guards animations except:
         - Fall off edge (6 frames)

Total # of existing frames: 63

Jump over Prince's head   15

Total # of new frames: 15

Jump over Prince's head

Starting from the *en garde* position, the Assassin crouches and jumps forward, somersaulting through the air, and lands *en garde* facing the Prince from his other side.

Est. # of additional frames: 15

24.0
Happy Ending

Storyboard:
Happy Ending

At the end of Level 12, "Battle with Jaffar," the False Prince is consumed by fire and runs screaming towards the window, like a human torch, and jumps out. From that scene we CUT directly to the "Happy Ending" sequence:

(NOTE -- No storyboards drawn yet for this sequence.)

•••

1. Courtyard -- Flaming False Prince jumps out the window and lands screaming in the courtyard, extinguishing the flames. A MURMUR arises from the crowd; and before our eyes we SEE the False Prince turn into Jaffar. He is quite dead.

2. Int. Palace -- The Prince goes to the window and looks out.

3. Prince's POV -- Garden -- Before his eyes, the barren tree magically recovers and is restored to full bloom.

4. Int. Palace -- (Same angle as 2) The Prince looking out the window. Over his shoulder, we see the Princess standing in the room behind him. The Prince turns to face her.

5. MCS Princess. She steps back to stand in shadow. She makes no move towards the Prince. She is afraid of him.

6. MCS Prince, staring at Princess in distress. He doesn't know what to do; then a crooked smile appears on his face and he lifts his hand, holding the mouse, which climbs onto his shoulder.

7. MCS Princess. Her face lights up gladly -- she rushes offscreen towards Prince

8. Prince and Princess rush into frame from opposite sides in MCS and embrace.

9. LS of Prince and Princess embracing, inside crystal ball on table cluttered with black-magic items. The face of the Old Witch gradually lowers itself into frame until she is staring at eye level into the crystal ball with an expression of utter fury. We see the symbol of the Serpent God tattooed on her forehead. FADE OUT.

Appendices

Appendix A
Player controls

Types of controllers

The controls have been designed so that game play will be as similar as possible on the three major types of controllers:
- IBM-style joystick (8-way joystick, 2 buttons) + space bar
- Keyboard (8 directional keys, 2 action keys) + space bar
- Nintendo-style pad (8 directional buttons, 2 buttons) + 1 extra button

Note that whereas *Prince 1* used only one button, *Prince 2* uses two.

Controls

As in *Prince 1*, there are two "modes" -- normal running/jumping mode, and the "en garde" mode. The controls function somewhat differently depending on which mode you are in.

There are four **directional controls** -- up, down, left and right -- which function identically on joystick, keyboard, or Nintendo-style controller pad.

Button A is the "action" button. It serves several purposes:

- If you are running, press Button A to take a running jump. (Pushing the joystick diagonally will still work, but this feature has been added in order to make it easier to take a running jump when using the keyboard or a Nintendo-style pad. Note that to take a *standing* long jump, you must still use the diagonal control.)

- If you are standing still, press Button A to draw your sword (if you have one). If you have the fireball (as indicated by a bluish glow surrounding your person), press Button A to throw it.

- If you are *en garde* with your sword drawn, press Button A to strike.

- If you are falling or jumping through the air within reach of a ledge, press Button A to grab on to a ledge.

- If you are crouching next to a potion or other takable object, press Button A to drink the potion or take the object.

Note that to pick up a potion, sword, or other object, you must first push the joystick down to crouch, and then press Button A. If there is a dead guard in the vicinity, the act of crouching will automatically cause the Prince to search the guard's body. Any

potions or other items the guard was carrying will appear on the ground next to the guard, and can then be taken by pressing Button A.

Button B is used to take a careful step in the direction you are facing. It can also be used to grab on to a ledge. If you are *en garde,* Button B serves to turn around.

Note: In *Prince 1,* a single button covered the functions of both Button A and Button B. This actually works fine throughout most of the game, but there is one situation in which it results in ambiguity. This situation arises when you are standing in the vicinity of a usable object (such as a potion) and you want to take a careful step. You press the button, intending to take a careful step, but the button press is interpreted as an "action" command, and you find that you have just drunk the potion. In *Prince 2,* the addition of a second button enables us to avoid this problem.

The **extra button** or **space bar** is used to look at the tree -- i.e., to check time remaining. (More on this later.)

Swordfighting

Swordfighting controls are similar to *Prince 1.* While en garde, as in *Prince 1,* push the joystick left and right to advance and retreat; up to block; and press Button A to strike. When you have vanquished your opponent, you will automatically put your sword away. If you want to put your sword away at any other time, you can do so by pushing the joystick down.

There are, however, two differences from *Prince 1:*

1) Whereas in *Prince 1* the Prince automatically draws his sword in the presence of an enemy, in *Prince 2* the player must press Button A to draw his sword.

2) As in *Prince 1,* if the Prince happens to change sides with his opponent, he will turn around automatically so that he is always facing his opponent. This is a user-friendly feature (we'll call it "auto-turn") which is activated whenever you engage with an opponent -- the program assumes that, until you put away your sword, you wish to remain engaged, and don't want to turn your back on your opponent. However, in *Prince 2,* you can override this feature by pressing Button B. This will disable auto-turn until you turn to face your opponent again; at that point, auto-turn will be re-engaged.

This sounds like a lot of fuss over nothing, but it will come in handy should you ever be so unlucky as to find yourself on the screen with two opponents at the same time (in *Prince 2,* this can happen). In practice, the way it works is that you are fighting one opponent at a time; but if you are engaged with opponent #1 and you notice that opponent #2 is coming up behind you, you can turn to face your new opponent by pressing Button B. Of course, this will put your back to opponent #1, and you will probably die, but that's life. Note that, when you turn to face opponent #2, you activate the auto-turn feature with respect to opponent #2; if you then wish to disengage from opponent #2 and fight your first opponent again, you must press Button B to do so.

Logic

The majority of the Prince's movements are handled identically to *Prince 1*, with the exceptions described above.

Additionally, in *Prince 2*, the Prince has several new abilities, which are handled as follows:

Crawling

Push the joystick down to throw yourself flat on the floor. Then, push the joystick in the direction you are facing (either left or right) to crawl.

Note that this is the same joystick movement used to crouch. The Prince will lie down flat only if there is a stretch of empty floor space. If there's not enough room to lie down flat, he will crouch instead. He will also prefer to crouch if there is a dead guard or a takable object in the vicinity.

While you are crawling, you cannot turn around. (You can, however, crawl backwards.) To turn around, you must first stand up. In other words, once you have crawled into a crevice, you must either keep going until you emerge at the other end, or reverse direction and crawl out backwards the way you came in. While you are crawling, you cannot use the sword.

Example: You have crawled most of the way through a long crevice. Just as the end is coming into view, you see a snake crawling towards you. Should you keep going, praying that you will be able to emerge from the crevice before the snake enters, or should you beat a hasty retreat and crawl backwards the whole way you came? (More on snakes later.)

Floating

The effects of the "floating" potion in *Prince 2* go beyond the simple reduced gravity of the weightlessness potion in *Prince 1*. While you are in your floating state, you float gently through the air, arms and legs akimbo, and you can guide yourself by pushing the directional controls -- not only left and right, but also *up*. This is a relatively simple animation, but will give us the opportunities for some joyful puzzles. More on this later.

Throwing

In your final duel with Jaffar, your weapon is a fireball, which you can throw at him. A bluish magical glow around your body indicates that you are ready to throw the fireball. To throw, press Button A (the "action" button). In keeping with the existing animations in *Prince 1*, the throw will not be a simple matter of swinging your arm, but a full-body action involving wind-up and follow-through. The fireball will hiss through the air in a parabolic arc.

Carrying objects

When you are carrying a sword, an icon of it appears in the upper left corner of the screen. There are two different sword icons:
- Broken sword
- Good sword

If you are carrying one sword, and you pick up another, your first sword will be left lying on the ground where the second one used to be. You cannot carry more than one sword at a time.

As in *Prince 1*, when you pick up a potion, you drink it on the spot. There is no way to carry them around.

Tree

You can look at the tree only when (a) you are standing still *and* (b) there are no enemies attacking you. To look at the tree, press the space bar or extra button. The screen will disappear and be replaced by a full-screen shot of the tree in the princess's garden. The tree will remain on screen for a few seconds, while the tree music plays; you will then return to the level.

When you return to the level, it is not just as you left it; in fact, several seconds have passed, and this should be reflected in the progress of closing gates, falling floors, etc. The ratio of real time elapsed to game time elapsed need not be 1:1. It will be sufficient if the game advances by 8 or 10 frames while you are looking at the tree.

Since the clock is not started until the "Princess's Discovery" sequence, if you press the space bar or extra button *before* this sequence has been shown, it will have no effect. (See "Timing of NIS's" for more on this subject.)

Swimming

There are three ways to get into the water. One is to jump in (or fall in). Two is to climb in (lower yourself gingerly into the water feet first by standing with your back to the pool and pushing the joystick down). Three is to stand on dry land and wait as the water level rises around you.

While the water is below your knees, you can run & jump normally, splashing merrily through the puddles. When the water reaches mid-thigh, you enter a kind of intermediate mode in which you can't run anymore, but you can wade. (We can simulate the wading with the existing frames of animation.) When the water reaches chest level, you can no longer wade; at this point, you start to tread water.

When you're treading water, all you see is your head bobbing above the surface. You can tread water indefinitely. Push the joystick left and right to dog-paddle in whichever direction you choose. Push the joystick down to duck underwater; when you release the joystick, you will automatically pop back up above the surface.

If you hold yourself underwater for too long (more than 30 seconds), the screen will fade to black: you then hear the "accidental death" music and see the message: *Press button to continue.* Why anyone would want to do that is beyond me, but at least you have the option. . . .

While you are treading water, if you push the joystick up, you will reach up out of the water with your arm. If there is a ledge within reach, this will enable you to grab it (by pressing the button) and climb up onto the ledge (by keeping the joystick pushed up). If there is no ledge within reach, the net result will be that you merely throw your arm up in a foolish-looking way, as if waving for help.
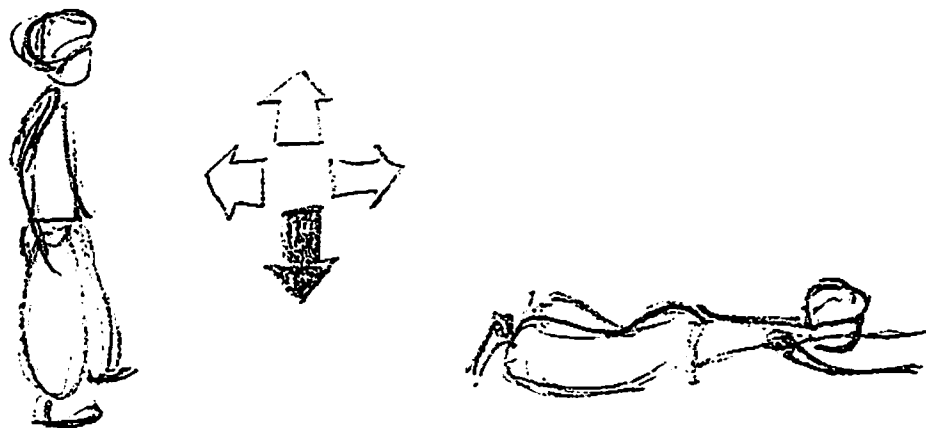
PUSH JOYSTICK DOWN TO THROW
YOURSELF FLAT ON FLOOR.
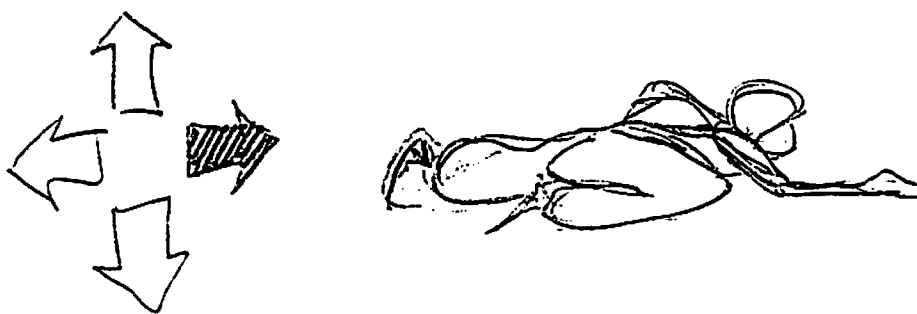
PUSH JOYSTICK FORWARD TO CRAWL.
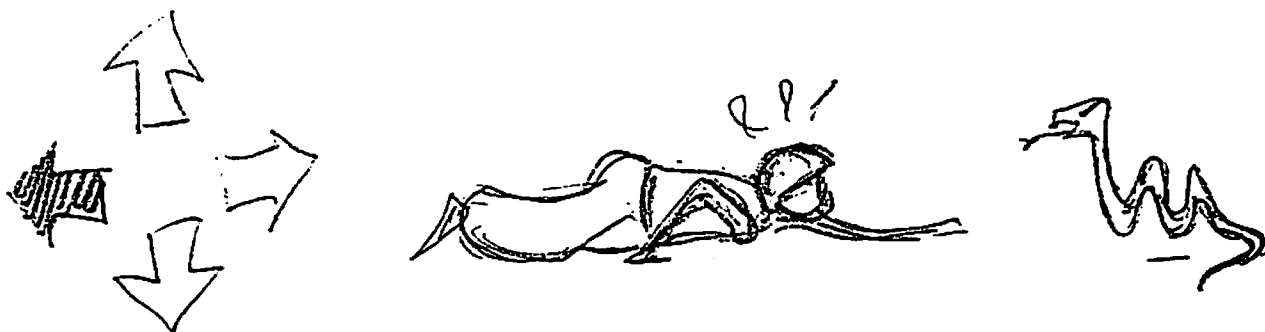
PUSH JOYSTICK BACK TO CRAWL BACKWARDS.

IF NOT ENOUGH ROOM TO LIE
FLAT, PUSH JOYSTICK DOWN
TO CROUCH.

FLOATING

PRESS BUTTON A TO THROW -

On Horseback

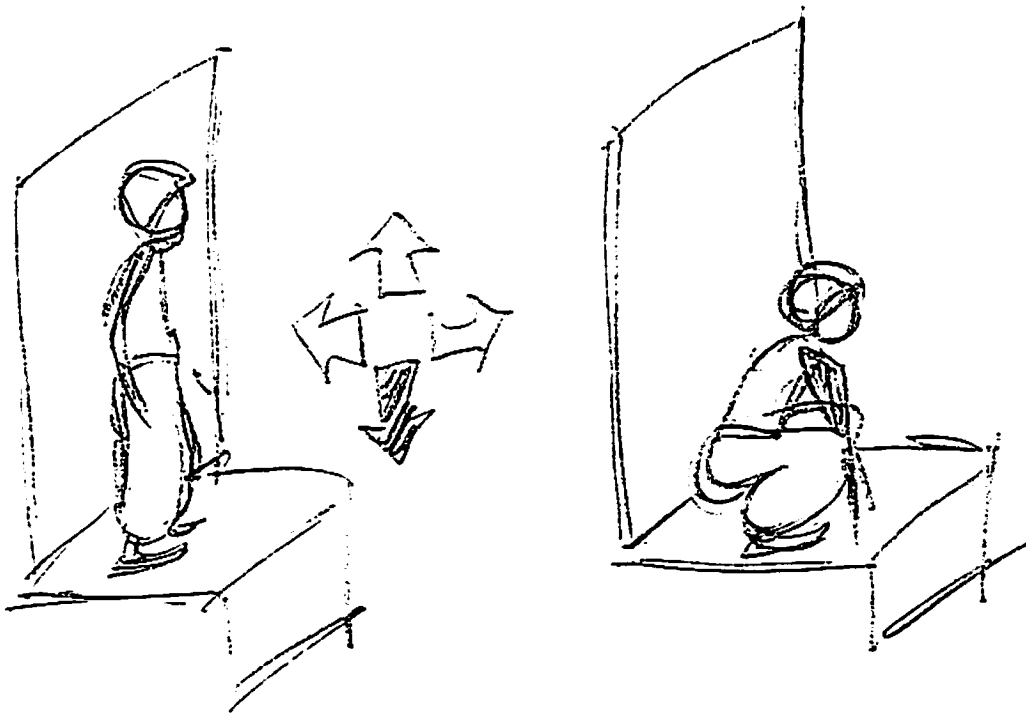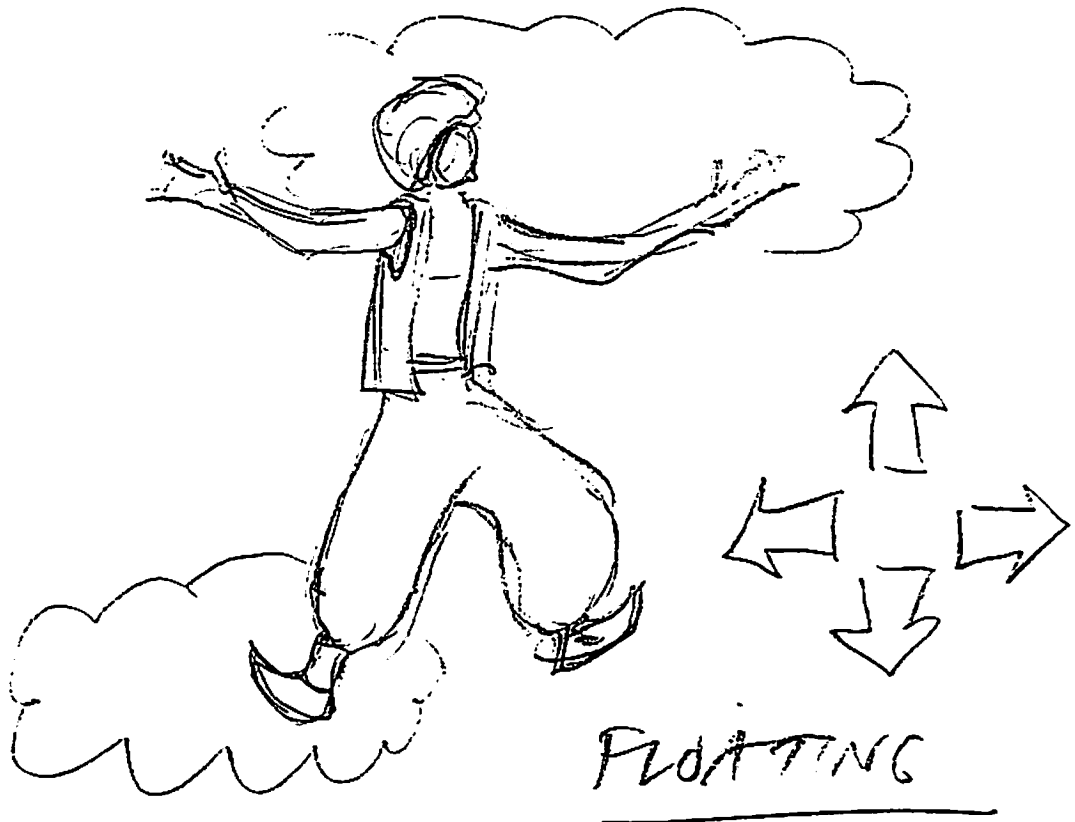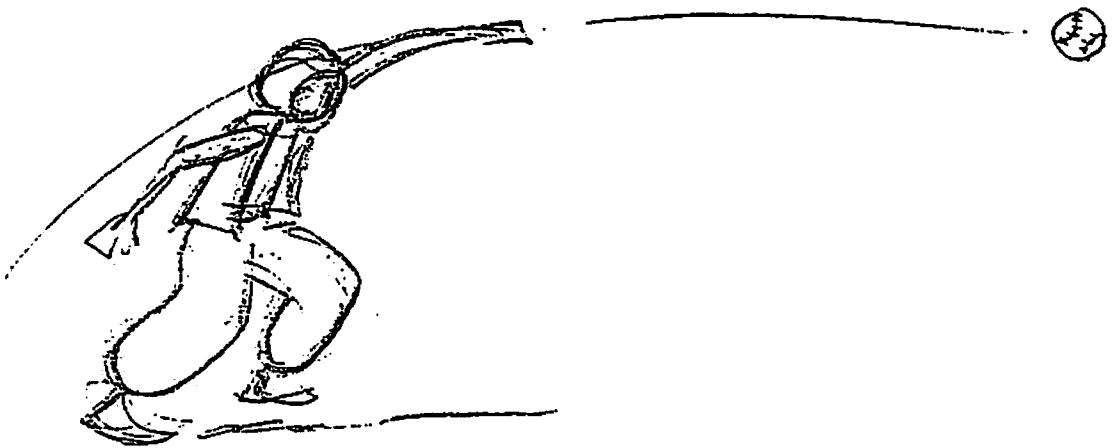When the Prince is on horseback, normal running/jumping controls cease to function. The horse is a very spirited horse, and there is no way to make him stop. All you can do is hang on for dear life and hope for the best.

Shadowman

> Let him who hath understanding turn from right to left, and left again, until his very soul shake loose from his body.

As a result of your experiences in *Prince 1*, you have gained the magic ability to split yourself in two. You do this by moving the joystick rapidly from left to right several times until, with a blinding flash of light, your shadow self "shakes loose" from you. You crumple to the ground and lie there as if dead, as Shadowman steps forth from your body under joystick control.

As Shadowman, you are virtually invulnerable to physical damage. You have the ability to pass through iron gates (though not through solid stone walls), run across loose floors & trap doors without falling through, and survive a fall of any distance (a fall of two or more stories will stun you for a moment, but won't take away any of your hit points). Since the guards are unable to see or hear you, you can draw your sword and cut them down with impunity. It's fun to be Shadowman.

PHYSICAL FEATURES

A few more details: Swords, wall spikes and scythes will pass harmlessly through you. In fact, the only trap that can kill you is the moving walls (because they are solid stone). If you run across a loose floor or trap door, the floor section will wobble, but won't detach. (The sound of the wobbling floor section will alert any guard in the vicinity, who will spin to face in the direction of the sound, but since he can't see Shadowman, he will not go en garde.) If you run across a pressure plate, your weight will push it down; however, you can, if you wish, avoid triggering a pressure plate by taking careful steps.

You can use Shadowman to reconnoiter unfamiliar territory, and help you figure out what you must do to solve the puzzle. Shadowman can also, on occasion, rescue you from impossible situations -- say, by stepping on the appropriate pressure plate when you're trapped behind a closed gate.

The catch is that you can spend only sixty seconds away from your body. As Shadowman, you must find your way back to your body and rejoin it within sixty seconds. At $t = -5$, Shadowman begins to shimmer; at $t = 0$ he falls dead, and vanishes before he hits the ground. The program cuts back to the screen where your real body is lying (it's possible that you may be on a different screen from Shadowman) and plays the funeral dirge music. *Press button to continue.*

The other catch is that splitting yourself will cost you *seven* (7) strength points. This works as follows: You can turn from left to right in rapid succession four times before anything magical happens. On the fifth turn, your body starts to flash, alternately taking

HIT PTS

the form of yourself and Shadowman; simultaneously your strength bottles in the lower left corner of the screen will start to *burst*, one by one, in quick succession. (You can abort this process at any point by ceasing to turn; but the damage is done.) As the fifth bottle bursts, with a blinding flash of light, Shadowman detaches himself from your body. The chain reaction of exploding bottles continues until a total of *seven* bottles have burst; at that point, mercifully, the process stops.

This damage is *super-damage* -- that is, it's permanent. If, say, you begin the level with 8 strength points, lose 7 by splitting yourself, and then successfully complete the level, you will finish the level -- and begin the next level -- with only *one* strength point. Yikes! (See Appendix, "Life and Death," for more on this subject.)

A corollary of this, obviously, is that you must have at least eight strength points in order to successfully carry out the Shadowman trick. If you try it with, say, six, then when the sixth bottle bursts, it will be just as if the 60-second Shadowman timer had run out -- Shadowman shimmers and drops dead and vanishes, most likely before he has managed to get more than three feet away from your body.

By now it should be apparent that the Shadowman trick is not one you want to use lightly. It's theoretically *possible* to use it twice, but to do this you would have to first build yourself up to a strength level of at least eight hit points, then -- after losing seven of them -- build yourself all the way back up to eight. In practice, although you may occasionally get yourself into a scrape in which Shadowman *could* save you, most players will want to save him for that one special situation in which he is the *only* solution . . . and more on that later.

Appendix B
Animated Character:
Prince

Character Description

This is the hero of *Prince 1*, now married to the Princess, and therefore officially entitled to be called "Prince of Persia."

We will work from the color Mac II version of *Prince 1*. For the majority of the U.S. and European market that has seen only the IBM/Amiga version of *Prince 1*, this will serve to give the Prince a change of clothes. (He wears baggy pants, an open vest, a turban, and sandals.)

The Prince uses two different swords in the course of the game. For this reason, it is necessary to draw the swords separately from the Prince himself.

The Prince will also require new animations, detailed below, comprising a total of 100 new frames. This is not quite as bad as it sounds, for several reasons:

- Most of the new animations are specific to only one or two settings (for example, the "treading water" animation is used only in the caverns). This means that, although there are 100 new frames, probably no more than 40-50 of them will need to reside in RAM at any given time.

- The majority of the new animations are special-effects or death sequences, and occur only in certain well-delineated situations. This means that the animator won't have to worry much about how the new animations tie into the existing frame sequences; he can just animate them as he sees fit and then hand them over to the programmer, who can in turn plug them into the game without having to worry about modifying the code to handle a lot of complicated special cases.

Estimated Total # of Frames

Existing frames: 210
New frames: 100
Total frames: 310

Animations

All *Prince 1* animations, except:
- sliced in half by slicer (1 frame)
- impaled on spikes (1 frame)

Total # of existing frames: 210

Lie down on floor	6	
Crawling	16	
Get up	16	
Floating	6	temple only
Turning while floating	6	temple only
Throwing	10	
Impaled on wall spikes	1	caverns & temple
Sinking below surface	6	desert island & caverns
Sliced in half by scythe	9	ruins & temple
Treading water	4	caverns & temple only
Shake dry	6	caverns & temple only
Disappear	6	temple only
Turn while fighting	4	
On rearing horse	1	
On galloping horse	4	

Total # of new frames: 100

Note: As in *Prince 1*, the Prince is viewed in profile, facing screen left, in all animations. The frames can then be flipped to show the Prince facing screen right.

Lie down on floor

From a standing position, the Prince throws himself face down on the floor. He might do this to duck under something that is coming at him (e.g., a scythe blade); or he might do it in order to crawl. The Prince ends up in the *lying down* position.

Est. # of additional frames: 6

Start crawling/crawl forward/crawl backward/stop crawling

In the first 4 frames of this animation, the Prince starts from a lying-down position and begins crawling forward. The next 8 frames are a crawling cycle which, like the 8-frame running cycle, can be repeated indefinitely. They can also be run backwards to make the Prince crawl backwards. In the final 4 frames, the Prince stops crawling and returns to the lying-down position.

The actual number of frames allocated to starting & stopping may end up being quite different from the above. However, I feel confident that 16 frames is a good estimate of the total number of frames required by these three animations.

Est. # of additional frames: 16

Get up

The Prince gets to his feet from the lying-down position.

This animation is also used at the beginning of Level 2, when the Prince has been washed up on the desert island and, awakening, gets to his feet.

Est. # of additional frames: 16

Floating

The Prince floats gently through the air, arms and legs akimbo. In this position his arms and legs move slightly, and his head turns.

Est. # of additional frames: 6

Turning while floating

While floating, the Prince rotates to face left (or right).

Est. # of additional frames: 6

Throwing

The Prince hurls an object -- e.g., the fireball -- with all his might. He should throw like he means it, in a full-body action with wind-up and follow-through.

Est. # of additional frames: 10

Impaled on wall spikes

One frame should do it.

Est. # of additional frames: 1

Sinking below surface

Flailing and struggling, the Prince is sucked below the surface of whatever horrible substance he has landed in. Note that this animation concerns only the Prince, and that the substance itself (lava or quicksand) must be animated separately.

Est. # of additional frames: 6

Sliced in half by scythe

The Prince's torso -- neatly separated from his legs by the scythe blade -- falls to the ground; the Prince's legs fall to the ground, too, but a split second later.

Est. # of additional frames: 8

Treading water

All we see of the Prince while he is in the water is his head bobbing along the surface.

Est. # of frames: 4

Shake dry

Having climbed out of the water, the Prince shakes himself dry, spattering water all over the place.

Est. # of frames: 6

Disappear

The Prince disappears in a puff of smoke, having just drunk a potion that transported him someplace else.

Est. # of frames: 6

Turn while fighting

Just a few in-between frames to smooth the Prince's "about-face" while fighting. He begins by facing "en garde" to the left, and ends in the same "en garde" position, but facing to the right. In *Prince 1,* the Prince flipped instantly from left to right without any in-between frames, but this always looked cheesy.

Est. # of frames: 4

On rearing horse

One frame. The horse has reared up on its hind legs and the Prince is sitting astride it.

Note: The horse and Prince are drawn separately. The Prince's shape will be drawn on top of the horse's shape. The pictures of the Prince on horseback should be done only after the horse's animations have been completed.

Est. # of frames: 1

On galloping horse

The Prince on horseback, tucked down, as the horse gallops at full speed.

Est. # of frames: 4

Reference materials
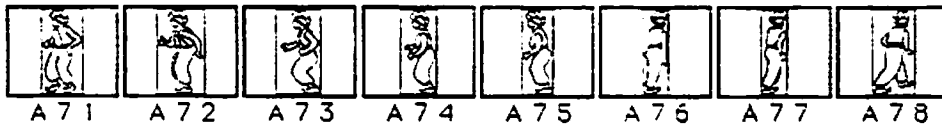
Videotape a costumed actor and scan every third frame into the computer, as was done for *Prince 1*. (Video frame rate is 30 f/s; taking every third frame yields a frame rate of 10 fps, consistent with the existing *Prince* animations.)

A11	A12	A13	A14	A15	A16	A17	A18
A21	A22	A23	A24	A25	A26	A27	A28
A31	A32	A33	A34	A35	A36	A37	A38
A41	A42	A43	A44	A45	A46	A47	A48
A51	A52	A53	A54	A55	A56	A57	A58
A61	A62	A63	A64	A65	A66	A67	A68
A71	A72	A73	A74	A75	A76	A77	A78

Prince BW.D

Mon, Jan 7, 1991
B.7

A31 A82 A83 A84 A85 A86 A87 A88

B11 B12 B13 B14 B15 B16 B17 B18

B21 B22 B23 B24 B25 B26 B27 B28

B31 B32 B33 B34 B35 B36 B37 B38

B41 B42 B43 B44 B45 B46 B47 B48

B51 B52 B53 B54 B55 B56 B57 B58

B61 B62 B63 B64 B65 B66 B67 B68

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B 7 1   B 7 2   B 7 3   B 7 4   B 7 5   B 7 6   B 7 7   B 7 8

B 8 1   B 8 2   B 8 3   B 8 4   B 8 5   B 8 6   B 8 7   B 8 8

C 1 1   C 1 2   C 1 3   C 1 4   C 1 5   C 1 6   C 1 7   C 1 8

C 2 1   C 2 2   C 2 3   C 2 4   C 2 5   C 2 6   C 2 7   C 2 8

C 3 1   C 3 2   C 3 3   C 3 4   C 3 5   C 3 6   C 3 7   C 3 8

C 4 1   C 4 2   C 4 3   C 4 4   C 4 5   C 4 6   C 4 7   C 4 8

C 5 1   C 5 2   C 5 3   C 5 4   C 5 5   C 5 6   C 5 7   C 5 8

C61	C62	C63	C64	C65	C66	C67	C68
C71	C72	C73	C74	C75	C76	C77	C78
C81	C82	C83	C84	C85	C86	C87	C88
D11	D12	D13	D14	D15	D16	D17	D18
D21	D22	D23	D24	D25	D26	D27	D28
D31	D32	D33	D34	D35	D36	D37	D38
D41	D42 (Palette new)	D43	D44	D45	D46	D47	D48

EXISTING "PRINCE" FRAMES (FROM PRINCE 1)

TOTAL EXISTING FRAMES: 210

Appendix C
Life and Death

As in *Prince 1*, you start the game with three full bottles in the lower left corner of the screen (the bottles being a metaphor for your state of health). Every time you get hit by a sword, take a bad fall, etc., one of your bottles is emptied. When all your bottles are empty, you are dead.

Enemies' life points are represented by a row of skull-and-crossbones in the lower right-hand corner of the screen. If we really want to get fancy, we could make up different symbols for the different types of enemies, but for now I think skull-and-crossbones will do fine for all of them.

Potions and super-potions.

The normal and most common kind of life potion serves to refill one of your bottles. If all your bottles happen to be full when you drink the potion, the potion is wasted.

The much rarer and more valuable **super potion** -- never more than one to be found on a level -- not only refills all your bottles, but ad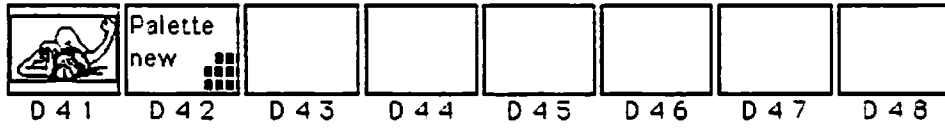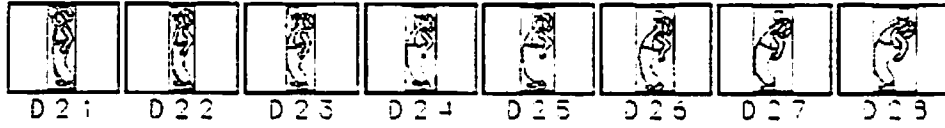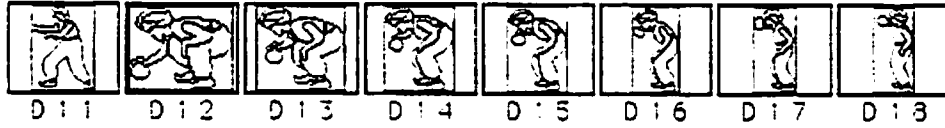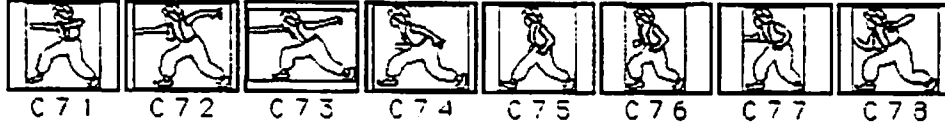ds a new bottle to the row (up to a maximum of ten). If you then successfully complete the level, this change becomes permanent. If you die, you are returned to the beginning of the level with the original number of bottles that you had when you started the level.

Damage and super-damage.

As in *Prince 1*, most ordinary kinds of damage (sword blow, two-story fall, etc.) cost you one life point -- that is, they empty out one of your bottles. When the last of your bottles is emptied, you die.

Towards the end of one of the temple levels, you will drink a potion that inflicts something for which *Prince 1* failed to prepare you -- *super-damage*. When you drink this poison potion, your strength bottle doesn't just empty out -- it *shatters*. In other words, if you start the level with six full bottles, and you drink this super-damage potion, you start the next level with only *five* full bottles. Harsh, eh?

Death and super-death.

As in *Prince 1*, there is life after death, in the form of the message "PRESS BUTTON TO CONTINUE." Pressing the button will return you to the appropriate point on the level on which you died. In *Prince 1*, this point was generally the beginning of the level. For *Prince 2*, I'd like to give most levels at least one, in some cases two "milestones" -- that is, once you've made it to a certain point in the level, you can restart from that point instead of going all the way back to the beginning of the level. (Level 3 in *Prince 1* had such a "milestone.")

There is a minor programming problem involved in the implementation of these milestones; that is, the state of the level (loose floors, gates, enemies, etc.) at the time you pass the milestone must be recorded somewhere, and restored every time you die & come back to life.

As in *Prince 1*, ordinary death is no big deal, since you can come back to life an unlimited number of times. There is, however, a "ticking clock" -- in this case, the tree in the Princess's garden. The same moment that the last leaf falls from the tree, wherever you happen to be at the time, the Princess drops dead and the game is over.

This time limit can, of course, be tweaked in order to achieve the desired overall degree of difficulty; but I suspect that, as in *Prince 1*, it will probably end up corresponding to about an hour of game time.

The tree should probably be drawn in about fifteen or twenty different stages, with the number of leaves decreasing logarithmically. (That is, it should take a constant length of time for half the leaves on the tree to fall off. For example, if the tree starts out with 100 leaves, and it takes 1 minute for 50 of those leaves to fall off, then when the tree is down to 2 leaves, it should take 1 minute for the second-to-last leaf to drop off. We don't have to stick to this rule religiously, but we do want to convey the feeling of a logarithmic progression in order to make it seem natural.) As the tree becomes more barren, the number of dead leaves lying around the base of the tree should increase, and the color of the remaining leaves should also change to indicate that the tree as a whole is dying.

Saving the game.

You can save the game at any point, starting with Level 1. When you resume a saved game, you will be returned to the most recently achieved milestone on your current level, with the same number of hit points, time remaining, etc., as when you saved the game.

Unlike *Prince 1*, you can store more than one saved game at a time.

As in *Prince 1*, to resume a saved game, you must first return to the title sequence. We don't want to make it *so* easy that the player will get in the habit of reloading his saved game every time he dies.

One additional feature: The program will keep a counter which is set to zero every time the player starts a new game. Whenever the game is saved, the value of this counter is saved along with the game. When the game is reloaded, the value of the counter is loaded, *incremented,* and re-saved. In other words, the counter keeps track of the number of times the game has been *reloaded*. Should the player complete the game, the final value of this counter is displayed on the high-score screen along with the player's score.

It's not that I want to discourage people from taking advantage of the save-game feature -- it's just that there's a big difference between winning the game in 29:14 with one

reload, and winning it in 29:14 with 117 reloads, and I'd like this to show on the high-score screen.

Score.

As in *Prince 1*, there is no point scoring system. To get your name on the high-score screen, you must win the game. Your "score" consists of:
- the number of reloads.
- the number of leaves remaining on the tree

The ranking of the high scores depends, first, on the number of reloads, and only then on the number of leaves remaining. In other words, a score with zero reloads will always beat a score with one reload, regardless of any disparity in the tree leaf count.

Appendix D
About Non-Interactive Sequences

Non-interactive sequences (NIS's) will run inside a window (NIS window) framed by an ornate "Persian" border. The precise aspect ratio and dimensions of the NIS window have yet to be determined, but the window area will probably be about 50% of the total 320 x 200 MCGA graphics area.

Animated portions of the scene may occasionally, for visual and dramatic effect, cross the edges of the NIS window: for example, the False Prince's pointing finger in the opening title sequence; or the mast of the ship as it is tossed upon the waves in the "At Sea" sequence. The static *backgrounds*, however, will always be exactly the size of the NIS window.

Appendix E
Timing of NIS's

From a programming standpoint, the non-interactive sequences (NIS's) are divided into three groups: **rewards, meanwhiles,** and **other.**

Rewards

The following NIS's are *rewards* -- that is, each one is tied to a specific level, and is presented *only* when the player has successfully completed that level. (The exception is the Second Dream sequence, which occurs *within* Level 6.)

Aboard Ship	follows Level 1
Flying Carpet	follows Level 4
Second Dream	occurs within Level 6
On Horseback	follows Level 7
Flying Horse	follows Level 12
Happy Ending	follows Level 13

Meanwhiles

The following NIS's are *meanwhiles* -- so called because they do not involve the player, but serve to keep us up to date on what is happening "meanwhile, back in Persia."

If the player is expert enough to play the game all the way through from beginning to end without making many mistakes, he will see the "meanwhile" NIS's at the following times:

1. Jaffar's Tyranny	follows Level 2
2. Princess's Discovery	follows Level 3

Usually, however -- especially when the player is a beginner, and wastes a lot of time getting killed -- these NIS's will be shown *earlier* than their scheduled placements, according to the time remaining on the clock (that is, the leaves remaining on the tree).

Each "meanwhile" NIS is tied to a specific clock setting. When the clock reaches a specified setting, the program checks to see if the corresponding NIS has been played

yet. If not, the program waits until the player dies, and then it plays the NIS. (Note: The program will *never* interrupt the action to show a "meanwhile" NIS. It will always wait until the player dies, then insert itself at that point before restarting the level.)

A few additional heuristics:

-   None of the "meanwhile" NIS's will be shown, under any circumstances, until the player has reached Level 2.

-   At least 3 minutes must elapse between successive "meanwhile" NIS's. That is, if the player reaches Level 2 having used up 47 minutes on the clock, NIS #1 will play the first time he dies; then, the program will wait 3 minutes before playing NIS #2.

The following clock settings are given only as placeholders; the final values will be tweaked at the last minute in order to achieve the desired pacing. (I'm assuming a total game time of 60:00, which will also be subject to tweaking.)

1. Jaffar's Tyranny   5:00

2. Princess's Discovery   8:00

The program takes one small liberty for the sake of dramatic (if not logical) consistency. This situation is most likely to occur if the player is really having a hard time getting past Level 1; however, it can also occur if he happens to wander away and leave the game running, and run down his time that way.

Specifically, if the clock reaches 40:00 (20 minutes left) before the player has seen the Princess' Discovery ("Meanwhile" NIS #2), the clock will stop at 40:00 and will not resume ticking until the Princess's Discovery has been shown. This has two direct implications:

-   The game will never end before the player has seen the Princess's Discovery.

-   There will always be at least 20 minutes remaining on the clock when the Princess's Discovery occurs.

It sounds complicated, but it will feel natural to the player.

Other NIS's

The remaining non-interactive sequences are neither rewards nor meanwhiles, and are handled differently.

Opening Title Sequence (Parts 1 & 2)

This NIS is repeated *ad infinitum* as part of the opening title/demo sequence.

Tree Check

This is the only NIS that the player can call up at will.

The player can look at the tree any time after the Princess's Discovery. The number of leaves on the tree indicate the amount of time remaining on the clock.

Tragic Ending

This, and the Tree Check, are the only NIS's that can interrupt a level.

If time runs out on levels 2 through 12, we go straight to the Tragic Ending, regardless of where the player happens to be or what he is doing at the time.

If time runs out on level 13 (Final Battle), we will do the player the courtesy of waiting until he dies before we go to the Tragic Ending. If he manages to successfully complete level 13 without dying, with 0:00 remaining on the clock, we will go straight to the Happy Ending instead.

Appendix F
Types of Background Graphics

There are two basic ways that background screens can be generated: **modular background sets** and **full-screen pictures.**

Modular background sets

Modular background sets (such as the dungeon and palace in *Prince 1)* are constructed out of a number of prefabricated pieces -- blocks, gates, spikes, torches, etc. -- which can then be assembled, using a level editor, to create a variety of different settings and puzzles.

Full-screen pictures

Full-screen pictures (e.g., the Princess's room in *Prince 1)* are essentially static backgrounds, "wallpaper" against which the characters can move without altering it.

Often, some additional animation is necessary to create the illusion of reality (e.g., the burning torches and twinkling stars in the Princess's room). Also, the picture can contain more than one plane of artwork (e.g., the characters can pass behind the pillars in the Princess's room).

Of the two types of settings -- full-screen and modular -- the modular type is by far the more costly in terms of development time. To implement a new modular setting requires a substantial investment of both graphics and programming time, and close cooperation between the programmer and graphic artist.

Full-screen backgrounds and mattes, however, are a relative bargain, in that they require minimal programming time and virtually no debugging, while allowing full rein to the graphic artist's imagination and creativity.

Blending the two

A level which uses a modular background set may also contain some screens that are purely full-screen backgrounds -- as, for example, Level 14 of *Prince 1*, which contains the princess's room. This technique will be used extensively in *Prince 2.*

In addition, a modularly generated screen may be enhanced by *superimposing* it over a specially drawn full-screen background. This technique will be used extensively in the ruined palace of levels 5, 6, and 7 (modular background set #2), where we can use full-

screen backgrounds to depict the crumbling back wall, and patches of blue sky showing through the holes.

Multi-plane scrolling

With certain full-screen (or, rather, multi-screen) backgrounds, we would like to do multi-plane scrolling -- that is, scroll two or three planes of graphics independently, at different rates. Multi-plane scrolling with *modular* backgrounds is probably too difficult a programming challenge given the time allotted; however, we should be able to pull it off with the *full-screen picture* type of background.

Key screens vs. variation screens

For scheduling purposes, the full-screen backgrounds in *Prince 2* can be divided into *key screens* and *variation screens.*

The *key screens* should be done early in the project by the key background artist. These screens will determine the "look" of each setting. They are consequently among the most important screens in the project, and may require several revisions before arriving at a final design.

The *variation screens* are closely modeled on the key screens. Since the background artist, programmer, and author will already have given considerable attention to the key screens, and should theoretically have ironed out all the bugs, the variation screens should go much faster. Since the variation screens are based on the level maps, the rendering of these screens must wait until the level designs have been completed, play-tested, and approved.

Appendix G
Graphics Summary and Index

Note: The following graphics summary is intended to provide an estimate of the total amount of graphics work required to complete the project. It is by nature an oversimplification, and misses certain subtleties -- for example, that it is quicker to draw a mouse than a horse. To make an accurate estimate of the amount of work required for various tasks, it is necessary to refer back to the chapters cross-referenced below.

For general information relating to graphics, refer to:

Appendix D: About Non-Interactive Sequences
Appendix F: Types of Background Graphics

Animated characters

The estimated frame count is divided into frames that are based on existing frames from *Prince 1,* and frames that are entirely new. Existing frames need only to be cleaned up and, in some cases, undergo a costume change.

For more information about the animated sequences required for each character, see the specific chapter describing that character. Chapter numbers are cross-referenced below.

	Existing	New	Total
(2.2) Palace Guards	23	46	69
(2.3) White Mouse	3	0	3
(10.3) Fighting Skeleton	25	6	31
(13.3) Goblin Heads	44	49	93
(13.4) Snakes	0	52	52
(16.2) Horse	0	45	45
(18.3) Bird-Headed Guards	63	5	68
(19.2) Jinnee	23	8	31
(20.2) Flaming Sword	25	6	31
(21.2) Shadowman	0	0	0
(23.2) Jaffar	0	0	0
(23.3) Assassin	63	15	78
TOTALS (excluding Prince)	**269**	**232**	**501**
(Appendix B) Prince	210	100	310
TOTALS (including Prince)	**479**	**332**	**811**

Modular background sets

Three (3) modular background sets, comparable in size to the dungeon & palace sets of *Prince 1*.

For more information about the graphics required for each background set, see the specific chapter describing that background set. Chapter numbers are cross-referenced below.

(10.1) Set 1: Caverns

(13.1) Set 2: Ruins

(18.1) Set 3: Temple

Full-screen backgrounds

For general information about backgrounds, see Appendix F, "Types of Background Graphics." For more information about the background screens required for each level, see the specific chapter describing that level. Chapter numbers are cross-referenced below.

Note: The totals below do not include *back wall screens,* which are considered to be part of the modular background sets.

	# of screens
(2.1) Level 1: Palace Rooftops	20 ·
(4.1) Level 2: Desert Island	4
(10.2) Level 3: Caverns	3
(11.1) Level 4: Caverns	3
(13.2) Level 5: Ruins	2
(14.1) Level 6: Ruins	1
(16.1) Level 7: Ruins	5
(18.2) Level 8: Temple	3
(19.1) Level 9: Temple	3
(20.1) Level 10: Temple	3
(21.1) Level 11: Temple	6
(23.1) Level 12: Battle with Jaffar	14
TOTALS	**67**

Graphics summary

Animated characters: 12

     Existing frames: 479

     New frames: 332

Modular background sets: 3

Full-screen backgrounds: 67

Non-interactive sequences

For a complete storyboard of each non-interactive sequence, see
describing that sequence. Chapter numbers are cross-referenced
see Appendix D, "About Non-Interactive Sequences"

(1.1) Opening title sequence, Part 1

(1.2) Opening title sequence, Part 2

(3.0) On the Ship

(5.0) Jaffar's Tyranny

(6.0) Princess's Discovery

(8.0) Tree Check

(9.0) Tragic Ending

(12.0) Flying Carpet

(14.2) Second Dream

(17.0) On Horseback

(22.0) Flying Horse

(24.0) Happy Ending

Appendix G
Graphics Summary and Index

Note: The following graphics summary is intended to provide an estimate of the total amount of graphics work required to complete the project. It is by nature an oversimplification, and misses certain subtleties -- for example, that it is quicker to draw a mouse than a horse. To make an accurate estimate of the amount of work required for various tasks, it is necessary to refer back to the chapters cross-referenced below.

For general information relating to graphics, refer to:

> Appendix D: About Non-Interactive Sequences
> Appendix F: Types of Background Graphics

Animated characters

The estimated frame count is divided into frames that are based on existing frames from *Prince 1,* and frames that are entirely new. Existing frames need only to be cleaned up and, in some cases, undergo a costume change.

For more information about the animated sequences required for each character, see the specific chapter describing that character. Chapter numbers are cross-referenced below.

	Existing	New	Total
(2.2) Palace Guards	23	46	69
(2.3) White Mouse	3	0	3
(10.3) Fighting Skeleton	25	6	31
(13.3) Goblin Heads	44	49	93
(13.4) Snakes	0	52	52
(16.2) Horse	0	45	45
(18.3) Bird-Headed Guards	63	5	68
(19.2) Jinnee	23	8	31
(20.2) Flaming Sword	25	6	31
(21.2) Shadowman	0	0	0
(23.2) Jaffar	0	0	0
(23.3) Assassin - OMITTED			
TOTALS (excluding Prince)	**206**	**218**	**424**
(Appendix B) Prince	210	70	280
TOTALS (including Prince)	**416**	**288**	**704**

Modular background sets

Three (3) modular background sets, comparable in size to the dungeon & palace sets of *Prince 1*.

For more information about the graphics required for each background set, see the specific chapter describing that background set. Chapter numbers are cross-referenced below.

(10.1) Set 1: Caverns   180 hours

(13.1) Set 2: Ruins   180 hours

(18.1) Set 3: Temple   180 hours

Full-screen backgrounds

For general information about backgrounds, see Appendix F, "Types of Background Graphics." For more information about the background screens required for each level, see the specific chapter describing that level. Chapter numbers are cross-referenced below.

Note: The totals below do not include *back wall screens,* which are considered to be part of the modular background sets.

	# of screens
(2.1) Level 1: Palace Rooftops	10*
(4.1) Level 2: Desert Island	3
(10.2) Level 3: Caverns	2
(11.1) Level 4: Caverns	2
(13.2) Level 5: Ruins	1
(14.1) Level 6: Ruins	4
(16.1) Level 7: Ruins	5**
(18.2) Level 8: Temple	2
(19.1) Level 9: Temple	1
(20.1) Level 10: Temple	2
(21.1) Level 11: Temple	5
(23.1) Level 12: Battle with Jaffar	12***
TOTALS	**49**

*10 screens counted as 5 for budgeting

**5 screens counted as 4 for budgeting

***12 screens counted as 8 for budgeting

Graphics summary

Animated characters: 11

    Existing frames: 416

    New frames: 288

Modular background sets: 3

Full-screen backgrounds: 49

Non-interactive sequences

For a complete storyboard of each non-interactive sequence, see the specific chapter describing that sequence. Chapter numbers are cross-referenced below. Also see Appendix D, "About Non-Interactive Sequences."

(1.1) Opening title sequence, Part 1

(1.2) Opening title sequence, Part 2

(3.0) On the Ship

(5.0) Jaffar's Tyranny (OMITTED)

(6.0) Princess's Discovery

(8.0) Tree Check

(9.0) Tragic Ending

(12.0) Flying Carpet

(14.2) Second Dream (Included as part of Level 6)

(17.0) On Horseback

(22.0) Flying Horse

(24.0) Happy Ending