

Raptor

Raptor is a CD-ROM based adventure game which will place the player in the role of the plunderer. The player will be able to select a character to play from a list of nine plunderers, including both men and women. Those not chosen will appear in the game as non-player characters, all with the same objective as the player - the quest for the Holy Grail.

Players will encounter many strange creatures - some less helpful than others. Each character and creature in the game will have its own personality and will act independently, responding to the players' moves and the state of play. This will enable Raptor to develop areas of its plot algorithmically, giving a more real, living game world than has been achieved before in an adventure title. Raptor will have many solutions, and many outcomes. It will be a living story for its players.

Raptor will be presented using a mix of stunning photorealistic 3D graphics and live action video. All user commands will be intuitive, making the game very easy to learn. The game's characters and story, however, will be of such depth as to give the game long term appeal.

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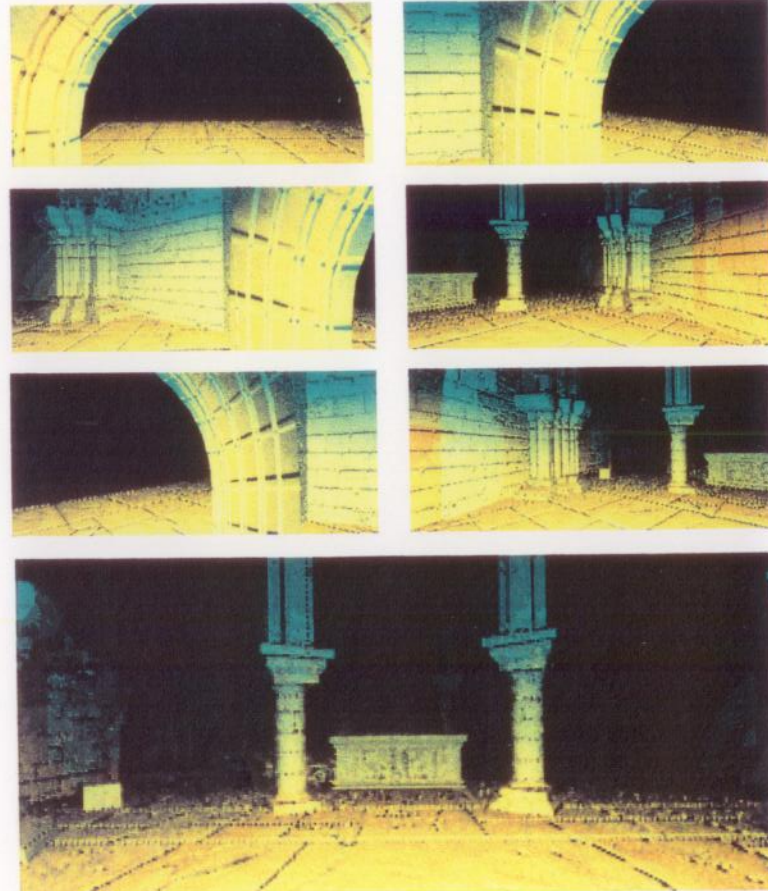


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Chapter 1 Project Overview

Graphic Features

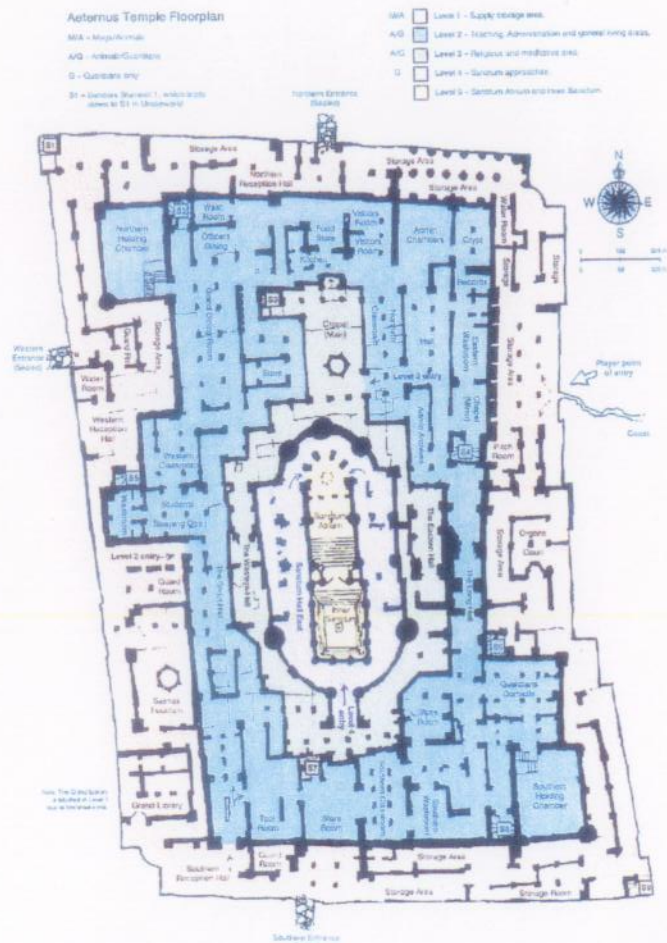
- Three-dimensional view, with 360 degrees of smooth rotation.
- High quality pre-rendered, ray-traced, texture mapped backgrounds.
- 'VideoWrap' sprites with live video texture mapped onto a 3D ray-traced model.
- Terminator-style 'Head-Up-Display' gives the player information about the surroundings.
- 3D sprite scaling and rotation.
- Lighting effects including depth cueing and silhouettes.
- 'Murhspective' system allowing unlimited planes of movement.
- Impressive cut sequences, including visions of the future.
- High resolution SVGA graphics for head-up display and text.
- Information exchange with other raptors.
- Provides checks on health and equipment status.



Different views of the crypt in Aeternis.

Gameplay features

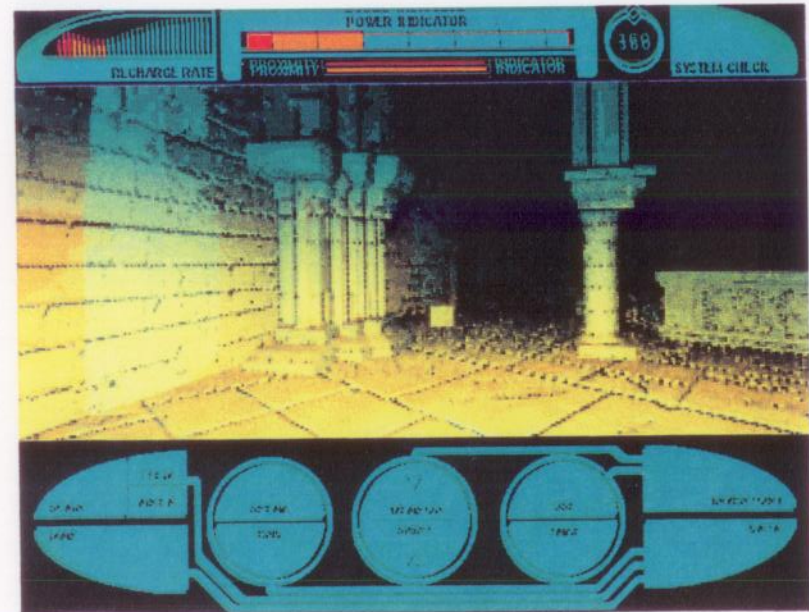
- High-granularity movement - the player can move freely around the game world.
- Intelligent, independent non-player characters (NPCs).
- Detailed histories for every character.
- Player may choose from a number of raptors to play - each with their own strengths and weaknesses.
- Deep, complex plot and background.
- Non-linear, evolving story.
- Linked puzzles with multiple solutions.
- Player learns from NPCs, and vice versa.
- Co-operation with NPCs - player must forge relationships and trust.
- Other raptors also seeking the grail.
- A wide variety of Templar Knights, ghosts and characters from the past, each with a unique personality.
- Numerous cave-dwelling creatures, some more dangerous than others.
- All dialogue spoken by real actors.



Map of Aeternis

Head-up Display (HUD)

- Overlays information over the main view.
- Provides scanning facilities over a large range, identifying elements hidden from view.
- Scans other characters for weapons and other useful objects.
- Interactive 'knowledge database' allows the easy recall of acquired information.



Player's head-up display

Chapter 2 Sample Game

Game Introduction and History

An animated audio-visual presentation, included with the game, outlines the history of the Raptors. This preview will be optional, so that an experienced player may by-pass it and go straight on to the game itself.

Supporting Material

Within the packaging of the game will be a sealed envelope marked 'Private - for hand delivery'. It encloses the actual letter from Collin Scott, a translated copy of Sir Richard's last Will and Testament and Sir Richard's map of the Aeternis temple complex. This will add drama to the game and help the player slip into their new role as a Raptor.

The Computer Game

After the animated title and credits sequence, the game will present the player with the character selection display. This display allows the player to see each of the eight Raptor characters, access their personal history, quality profiles and available equipment, and to decide which character they will adopt for the game.



Illustration of a player wearing the latest military equipment.

Raptor Equipment

Rope

Can be useful in many areas of the game, particularly in decayed parts of the temple. Ten metres of rope weighs 1 kg.

Gas Ball

This ball, when dropped, produces a noxious gas which will dissuade most creatures from passing through it. A player can therefore find these Gas Balls invaluable if being pursued by a predator or Guardian. Each ball has an effective deterrent time of three minutes and weighs 0.5 kg.

Concussion Stick-bomb

The strong pulse of noise the bomb produces will stun and temporarily 'blind' the sound-sensitive creatures of Aeternis. Dropped behind if being pursued or in front if being attacked, it will give a player time to get away. However, the noise it makes often brings further unwanted attention. Each stick weighs 0.25 kg.

Water Flask

The player will regularly need water in the game. Their diagnostic systems will monitor their level of dehydration, and a player will find that movement will become impaired and that they can eventually die if water is not available. The water flask can be refilled at the various fountains in Aeternis and if a player is near the canal way. Each water flask holds 2 litres of water, enough for about four hours of game-play. Each flask weighs 2.0 kg.

Food

Is hardly ever needed by a player but can be very useful for bribes with Mogs or other creatures. Each food parcel weighs 1.0 kg.

First Aid Pack

When used the first aid pack partially heals a damaged player. This can often save a player's life, and is generally considered an essential accessory. The pack weighs 1.0 kg.

Hunter/Seeker

This circuit board fits into the MS-2 Helmet and allows the user to track the nearest other helmet. This can be invaluable if needing supplies or first-aid treatment, and being in the unfortunate position of having to steal to get it. It can also be useful when tracking another player who has the Grail, saving the user the energy-consuming option of frequent strategic scans. It works by displaying an arrow on the player's viewer and relays the relative distance in digital form. The tracker's range is limited by the power available. The unit weighs 0.5 kg.

Remote sensors

These small circular tabs are in fact miniature movement sensors, which can be fixed onto a wall by a player to observe what follows, or to simply allow the player to watch their back. They can transmit up to 1000 metres, and have an operating lifetime of one hour. They start working as soon as they're placed, but only display in the corner of the player's viewer if something moves near them. They give invaluable information about what is happening around a player long after they are outside the normal effective detection range of their MS-2 Helmet. Each sensor weighs 0.3 kg.

Weaponry

There are two types of weaponry available to the player. The first is the MS-7 Sniper, a semi-automatic machine gun which can fire single or multiple shots, the second is the MS-8 Assault Rifle which is of the heavier shot-gun variety. The 'Sniper' and 'Assault' rifles both use energy-pulse projectiles and are powered from the same reserve as the MS-2 Helmet – they therefore become inoperable when the helmet runs out of energy. Both rifles weigh in at 7 kg. The 'Sniper' and 'Assault' rifles vary both in the effects of their fire-power and the amount of energy that they consume while being used. The 'Sniper' allows for more accurate shooting, with each pulse projectile using a relatively small amount of energy. The 'Assault' rifle covers a large forward area with projectiles, allowing for quick and effective shooting at close quarters. The energy cost of each shot is however substantially higher than that of the 'Sniper'.

Game Entry Sequence

The game begins with an animated entry sequence which sets the scene for the rest of the game and introduces the player to the world of Aeternis. It will be a video sequence showing the player's viewpoint as they walk under a full moon along the cliff-tops of Dunstanburgh, down onto the shale beach and into caves and narrow passageways – following Colin Scott's footsteps into Aeternis. All the while the MS-2 Helmet is displaying last-minute statistical information, telling the player that all systems are fully operational.

At the end of the last small cave is a sledgehammer, and beside it a man-sized hole punched in the wall. The sequence takes the player through this hole and into the world of Aeternis. The player is in total control from that point on.

This sequence will be only a few minutes long. It should be shot using a hand-held video camera to give a 'real-life' feel to the images and sounds being presented. Care will be taken that this sequence sits comfortably with the visual style of the game proper.

The most sensible approach then is to provide a few minutes of 'sample' game-play from selected sections of the game. This will include a representative sample from each of the five levels and a description of the end of the game. Please remember that this is just to provide a 'feel' for the game and that there are many other ways in which the game could develop.

We will assume that the player is male and has chosen to adopt the character of Kurt. The tools that are available are; first-aid utility, Hunter/Seeker utility, 3 x water flasks, 2 x gas balls, 2 x concussion sticks and 3 x remote sensors. He has also chosen the 'Assault' rifle as his weapon.



Character/tools selection screen

Level One



Kurt is lying flat out on the floor just beside the entrance to Stairwell One. He is stunned – still conscious, but unable to move. He thinks back over the last few minutes of play – he'd decided to look at the Stairwell and been knocked out in a scuffle with a barred-in dinosaur (called a 'Leo'). Bad luck.

The Helmet is still working and the system diagnostics display informs him that the effects of the blow are wearing off – he'll be mobile again in 33 seconds. Worryingly, it also tells him that several creatures are nearby and are approaching. He is helpless! Scavengers would find a paralysed human a nice easy meal.

Fifteen seconds to go! The Helmet warns that one creature is only a metre away and coming closer. Kurt swallows – suddenly a small ugly lizard-like face comes into view and peers down at him curiously. Kurt lets out a deep sigh of relief, Eugene are scavengers but probably won't eat him alive in the time he's going to be down.

Time is up, and Kurt is thankfully mobile again. He gets to his feet which sends the Eugene (another dinosaur descendant like a small turkey) running off squealing – that isn't so good, the noises they make always attract predators.

Kurt starts going south. The corridor splits in two ahead of him, and a Mog, an ape man, is standing guard on the outer corridor – that usually means that they've claimed that area as their own. He's lost enough time already and he doesn't particularly want a fight, so he heads along the left-hand corridor.

As he is moving he quickly accesses the Sensor Relay and reviews the other Raptors' helmet positions. Damn, two of them are already missing-presumably in Level Two – he is falling behind. But he also sees that Warren is just ahead of him and moving towards the next Level Two entrance. Good, he has some long-standing scores to settle with that scumbag!

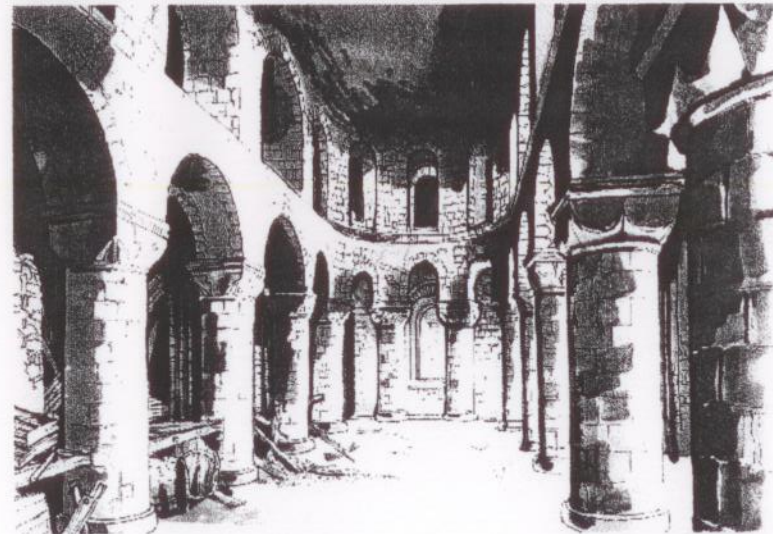
Suddenly, a Theo springs at him from the left-hand wall! It had been standing there flat and motionless, camouflaged against the wall, and his motion detector system missed it. If he hadn't been so pre-occupied with checking the other players progress he might've seen it himself – damn!

The helmet is pouring strategic information to him, but it is too late – the creature strikes out swiftly with its claws, knocking him ten feet through the air and hard against the far wall. He raises his shot-gun and fires as it runs in for the kill. Blam! It is thrown backwards by the force of the shot. Blam! Kurt fires again and it is down.

The helmet's system check bleeps and displays the bad news; Detection Systems damaged in the attack but would be auto-repaired in 4.5 minutes, and his left arm and leg are damaged and bleeding badly.

He selects his first aid kit from his satchel and activates it – at least he won't carry on losing blood now. He knows that the surrounding Grailstone will cure his physical injuries soon, but in the meantime his damaged leg will make life difficult.

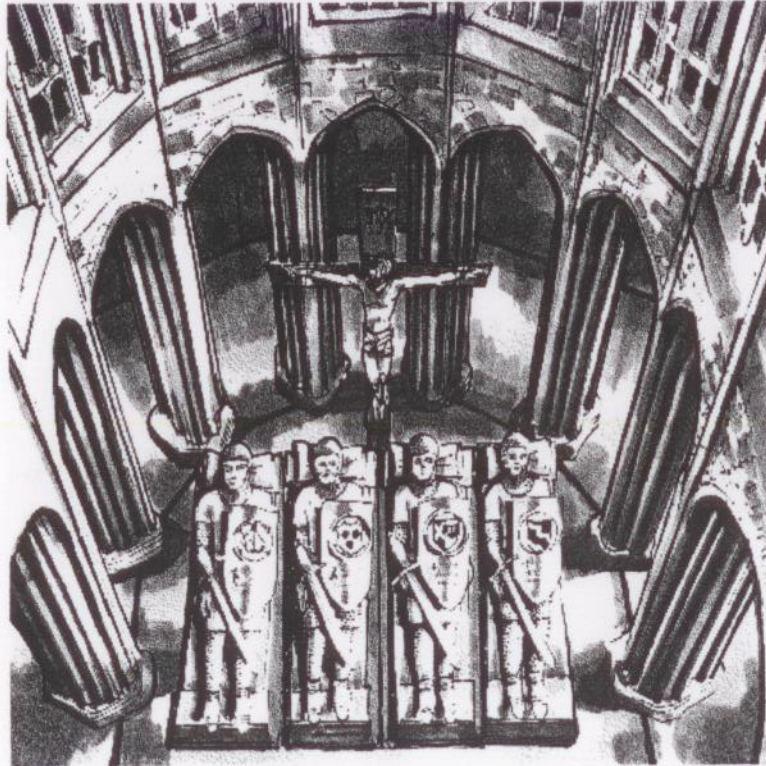
He starts moving south again. As he passes the collapsed Theo he pumps another shot into it, just out of sheer bad temper. It is a waste of energy but he is way behind the others now, and besides it felt good.



Sample architecture from level one.

Level Two

Kurt walks out of the Crypt smiling. It had taken him a while to find Tomas' ghost, and the other ghosts had tried to confuse him and put him off, but he'd persevered and located him in the end. The best part is that Tomas had finally trusted him, and told him how to access the secret tunnel in the Inner Sanctum. That would give him a huge advantage later, providing he gets to the Grail first.



A section of the crypt on level two.

He checks the other players' scanners— good, the remaining two are still in Level Two as he is. The fourth player, Warren had died about half an hour ago. Not by his hands unfortunately, but torn apart by Theos. At least he'd had the satisfaction of seeing it from a distance.

Kurt needs to cover some ground fast and is willing to take some risks. He enters the ruined mess of the Administration Chamber and looks carefully at the mural on the wall. It isn't the sort of puzzle he's after, so he walks back out into the corridor.

He starts walking south, through a large hall with broken furniture and long, ancient, decaying tapestries lining the walls. He feels he is being watched — someone or something behind the tapestries perhaps? He moves quickly through the hall and into a corridor beyond. A doorway appears on his left which he quickly ducks into, but not before casually slapping a remote sensor near the outer door-frame. He will wait here and see if he actually is being followed.

He looks around him and sees that he is in a chapel of some kind. Broken pews lie partially collapsed on the stone floor and a cracked marble altar stands in front, complete with candles and the other paraphernalia of worship, but all covered with a thick layer of dust. In front of the altar lies a skeleton, huddled and partly disintegrated on the cold floor. Behind the altar, attached to the back wall is a large wooden cross, lit with a dusty light from somewhere above.

Looking right he sees the entrance to a stairwell, and left is the entrance to a darkened room. He moves left and scans the next room for danger, but there is none.

"What do you want here?" asks a female voice behind him. Kurt turns around to see a beautiful young woman standing near the pile of bones on the floor. She had not been there a second ago and his helmet, even now, remains silent. He assumes she is a ghost.

"I am lost," is Kurt's chosen reply.

"We are all lost here," she says, her voice soft but sad.

Kurt moves towards her, examining her style of clothing and her face. The clothes are definitely middle ages or earlier, perhaps Celtic. Her face is lined by brittle, faded flowers that are plaited into her golden hair. She is undoubtedly beautiful and seems real enough, but she has that terrible neutrality that most ghosts have. Kurt is sure that she is dead and, judging by the state of her dilapidated skeleton, has been for quite some time.



"Have you chanced to see a young man, a warrior named Oisín in your wanderings?" she asks.

"No, I haven't," replies Kurt.

"If you do see him, please tell him where I am. My name is Niamh, Niamh golden hair, will you tell him?" she asks, almost pleading.

"I certainly will," says Kurt, "but can you help me in return?"

"We were together here once, a long time ago," she continues, smiling. "He left, but I know he'll come back."

"I'm sure he will, but will you help me now?" asks Kurt.

She stands there, smiling with her memories and humming a little tune, ignoring Kurt and apparently no longer interested in conversation.

Kurt's detection systems flash a warning and a second later a male voice rings out. "That's

about all you'll get from her I'm afraid."

Kurt turns to see an old man walking towards him from the darkened room on the left. He is dressed in a Second World War Home Guard uniform and seems friendly and harmless. "Who are you?" Kurt asks.

"My name is Jack, Jack Sinclair. I've spent many hours trying to talk with this beautiful young lady, but she doesn't say much I'm afraid. How are you today my dear?" He says, smiling warmly at Niamh. She completely ignores him and, lost in her own world keeps humming and swaying to herself. "I've come to the rather sad conclusion that she's a ghost", whispers Jack, turning back to Kurt.

"But you're obviously not a ghost," says Kurt.

"No, not yet thank God" says Jack with a thin smile. "I wandered in here a few months ago and got lost. I don't suppose you know the way out do you?"

"Yes I do," answers Kurt.

"Thought so," says Jack. "You don't look lost, in fact you seem like a man with a mission. I would say, at a guess that you're here to take whatever it is that they're so busy guarding. Am I right?"

"That's right," says Kurt, "will you help me?"



"Of course I will my dear fellow, any enemy of those damned knights is a friend of mine. And all the better if it brings this nightmarish place to an end, that's what I say."

"Do you realise that you might die if I succeed?" says Kurt.

"I think I should have been dead many, many years ago if my deductions are correct", replies Jack, seriously.

"Your deductions are correct I'm afraid," says Kurt.

"Thought so," says Jack, sadly watching Niamh who walks off, still humming, and disappears through a wall. "How can I help?"

"I'm looking for a mural with water in its imagery. Have you seen one?" asks Kurt.

"Yes lots" says Jack. "There's a good one in the Visitors' Rooms just north of here."

"Thanks," says Kurt. "Do you want to come along?"

"No," says Jack, "I'd just slow you down, I'm off for a rest now anyway. Most of us who are still alive sleep and rest in the 'Light Room', it's safe there. You're welcome to join us there any time, if you like."

"Thank you," says Kurt.

"No trouble," says Jack. "If you need me again for any reason just go there and wait - I always turn up there sooner or later."

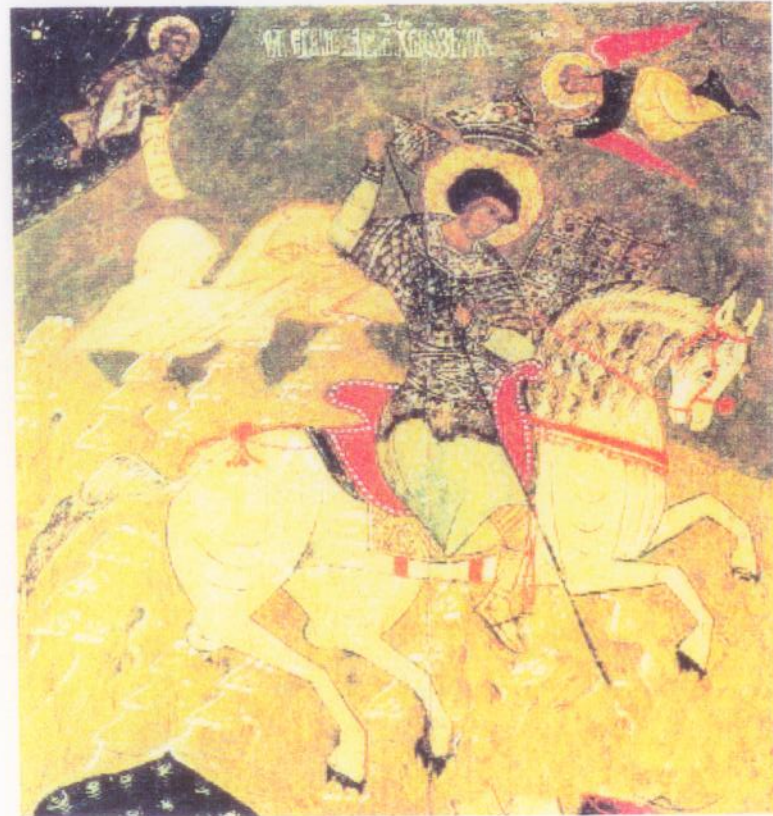
With a wave good-bye Jack leaves the room. Kurt waits a minute and is just about to follow when the motion sensor automatically flashes onto his viewer. It shows a Theo sniffing around just outside the doorway. It has obviously followed his scent there and will enter the room any minute! Kurt accesses his satchel and activates a concussion stick in the doorway. The loud thump causes a scream of outraged pain from the Theo who rapidly retreats. Kurt moves north into the next chamber and then back out past the Administration Chambers towards the Visitors' Room.

He moves quietly into the entrance of the Visitors' Room. He can see the room and its contents clearly, but the second room at the far end is in darkness. He instructs the helmet to execute a forward scan just to be safe – nothing dangerous is found.

He moves in front of the large and beautiful tapestry that adorns the right-hand wall. Luckily there is a beam of projected light falling almost in front of it, so he can take the opportunity to re-charge as he examines the tapestry. It is an image of Christ walking on water, his left hand pointing to three stars above. It is of truly exquisite workmanship, worth at least £400,000 in the right circles thinks Kurt. But more important is the presence of water in the image, for this tells Kurt that the prize for solving this puzzle will probably involve access to the canal way. The canal way runs through this level and into the next – just what he needs to refill his remaining jerry can - the others were broken in a tussle with one of the knights.

He looks carefully at the image itself, trying to unlock the puzzle it contains. The three stars remind him of one of the riddles that Lurka had said to him earlier. He accesses the 'knowledge database', which records and stores useful pieces of information for later retrieval and re-examination. There it is, entry nine... "Three stars at night, the one on the right will give you the key to a slippery sight." Gibberish at the time which is typical of Lurka, but now it all makes sense. He touches the right-hand star and a bright light shines forth. Kurt smiles and starts moving as told when a Theo suddenly comes from nowhere and runs through him. "Bloody phantoms" he says, his heart pounding.

He reaches the end of the room and a section of wall opens to reveal the dark and ominous tunnel of the canal way, and the inky black surface of the water. Without it, he would be dangerously low within the hour.



A sample mural from one of the walls in Aeternis

Level Three

Kurt gets to his feet, he's been stunned for about three minutes. Conrad had caught him by surprise, shot him and stolen some of his supplies.

Kurt curses himself for having been so vulnerable to attack. He doesn't particularly blame Conrad – hell, fair is fair, he would've done the same thing in his position – anyway Kurt is already planning to track him down later and steal the items back. His main problem is that he is extremely low on energy – he needs to find a light source fast.

He resumes walking down the Western Hall. Ahead of him on the far wall he can just make out the silhouette of a Theo lying in wait. It is out of range at the moment so he casually walks forward. Five steps later he fires, dropping it on the spot. "Another damned nuisance!" he thinks to himself.

Suddenly his helmet flashes a warning, 'EMERGENCY – LOW ENERGY WARNING!' At this point the player has the following options: 1. Divert all remaining energy to weapons systems 2. Divert all remaining energy to Light Detection Systems 3. Carry on as is'. Kurt grimaced and selects option one. The overhead display on his helmet goes dead, leaving only the light amplified view that cannot be turned off.

He moves further down the long corridor, surely there will be a ray of light soon.

Suddenly a Guardian moves out from behind a column, barring his way. "Oh no, you're all I need!" says Kurt. It is Sir Tallum, one of the strongest knights, but Kurt recalls that he is the knight who is twisted with guilt over the fate of Sir Richard.

Kurt figures that he has about three shots left – not enough to take this knight out, not at this distance. He will need to stall for now, and fast!

Tallum reaches slowly into his tunic and brings out a round-bladed throwing knife. It glints menacingly in the torch light. Kurt rapidly accesses the dialogue box and starts a conversation. "Wait, I'm a friend of Sir Richard!" he says.

"Richard is dead" comes the deep reply. Tallum's voice is rough and dangerous but at least Richard's name has stopped the motion of his knife-hand.

"He is indeed dead. But I am here to fulfil his last wish," is Kurt's chosen reply. He moves cautiously one step closer.

"What was that wish?" asks Tallum, more interested now.

"He wanted the Grail to be free," says Kurt, moving forward another step.

"That much is probably true," says Tallum, "but I doubt that he wanted a cur like you to free it."

"I think I know more of Richard's will than you!" says Kurt, and moves the final step – Tallum is now in range!

"Liar! Richard never knew you – you are here to fulfil your own selfish wishes!" booms Tallum's voice as he tenses, readying for the throw.

Kurt fires! Tallum dodges aside with superhuman speed, throwing the knife in mid-jump. The spinning knife narrowly misses Kurt who rapidly fires again! This time he is successful, and the wounded Tallum flies backwards with the force of the shot. 'WARNING – Last Shot' flashes across Kurt's viewer. He aims carefully and fires again – Tallum is thrown back and falls in a crumpled mess against the wall.

Kurt lets out a sigh of relief. Looking ahead, at the edge of his vision he can see a beam of light. He moves forwards to re-charge. He will have to be quick, Tallum will recover in a few minutes and he had better be well away by then.



Conrad - a Raptor



Sir Tallum - a guardian

Level Four

Kurt has just entered Level Four and decides to take the western corridor. He is physically damaged (yet again) and is moving slowly. His navigation systems are also out for now, but that is okay – he knows where he is.

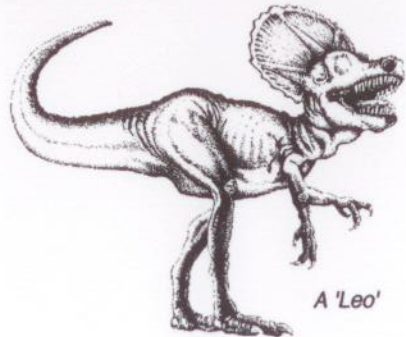
The detection systems flashes a warning, but he's already seen it himself by then – a Leo bending down and feeding about twenty metres ahead – the large predator has caught something. Kurt quickly scans the area – Conrad has been the unlucky victim.

Kurt watches in revolted fascination as the gigantic head bends down and tears another chunk of flesh from the prostrate body. He has to decide whether to try and sneak past this one while it is preoccupied, or back-track and go the other way. The trouble is that there are often two Leos on this level, so the other side is probably guarded as well.

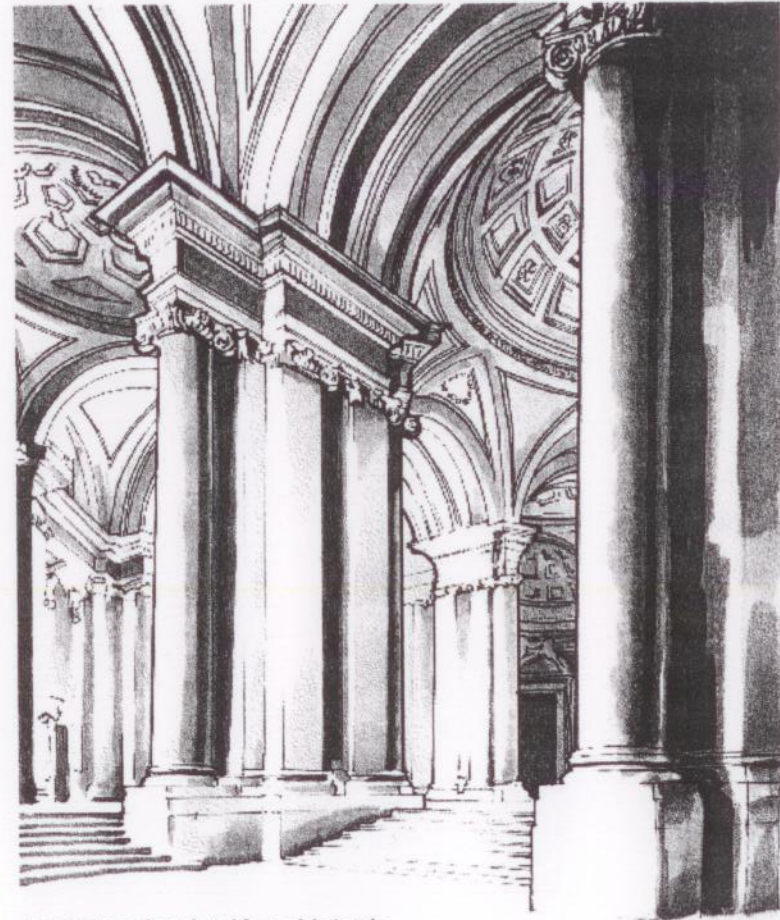
He decides to take advantage of the situation and moves slowly forwards. The Leos track by a combination of sound and sonar, so he has to move quietly.

He has almost managed to get past it, when it suddenly raises and swivels its ugly head – it has heard something! Kurt freezes – it is only three metres away but it can't 'see' him unless he moves. A series of sonic 'pings' shatters the eerie silence, it is scanning the corridor for movement. Kurt stays motionless.

The Leo obviously suspects that something else is in the room and lets out a mighty roar that seems to shake the walls. Kurt stays still as another series of 'pings' sweep past him again. A few more tense moments of scrutiny, then the Leo turns back to resume its interrupted meal. "There is a God after all," thinks Kurt, carefully resuming his forward motion.



A 'Leo'



Architecture from level four of Aeternis

Level Five



The massive doors of the Inner Sanctum close quietly behind him. He is here at last. He's made it to the Grail! He instructs the helmet to scan the room to be certain he is alone - he is.

Alone - for the first time since he's entered this nightmare all those hours ago he is actually alone. Just him, this room and the Grail. Happy and relieved he moves forward to get a better view.

Before him lies a large, illuminated chamber, towering and magnificent and bathed in a soft orange light. A large tiled floor fills the middle of the room with an ornate alter at its centre. On the altar, bathed in a sharp ray of white light is the Holy Grail. "All right!" thinks Kurt - it is a fitting room for the Grail.

His helmet informs him that both physical and technical damage are healing quickly and that solar cells are rapidly re-charging - but he already knows that, this room has a warm, healing feel about it. He walks triumphantly down the steps towards the tiled floor.

A deep bell is tolling slowly and ominously, alerting the Guardians. He will have to grab the grail and head out of the temple as quickly as possible. Happily, he had already been told about the hidden guardian near the Inner Sanctum by the ghost of Colin - he wonders when his old rival would find out that he is dead.

A few minutes later and the danger is past. Kurt is nearing the entrance to the Sanctum Atrium.



The approach to the Inner Sanctum

End of Game

Kurt is running south along the north-east corridor on Level One. He has the Grail and he is only minutes away from the exit to the outside world. He has sustained some technical damage, is thirsty and is low on energy but, with a little luck he might just make it.

A Theo suddenly appears out of one of the rooms ahead and comes running towards him, but he is an expert now at hitting moving targets and easily brings it down with two shots. It catapults sideways and slides along the floor in an explosion of dust. Kurt smiles and continues his run towards victory.

He suddenly wonders what has become of Ingrid. He hasn't checked on her for some time and the deep bell that had been tolling continuously since he'd stolen the Grail would have alerted her that he'd been successful. She was probably tracking him at this very moment! He accesses the scanning options on his helmet and selects the 'Forward Scan' option. The area's plan suddenly materialises on his screen with small, moving pin-points of light showing other creature and player locations within the vicinity. His remaining energy is dropping fast, but he spots Ingrid on the other side of the exit, rushing to get there before him – she obviously plans to ambush him! He also sees with alarm that two Guardians are close behind him and gaining!

Cursing, he shuts down the Strategic Scan, he is now desperately low on energy. He has to decide whether to find a light source and partially re-charge before attempting a fight through to the exit, or to maintain the element of surprise and keep going. He decides to push on.

A minute later the exit comes into view. So does Ingrid. She is standing on the far side of the exit, her gun poised and ready to fire.

Kurt curses again, swiftly turns right and hides behind a pillar. As he waits anxiously the system check module 'beeps' and warns him that his dehydration level is approaching critical – soon his actions will become impaired. He activates his satchel and grab on the water icon – his last 0.2 litre of water gurgles away. The system diagnostics confirms that his water level is now 'satisfactory'.

A few seconds later the two Guardians approach and pound past, straight into Ingrid's fire! Two shots ring out and one of the Guardians goes down. Kurt springs out from behind the pillar and, keeping the second Guardian between himself and Ingrid, starts moving towards the exit. Another shot rings out from Ingrid and the second Guardian spins back and crashes to the floor.

In the confusion Kurt dashes for the exit, firing his last shot towards Ingrid's position. As he dashes into the tunnel he sees her reel backwards from the blow. He's done it – he's escaped with the Grail.

Triumphantly he runs down the long, winding passageway and a few minutes later, emerges into dazzling sunlight to stand on the shale beach. He'd worked hard but he'd won – what a feeling.

His elation is short-lived however as four uniformed men suddenly spring from the shadows and over-power him. One of them jabs a hypodermic into his arm and his world fades to black.



One of the many murals within Aeternis

Epilogue

Kurt starts to regain consciousness. He's lying on a bed in a small, well-furnished room. He looks with an expert eye at the furniture, fittings, barred windows and doors and concludes that the room is a cell – a VIP cell, but a room for containment still the same.

He sits up and helps himself to a pack of cigarettes sitting on the table in front of him. The large television screen which is in-set into the opposite wall beeps into life. A well-dressed man appears on the screen. He is sitting behind a large but messy desk facing the camera. The room behind him is wood-panelled, establishment, a senior government office of some kind. A digital display in the bottom right-hand corner of the screen reads off the date and time, obviously this is an official recording. Kurt is surprised by the date, but then he remembers the Grailstone and time distortion – he has gained a year on the rest of the world.

The man begins to speak, he is obviously well-educated and cultured, but a close look at his face shows that he is tired and unshaven.

"Let me begin by apologising for the tranquilliser. Please believe me when I say that it was necessary – you had to be immobilised quickly and quietly. I know you must have many questions, but unfortunately this is a recording and not an interview – you will just have to be content with listening for now. Most of your questions will probably be answered as I go along."

"Let me start by explaining that this whole business is top secret. This is why you have been treated as you have, and why you are still being detained. It is also why I cannot tell you who I am or the exact department that I represent, but I can say that this is a government matter and that I work for the British Secret Service. You've probably guessed that much already."



Kurt wakes up in a secure hospital, having been drugged and parted from the Grail.

"I understand that you are a 'Raptor' and have been underground trying to retrieve the Holy Grail for nearly a year now. I have heard of the 'Raptor' profession of course, though I must say that you are the first I have ever met, knowingly anyway. It all sounds very exciting and dangerous, and to have succeeded means that you must be one of the best. To say congratulations may seem cruel, since we've taken the Grail from you, but we have done this for the best of reasons as you will see shortly."

"This in fact brings me to the next point I need to talk to you about. This is a fairly shocking piece of news so brace yourself – the world has changed dramatically since you've been away. About seven months ago it became obvious that the AIDS virus had mutated into a more virulent strain called AIDS2. It has since swept the globe and wiped out the human population. And when I say wiped out I mean WIPED OUT – the latest figures put the current death-toll at about 5 billion people! I'm afraid you will have to come to terms with the fact that nearly all your friends, lovers and family are probably dead or dying. I'm sorry."

"This particular strain of the virus is actually so lethal and contagious that scientific testing-bodies have concluded a 100% mortality within six months if no cure is found. We are talking total extinction here. This virus is in fact so lethally effective that many scientists believe it has been deliberately genetically engineered for its purpose. But this seems implausible when all the nations of the world have been equally affected and devastated"

The speaker rubbed his temples and paused. "But I digress, as I was saying the world has changed. Towns and villages have become all but open mass graves, with the dead lying and decaying where they fall. Related diseases are of course rampant. The cities are like some vision from hell with thousands of bodies being bulldozed into pits and burned daily. Social structure has completely collapsed. There is no police force and no army because there are no people left to run these institutions and no need for them anyway."

"Strange and exotic religions are the only growth industry these days, as people search for something to believe or have faith in. The weirdest of these is a sect called the 'New-Worlders', who believe that the AIDS2 virus is the instrument of God's will and that man's time on Earth is up. They see their holy task as helping God clear the world of man, thus preparing it for a 'new world'. They travel around in chanting groups killing any people they come across and, get this – their ranks are actually growing! This government is so crippled it cannot stop them. Anarchy rules it seems."

"You're probably having trouble coming to terms with all this, so is the rest of the world believe me, but it's all true I'm afraid. I wish it weren't. You don't have to believe me, you'll see it for yourself soon enough – I'm just trying to prepare you somewhat for the shock."

"What about a cure? you ask. We simply can't find one – and God knows we've tried. We are as far away from a cure now as we were six months ago, and that's the classified truth. That is until you came along with the Grail. It has proved positive – it cures people infected with AIDS2. Now we have to break it up and analyse its molecular structure – then we can hopefully start to synthetically reproduce it in bulk and distribute it before it's too late. That's the challenge the scientists have before them. It's a long shot but at least it's a chance."

"We have you to thank for that chance. We were tipped off by the way, that's how we knew to be on the beach when you came out. Someone called Tobias has friends high up, that's all I know."

"How long will we keep you? That I don't know. At least until after we announce the discovery, and we are considering the timing for that very carefully indeed. You can imagine the sorts of problems we'd have nationally and internationally if this got out. There are already fears that the news has somehow leaked – God help us if it has! I do know that there are rumours that the scientists may need more Grailstone to complete their tests for molecular structure, which means that you'll be debriefed very shortly on what exactly IS down in those caves under Dunstanburgh."

"Once again, sorry for the rough treatment, and for taking the Grail off you and for locking you up. As you can see it was necessary. You can take some consolation in the fact you may have single-handedly saved humanity from extinction – not many people can say that."

Colin Scott's Letter

The Hand-delivered Letter from Colin Scott

Friend!

May I call you friend?! OK! OK! we've had our differences but what the hell! We're professionals. It was nothing personal.

So why am I writing to you? Because - my friend - I am onto the big one. And I mean B. I. G. Numero Uno! The big banana! The whole damned caboodle! But, sad to say, if you have received this letter - then it has proved way too big for me.

You know my obsession. God! doesn't everyone know my obsession?! For over twelve years I have striven to find the Holy Grail and now - and I swear I am writing this cold bloody sober - I know where to find it.

You won't believe the story, but here goes anyway. I spent a lot of last summer researching the journals of pilgrims travelling through the Holy Lands after the First Crusade, when I came across an account of a mysterious shipment leaving Jerusalem in 1146. The shipment was escorted by twelve Templar knights so I knew this little mother was important! But oddly enough there were no other records of its arrival or departure, despite the usual fastidiousness of the Templars' book-keeping.

So - you know me - I got curious. What could warrant such a large escort and so much secrecy? A ransom? An important personage? Gold? Jewels? Much, much more!

It took me nine months searching through every goddamn library in Europe to find the next clue: it was a fragment of a transfer order for twelve knights to Dunstanburgh in Northumberland. But of course that just raised more questions. Why so many knights to such a barren place? And were these the selfsame knights as left Jerusalem?

I found the next clue in Paris. The original order had been authorised by the Templar Grand Master himself!!!! So this just had to be big!



Last week I travelled to Northumberland. Ever been there? Wet and rainy and cold! And it was there that I found the final clues. In nearby Embleton graveyard I found a tombstone dated 1763 which reads: "Here lies Sir Richard of Bramley, a Crusader now in God's Holy Army." Clearing the grass away from the base of the stone I found a line of Latin text, badly corroded but still legible, which translated to read: "The answers you seek lie close to my heart."

I was dumbfounded! Sir Richard of Bramley was the exact name of one of the twelve knights on the transfer list! But 1763? 600 years after first arriving on English soil - some mistake surely! The reference to crusader was another tantalising clue, but the clincher for me was the Latin text - it was as if it had been engraved there specifically for my eyes only. I mean it would all have been meaningless to anybody who didn't know what I knew, right?

Anyway, the message was clear to me - if the answers were "...close to his heart" then it meant they were buried with him. So, next morning - when it was, appropriately, still the dead of night - I dug down to Sir Richard's coffin. In the disintegrated remains I found a lead cylinder. Inside was his testament, which I've translated, copied out and enclosed with this letter. When you've finished this, read it for yourself - it's an amazing tale.

I now knew the whereabouts of the Grail, but I'd need special tools and equipment to reach it. So I came back here to sort things out. And tonight I'm driving back to get it out.

So why am I telling you this my friend? Because I'm getting fearful and superstitious, I guess. And because nothing about this affair has been quite what it seemed. If I have not returned in five days' time this letter will be delivered in secrecy - by hand - to your address. If you receive it you will know that my sense of foreboding was not misplaced.

Now that I assume you have the letter - for God's sake help me! Or at the very least - for the sake of friendship (and personal profit!) - release the Holy Grail from its underground prison and make what fortune you can of it! Act fast! For I've arranged for identical letters to be despatched to other mutual 'friends' just in case you're busy.

Good-bye! I wish you better luck than it seems I've had.

(Signed) Colin Scott

Sir Richard's Will

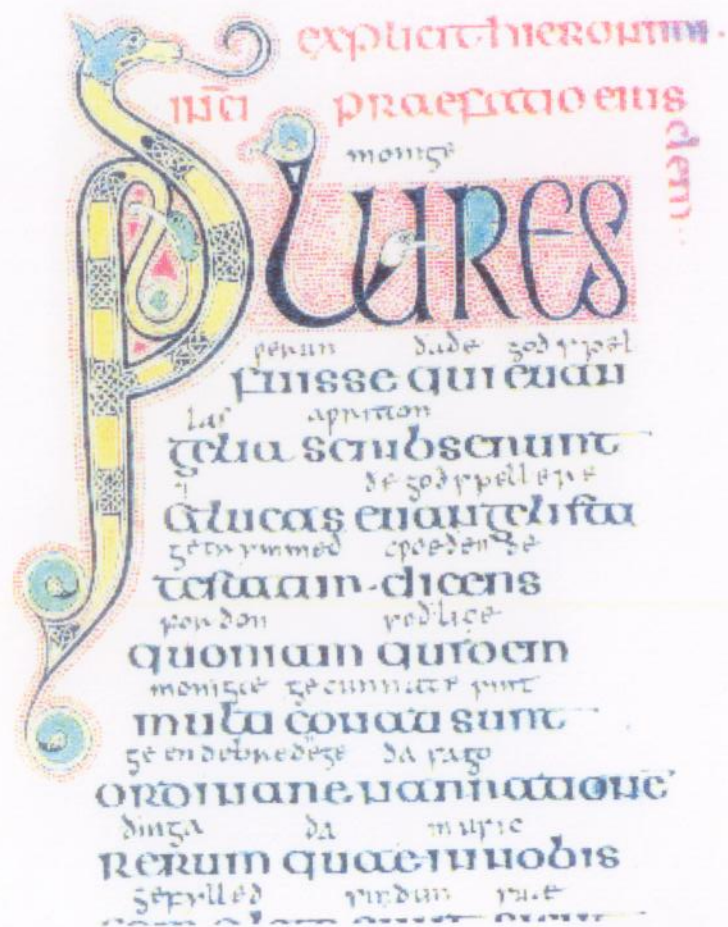
Translation of the last testament of Sir Richard of Bramley (died 1763)

This is the solemn, true and final testament of Sir Richard of Bramley, Crusader and Templar Knight. Read well, for death draws near, and what I have sorely learned must not die with me. For I beseech you, what rests in darkness must, by God's grace, be brought unto the light! I swear with solemn oaths that all which follows is true — as true as faltering memory may allow — for I have, thou must believe, lived through six centuries, two score years and three before the time of this writing.

In the year of our Lord, 1146 I was to be found a young Crusader knight in Jerusalem. In the days of my sojourn in that holy city a wondrous discovery was made — and thence kept secret by the leaders of our order - for they had found the cup employed by Joseph of Arimitha to catch the blood of our Lord whilst he was pinioned on the cross. 'Twas the Holy Grail! Full strange it was, fashioned of a mysterious stone that glowed warmly in the dark. And yet, I vouchsafe to say, it remained ever cold to the touch. Particular powers it had - for sick men brought before it were quickly made whole, while yet it stopped the ageing of men so that none grew older in its presence. This I solemnly swear has truth, for verily I am the living proof of it.

Those knowing more than I, and receiving furtive reports, commanded that the holy treasure be removed unto French soil, and I was chosen to be one of twelve entrusted with the sacred task. I lack the time to retell of our adventures, but following numerous misfortunes and miraculous escapes we entered into the safety of Paris in the spring of the year 1148.

The Grail did not rest there. Hugues de Payens, the Grand Master of our Order, determined that it must remain under Templar control. Spies informed him that Paris harboured no safety and so secret plans were laid to transport our prize to the wild and barren coasts of Northumbria. There it might be hidden far from the penetrating gaze of those who served other masters, both secular and ecclesiastical.



Facsimile of Sir Richard's will

I, and my eleven brethren became — like the blessed apostles — knights of the Grail. Before departing Paris, we swore to protect the Grail in perpetuity, sloughing off all thoughts of friends and family, and dismissing all our earthly pasts in order to preserve the Grail for the glory of God, and the high dignity of our sacred order.

Embarking at nightfall, we escorted the Grail across the German Sea to the secret Templar stronghold at Dunstanburgh. This massy fortress, far from the eyes of strangers, yet with easy access to the turbulent sea suited the plans of our superiors. For it was devised to excavate a subterranean temple — the most holy of holies — for to house the Grail, and this was to be accomplished in the vast network of little-known caves beneath the castle's crags.

The labour, hard and unforgiving, fell to one hundred and sixty-four wretches culled from the dregs of the Barbary ports. Food and fitters were shipped in from Templar warehouses scattered amidst the thronging coastal ports and so work began on the temple of 'Aeternis' that would house and protect the Grail forever.

Long years lingered into decades but the work proceeded. The slaves — for slaves they were — never left the confines of our underground temple. Yet did they not sicken, for we did all retain our health and ceased to grow old. For that we did acknowledge the powers of the Grail. And so the temple did proceed — awesome and beautiful in the darkness.

It was fifty-four years before the temple was complete. At its heart, in the secret Inner Sanctum, lay the Grail, glowing in glory. Surrounding it lay a series of levels, consisting of chambers, vaults, kitchens, dormitories and a library. For our Grand Master had plans for the Grail and for the world that we were not privy to yet.

The task completed, the bonded men were shackled to the deck of a boat bound for the Carthaginian coast and freedom. That boat was scuttled on the orders of our superior. All drowned.

For we who remained, year succumbed to year, punctuated only by the freezing seasons of the north, and rare visits from our Templar masters seeking the solace and sacrament of the Grail. We were aware that vast plans were afoot but knew not what they were.

We twelve, drawn down by the Grail, spent more and more of our time in the feeble darkness underground, held quick in the thrall of the Grail. And so we fell under some deeper magic. We wanted not food nor water but craved only the warmth and familiarity of that secret place. Time ceased within that stony womb and all the harshness of the world forgot.

But, as I later learned, elsewhere the dream was faltering. The Templar order — and the very reason for our solitary task — was being insidiously destroyed.

We received one final message from our Master, "Protect and hide the Grail, forever if necessary. One day we will return and we will have need of it." We concealed the temple entrances and locked the doors behind us. We turned our backs on the treacherous world of man and retreated into darkness — to carry out our oath, and protect the Grail for eternity.

Again we entered the peculiar dream state — but deeper this time. Much time passed. Then the changes began; we noticed that we could now see where before we could not, that we no longer found our surroundings to be cold or uncomfortable and that the speed of our movements had increased many-fold. We honoured and praised the Grail for these gifts.

But then other changes began, unwelcome changes that affected each brother individually, twisting the mind and causing great confusion, despair and pulling of hair. With time this pain did pass, but left behind men who were almost unrecognisable from the men I had known and fought with. Some were now mad, others quiet and grim, all changed.

So it was that a rift came between us, for some of us, including myself wanted the torment to end and for the Grail to be freed. The others saw this as the work of Satan — a vile temptation set to destroy the sanctity of their oath. Yet I avow that they were truly as men possessed, ever more greedy for the power of the Grail and obdurate in opposition to its release. Their contention held, and the Grail remained hidden — but our small brotherhood was riven with dissent and mistrust.

Then came a time of great chaos and sadness. For the outer level of the temple had become corrupted and holed and suddenly the creatures from below flooded through into the temple! Thus was our greatest fear realised, for these hellish creatures quickly occupied every empty chamber and corridor. We laboured hard and long to stop the flow but to no avail. Our leader, Tobias emerged from his long solitude in the library and finally stopped the flood, by ways and means that defy description - for I tell you that he had changed greatly and become a man of vast unnatural powers!

But while he was occupied with these tasks, an argument did develop between the two factions of knights. Each blamed the other for the rift and two died in the fight that followed. I escaped death but knew that the temple was no longer a place of sanctuary for me. There was naught left but flight.

I was pursued but fear granted me speed, and fortunate knowledge of the intimate construction of the temple led me swiftly to an unsuspected exit. All at once, I found myself in the dazzling daylight of the world of men. I was safe, but it shocked me to apprise the year: 1763.

I was then six-hundred and twenty-three years old. Yet did I have the complexion and physique of a stripling of a mere twenty-five years. But there was a price to be exacted. Away from the Grail I aged rapidly and within three short months I appeared as any toothless octogenarian.

What more to say? I know that I am stalked by death but yet I am determined that the Grail shall be made whole free. In Embleton I shall die, but luck has not wholly deserted me, for the local priest has befriended me and helped me through the last arduous weeks. He alone knows my story and has sworn to carry out my wishes upon my death, for I know that mankind does not yet have the means to steal the Grail from that dark and dangerous world. My tombstone will therefore bear the clue that will one day be found, and this document will be of benefit if you are so bold as to enter the darkness of Aeternis and complete the quest. Study carefully the map I have provided - it was accurate at the time of my leaving. But, more importantly read the following and heed my advice.

Beware those who have crept up from subterranean haunts deep within the bosom of the earth. They are unspeakably evil and inhabitant now most corridors and rooms. Carnivorous most are, and hungry. Some seek light and air, and hide themselves about the shafts of light that shine from the crusted roof of the ancient temple. Many strange and dangerous beasts now dwell within those walls of stone and the knights are powerless to remove them.

Be also aware that there is a swift-flowing canal which runs through the second and third levels. This is part of an ancient stream that wells from some vasty deep, and so we built tunnels to direct it through the Temple. The water be icy cold but only waist deep - but know the strange and savage creatures which dwell in the waters. They are of a watery hell.

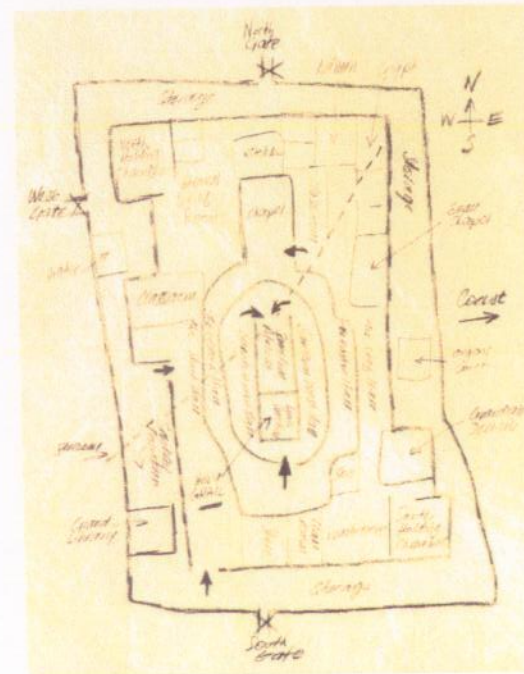
What awaits you should you breach the Inner Sanctum? I can no longer vouchsafe. It was once free of snares and devices but since my leaving I have full fear that the Guardians have found diabolic ways to wreak evil in that holy place.

Tonight, I stand on the edge of that chasm which beckons to us all. Soon I shall descend into the abyss for none escape that final fall. Take heed of my advice, for I bid you good luck and God's favour.

I swear that I have told true and accurate and I bequeath this solemn testament into the safe keeping of the venerable Father Dunstan of Embleton. He, alone, has befriended me through these past bitter months and carefully inscribed, at my close instruction, the details of this matter.

May God have mercy on my soul.

Signed the 3rd day of March, in the year of our Lord 1763.



Sir Richard's Map

Chapter 3 The History

The history behind the Holy Grail, and more importantly the Grail stone that it comes from, is essential in understanding the gameplay and the range of exotic characters and creatures that exist within it. The simplest way to present this history is by chronological order.

Mesozoic Era

(150 million years ago)

A medium-sized meteorite enters the Earth's atmosphere. As it blazes a fiery path towards the Earth's surface it breaks into two roughly equal segments. One impacts with an area that will one day be known as Istanbul, Turkey – the other on a stretch of coastline that will one day be known as Dunstanburgh, Northumberland, England.

The Istanbul meteorite fragments on impact and with such force that it 'peppers' the soil to a depth of up to 60 metres underground. The Istanbul site does not come into this story.

The Dunstanburgh segment however, survives the initial impact but fragments deep underground, scattering itself into an existing and extensive cave system. Time passes. Such creatures that blunder or find their way into these deep caves are nurtured and changed by the strange meteoric rock that surrounds them; they cease to age, do not sicken, and heal rapidly from their wounds. Their metabolic need for food decreases and they develop the capability to evolve rapidly to meet new environmental demands.

Animals that enter this exotic, subterranean zoo tend to stay, and a complicated food chain evolves. Those that later leave quickly sicken and age – they return or die.

Many millennia go by.

2000 BC

Aryan Celts from north-eastern and central Europe sweep southward and westward throughout India and Europe – a vast unstoppable migration. Led by their chiefs and their Druid priests, this swarm of humanity, made up of dozens of individual tribes takes everything in its path.

So it is that one of these tribes, the Helventii, pass through the area of present-day Istanbul. The Druid priests, using divining methods lost to us now, detect and unearth a one kilogram nugget of this meteoric rock. They are intrigued by its luminous quality and astounded when they discover its effects on humans (i.e. stops ageing, promotes health and healing).

They continue their westward migration. The rock is skilfully fashioned into the shape of a goblet which, with time, becomes integrated into their religious ceremonies (the cup is filled with mead and passed among the tribe, thus passing on the qualities of the stone, though in a much diluted form. Interestingly it will fulfil a similar function much later in Christian times.

The secret of its existence is passed among the Druidic priests, who call it 'Leithum al Gwanned' – the 'Cup of Life'. Two thousand years later this same cup will become known as the Holy Grail.

(Note: the legend of the 'Elixir Vitalis', or the elixir of eternal youth, sought for so long by later alchemists comes directly from these events, though in a distorted form. The legend was wrongly interpreted to make the liquid responsible for eternal youth, rather than the cup containing it.)

1900 BC

Another Celtic tribe, the Solenta, pushing through into England comes across the second impact site in Dunstanburgh. The Druids, eager to retrieve more of the valuable rock, order miners into the caves, but each attempt is driven back by the ferocity of the animals. Reluctantly the site is abandoned, but mention of its existence passes into Celtic oral history.

25 AD

This same cup, by unknown means (though probably as a gift) comes into the hands of Jesus of Nazareth. It is probably used during the so-called miracles of healing and at the Last Supper.

Its history after this time is not known, although it is believed to have travelled with the disciples for many years, and was reputedly brought to England by Joseph of Arimathea in 45AD. (The belief of its continued presence in the British Isles was obviously central to the Arthurian Legends of later times.)

At some time around 80-90 AD it was brought back to Jerusalem for permanent concealment.

1099 AD

The Holy Crusades and Crusader armies under the leadership of Godfrey of Bouillon at last bring Jerusalem under Christian control.

1120 AD

A group of knights led by Hugh de Payens, concerned over the continual robbing of pilgrims travelling to Jerusalem, form the order of the Templar Knights. They quickly gain notoriety for their selfless bravery and receive papal support, gifts of land, and titles.

They rapidly become a major financial and military power, with outposts ranging throughout all of Europe and the Holy Lands.

1146 AD

The Templars uncover the hiding place of the Holy Grail in Jerusalem and secretly smuggle it back to Paris. It arrives safely with its 12 knight escort in the spring of 1148.

Plans are made by the Templars which, if successful, will see them become the new rulers of the Western world.

Extensive research is carried out by Templar scholars into the history of the Grail and the Celts. The Dunstanburgh connection is uncovered and the team sent to investigate excitedly confirm the reports.

1153 AD

Twelve Templar Knights are sent to Dunstanburgh in north-east England with the Holy Grail to supervise the construction of a huge, subterranean Temple complex. Slaves and supplies are brought in night after night from French coastal ports.

The Temple was named 'Aeternis' and took 47 years to complete. Twenty metres underground at the centre of this complex construction lay the Holy Grail, a point of worship and the source of well-being and longevity for all those within. Around this 'Inner Sanctum' lay a maze of corridors, dormitories, chapels, a library, kitchen and teaching chambers.

Under this complex, accessed by barred stairwells is 'Underworld'. Here lie the ancient, deeper caves, complete with their menagerie of exotic and dangerous wildlife – and their original quota of scattered Grailstone. The environment within these caves is too dangerous for any man to survive, so access tunnels were constructed around their perimeters.

Why did the Templars go to this expense and trouble? Because Europe was in a mess; the papacy had become nothing more than a corrupt and powerful terrorist organisation, and barbaric, illiterate feudal kings squandered their peoples' wealth in cycles of perpetual conflict. These wasteful struggles for control had been going on for hundreds of years with no end in sight.

The time had come for a new world order, one that would responsibly control both the spiritual and financial aspects of European society. One that would forever break the strangle-hold of the Popes, and bring the feudal kings to heel. The Templar plan was both bold and simple, and the site of Dunstanburgh was central to its success. Aeternis was designed to fulfil three main functions;

1. To house and train a new breed of immortal priests who, with the help of Grailstone, would establish a new world order under the control of the Templars
2. To provide a platform from which to explore the cave systems under Aeternis, with a view to extracting all the remaining Grailstone within them
3. To house the most sacred of religious relics, the Holy Grail, which they would also use as a symbol of divine approval for their new religious dynasty.

Although many hundreds of Templars were involved in its implementation, the plan in its entirety was known only to the Grand Master himself, Jacques de Molay.

1200 AD

The Templar hierarchy suddenly discovers that Constantinople is the original site of the Holy Grail. The plans for the first shipment of recruits to Dunstanburgh are halted while the implications of this discovery are fed into the overall plan.

1203 AD

The Fourth Crusades are diverted (by Templar manipulations in Venice) from their objective in the Holy Lands and stand before the Christian city of Constantinople. After a fierce but brief struggle the city falls.

The Templars however, despite the most intensive search, find no evidence of Grailstone.

1307 AD

The Templar order suddenly falls! The Pope, suspicious of the pillage of Constantinople, and hearing other reports of peculiar Templar activity has contrived with King Phillip IV the Fair of France to destroy their power. Templars are arrested and false confessions of immoral activities are extracted under torture. All Templar wealth and property within the Christian world is seized. Templar knights are arrested en masse, imprisoned and tortured.

The Guardian knights of Aeternis receive one last message from their Grand-Master before he is arrested – "Protect and hide the Grail, forever if necessary. One day we will return and we will have need of it."

The 12 knights of the Grail turn their backs on the world of men. Barring and concealing the entrances of Aeternis behind them, they descend into the eternal night.

1314 AD

The last Grand-Master of the Templar order, Jacques de Molay is burnt at the stake in Paris. Despite the harshest torture he dies without revealing the true nature of the Templar plans, or the existence of the temple of Aeternis at Dunstanburgh.

1753 AD

In Aeternis the Grailstone was proving to have other unforeseen, long-term properties. Firstly, it created a gradually increasing 'slow-down' field that affects all living metabolisms around it. Secondly, it has profound long-term effects upon the human psyche, promoting mental adaptation and growth which can be either positive or negative depending upon the individual concerned.

For some of the knights these effects were beneficial, for the rest they were catastrophically negative.

Gradually a huge rift appeared within the brotherhood, largely orchestrated by one knight named Mallik. The crisis of 1753 pushed the pressure between these two uneven factions to a bloody breaking point; it started when outer parts of the temple, which had fallen into disrepair, suddenly cracked and opened, giving the animals below the access to Aeternis they had long been waiting for. They literally flooded into the empty corridors and chambers, happy to have at last escaped the crowded and perilous conditions below.

Frantically the Guardians tried to find and block the cracks, but the animals kept flooding in from other openings. Tobias (the Guardian Commander-in-Chief) managed to secure the situation but it was too late, the empty rooms and corridors of Aeternis had new and dangerous tenants - and they were there to stay. Tobias had managed to intervene quickly enough however to stop the larger predators from getting through, but in the melee one of the knights, Claude Lancet was killed by a dinosaur-like animal known as a Theo.

While Tobias was absorbed in controlling this disaster a new one loomed, for each faction within the brotherhood blamed the other for the breach - two knights died in the fight that followed and a third, Richard of Bramley was forced to flee the temple. Tobias was again too late to stop the disaster, but he managed to pacify the remaining knights.

Meanwhile Mallik, who had been instrumental in the killings, decided it was time to also leave the temple - but not empty handed - he would take the Grail! However, he had no idea of Tobias's abilities and was blocked by a wall of flame. He escaped instead with the entire store of 8 kg of extracted Grail stone – 600 years of work – and Tobias, by now totally exhausted from his exertions, was powerless to stop him.

Richard of Bramley, removed from the Grailstone, died shortly afterwards above-ground, but not before leaving clues that would one day lead to the coming of the Raptors.

Chapter 4 The Guardians

Twelve of the foremost knights of the Templar order descended into Aeternis and sealed it from the world in 1307 AD. In the six hundred years since four have died and one has fled above-ground. Those still alive and carrying out their tasks are; Tobias de Treece (Commander in Chief), Edgar 'the Axe', William Oakenshield, Phillip de Beavauls, Odro 'the Raven', Tallum Broadhand and Geffrye of Bayeaux. They are detailed more fully on the following pages. The dead are; Vincent 'the Innocent' and Ewatt of Cloyes (both murdered in the plot led by Mallik in 1753), Richard of Bramley (who escaped this same plot only to die shortly afterwards above-ground in Embleton) and Claude Lancet (cornered and killed by a dinosaur known as a Theo shortly after the animal invasion of the same year).

These dead knights still haunt the ancient corridors, suspended from final rest by the strange properties of the surrounding Grailstone. Confused and caught in an unnatural state of being they find it difficult to focus on 'reality' or to carry out lengthy, logical conversations with the living. It is therefore not necessary at this point to go into any detail regarding their individual personalities. The remaining knight still to be considered is Mallik. He fled the temple at the height of the unrest of 1763 AGT (or Above Ground Time) treacherously stealing the entire store of Grailstone – 8 kilograms – which had taken the knights 600 years of dangerous, exhaustive labour to extract from the cave systems below. He remains very much alive and prosperous, an immortal and evil influence upon the world who has caused, and continues to cause, great harm to mankind. He does not appear directly, but his shadow falls on the whole game.

There are a few other issues to be discussed before we delve into the individual personalities of the knights themselves – issues regarding their combined history, shared suffering and the brotherhood that binds them. Firstly it must be noted that these knights were exceptional in their time – the Templars themselves were an elite force of knights, but these twelve were the elite within the elite. They fought side by side through many dangerous campaigns in the Holy Lands and eventually formed their own group, complete with secret hand-signals and customised weapons. They even had a secret name, known only to themselves and the Templar hierarchy; 'the Brotherhood of the Round Knives', a name derived from their favourite weapon of Saracen design – the round-bladed throwing knife. That they were exceptional can be seen by the fact that they were given the task of transporting the greatest treasure the Templars possessed – the Holy Grail – from Jerusalem to the relative safety of Paris, a dangerous and demanding task for the times which they accomplished efficiently, speedily and with imagination.

That was 600 years ago - 600 years of self-imposed confinement, extreme solitude and exposure to Grailstone. They are no longer human – this is an essential fact to remember when dealing with them. Although almost alien now in many ways, certain aspects of their humanity still survive and can be reached with patience. Physically, they have adapted perfectly to their roles as guardians in a dark and dangerous world – they have acute hearing and awareness, their eyes have changed to allow them to see in the semi-dark and their reflexes have become extraordinarily fast. Mentally they have not fared so well, for Grailstone affects the balance of the mind, exaggerating the negative and positive aspects to an unnatural degree. So, for the knights, the anxiety they felt over the safety of the Grail and the importance of their constant vigil was increased beyond the tolerances of their minds – and one by one they became insane. Other aspects of their individual personalities have also been distorted and exaggerated unnaturally, as the following pages will show. The above however does not apply to Tobias, who alone has been changed positively by the Grailstone.

Distorted and twisted as they are, they all still retain a sense of honour and an allegiance to their task which goes deeper than their individual insanity to the very core of their beings. They are the last remnants of the Knights Templar – an order that was once strong enough to challenge the power of Popes and kings, that dared to assail the entire world.

Tobias de Treece



All his life Tobias has been an inquisitive and intelligent man who has pursued learning. As a result he has become that rare combination of scholar, monk and warrior. He was therefore delighted at the quality, breadth and scale of the Grand Library which was finally created within the newly-completed temple. After the temple was sealed in 1307 he became increasingly reclusive, finally withdrawing permanently to the library where he indulged himself to the full in studying the ancient texts. The Grailstone aided and exaggerated this thirst for knowledge and, over a long period of time, had dramatic effects on his mental and psychic capabilities.

In time, he became a man of immense powers, able to detect and influence events and incidents far beyond the realm of Aeternis. Several times, unknown to the others and for reasons of his own, he even rejoined the world of men temporarily. This is why he appears much older than the other knights. Eventually the depth of his learning enabled him to sense the forces and the fabric of the universe itself – and through the swirling eddies of space and time he glimpsed a tragedy coming to humanity of immense proportions! Try as he might he could only glimpse the merest outline of this tragedy, but it was enough to show him that humanity was rapidly approaching possible extinction.

Weeks of intense meditation and concentrated effort revealed no further details, but his heightened senses divined a number of essential truths; that the Grail (and more importantly Grailstone) was central to avoiding this total catastrophe; that Aeternis would continue to protect the Grail until the time came for its release; that the time for release would be determined when someone was eventually able to successfully negotiate the 'test' of Aeternis and steal the Grail; and that other 'false' thieves would make this attempt and fail.

With all this on his mind it's not surprising then that Tobias overlooked some important developments that were taking place under his very nose. Tobias has wisely never told his comrades of his vision of the future, or his foreseeing of the thief to come (except Geffrye) – it would only cloud their judgement and impair their part in the test.

As Tobias is such a central character it is worth summarising the above before we go on: Tobias is physically extremely powerful and extremely intelligent; he has foreseen the future; he controls Aeternis and has shaped it to his beliefs; he believes that the Grail can save humanity and that Aeternis is the testing-ground for a thief who will free the Grail.

Edgar 'the Axe'



Edgar is one of the more erratic and dangerous Guardians that a player will encounter within Aeternis. Because the Templar knights were both warriors and monks, the Grailstone has simply magnified these aspects of Edgar's personality to the exclusion of everything else. He therefore has a completely fractured personality, swinging between two extremely different personae every few minutes; sometimes he is a kindly and tolerant priest, and the next moment he is a cold and merciless killer. It is only in his mode of priest that a player will get by him without violence, so a player must learn to see the signs of change when dealing with him – and act swiftly when the time is right. He can be easily recognised by his long-axe which he wields with brutal efficiency at close quarters. Like the others, he prefers the round-bladed throwing knife for longer-distance killing.

The easiest way past him is to ransom his most treasured possession – an ornate silver torc given to him by his sister when she renounced the world to enter a convent. Both sides of his personality treasure the torc as much as the Grail itself. Note however that he bitterly hates being bested and will relentlessly track any player who has outwitted him.

William Oakenshield

William is primarily a soldier. Dedicated to the military arts he is highly skilled in performing the disciplined and bloody acts of warfare. Six and a half feet tall and weighing 18 stone, he is by far the largest, strongest and most brutish of the knights. The Grailstone has combined his sheer physical power with highly tuned reflexes to produce a warrior with almost superhuman abilities.

Because he has disciplined himself into becoming the ultimate soldier, he is almost unbeatable in combat. He combines strength with speed, being fast and lithe enough to dodge most projectiles, or to block them with his shield.

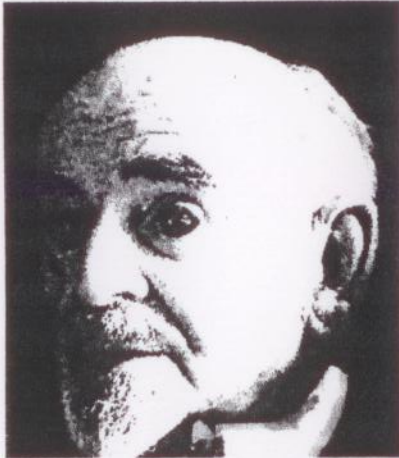
Of yeoman stock, he was once a man of simple yet honest principles, who believed with absolute certainty in the sanctity of his task as protector of the Grail. Pledging life and limb he instead paid with his mind as the Grailstone concentrated and accentuated this belief and caused his mind to discard everything else, reducing him from a sentient human being to the level of an automaton.

This 'Super-Guardian' however is flawed, and his weakness lies in the unnatural rigidity of his mind. In his 'tunnel-vision' world he has reduced all issues to their simplest components, sees all things in black and white – friend or foe. Consequently, by lying or talking in riddles, a clever player can confuse William long enough to slip past him.

He is easily recognised by his sheer size, his unflinching gaze, and his shield, and he is an exceptional marksman with the round knife. Like a large and deadly shadow he quietly patrols the corridors of Aeternis, quickly and efficiently dispatching the poor unfortunates he discovers.



Phillip de Beavauls

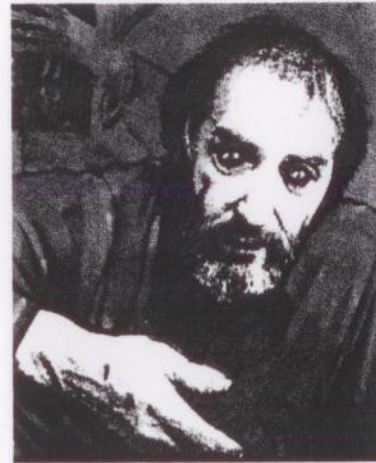


Phillip's indecisiveness has been magnified by the Grailstone so that he is now plagued, almost incessantly, by extreme doubts about, well ... about everything really. Like a lost soul he patrols the darkened corridors arguing with himself and muttering things like "...perhaps Richard and the others had been right all those years ago, after all it was that black-hearted Mallik who had spoken against them ... the same Mallik who later deserted his brothers and the Grail for the freedom and pleasures of the outer world ... and yet perhaps Mallik had the right idea after all, and that he, Phillip, was a prize fool

for hanging around on this perpetual fool's errand! But he had given his solemn oath ... and there was no denying the power of the Grail ... but what if ..."

In short Phillip no longer knows what he believes and so his mind swirls in constant circles of indecision and inaction. This does not mean that he is harmless however, in fact quite the contrary – he still has a job to do, but the player will find Phillip easy to deal with if he/she directs the conversation towards these ever-present doubts. In fact, by persevering sympathetically with this conversational relationship the player may find that Phillip will become a friend, which can be of considerable help later.

Odro 'the Raven'



Odro is demented and violent, the last of a long line of Norse berserkers. Like the others he deeply cherishes the Grail, but Odro expresses his love in a very curious way. He sees the Grail as a gift from God, and its life-giving properties as a gift of love.

Love for Odro is a feminine thing and therefore, in the twisted logic of his mind, the Grail is the embodiment of the feminine side of God's persona. He therefore has a much deeper love for the Grail than the other knights, a love that is constantly frustrated by his physical mutations. For, like the other knights, his eyes are now so sensitive to light that he can no longer enter the

comparative brightness of the Inner Sanctum without experiencing extreme pain, even when masking his face.

Denied access to the one thing he craves most, Odro's mind swings from deep love to utter frustration, which is reflected in his often erratic and violent actions. He is therefore completely merciless with anyone he believes has come to steal the Grail, but the gentler side of his nature will prevail if he believes (or is led to believe) that the player has stumbled into the Temple by accident and is merely trying to find the way out. Odro knows what it is to be lost, and may direct a player towards an exit. The player is then free to double back behind him and continue with the quest. If he sees the player doing this, or comes upon the same player later in the game he will know that he has been tricked, and will pursue that player with frightful vengeance until one of them falls. His treasured possession is a large silver chalice, which some believe he stole from the treasury in Hexham. This chalice sits beside his Spartan bunk in the Guardians' domicile.

Tallum Broadhand



Tallum is a cousin of William Oakenshield and was once a close friend and confidant of the late Richard of Bramley. He secretly shared Richard's doubts about the sanctity of their task, but never publicly stated these views for fear of reprisals from the others – particularly his cousin William whom he then greatly admired and slightly feared.

Thus Tallum was aware beforehand of the planned attack orchestrated by Mallik in 1753 and, although he took no part in it, he did nothing to prevent it. More importantly (and to his eternal shame) he did not forewarn Richard of the coming attack. He thus blames himself for Richard's

death and believes himself to be both a coward and a traitor. Sadly the Grailstone built on this negativity and destroyed him, leaving an empty shell of a man, completely consumed by guilt and bitterness.

Tallum is now a killing machine. He seeks only death in battle – an honourable exit from a dishonourable life. Totally devoid of humanity he is the most alien of the knights, inhuman and frightening in the intensity of his anger and his passion for destruction. The only way a player can pass Tallum without violence is to mention Richard's name, or to imply that he/she is carrying out his dying wishes. Tallum might see this as a chance to right the wrong he thinks he has done, and may be of dramatic assistance, particularly against William Oakenshield, whom he now secretly hates and blames for all his problems.

Geffrye of Bayeaux



Geffrye is a warrior/artist and his role within the brotherhood has been to oversee the aesthetic development of the Temple. He is second in authority only to Tobias, and is responsible for the architectural style and 'feel' of Aeternis. His duty was to make Aeternis a fitting home for the Holy Grail, and an awesome reflection of the power of the new Templar order.

Engaging and friendly, he is the only knight to have responded well to Tobias' patient care and treatment, and has made a complete recovery back to mental normality. A friendship developed between these two during this long period of rehabilitation, perhaps inevitable considering they were the

only two sane humans left in Aeternis. Tobias eventually confided to Geffrye his secret vision of the future, and the important future role of Aeternis and Grailstone.

Together they talked for many hours about the defensive structure of Aeternis, not with a view to making it more impregnable, but to making it a 'righteous' testing ground for the thieves to come. For they believed that only a person of strength, cunning intelligence and, above all, humanity would know how best to use the Grail after its release. Their concern with Aeternis was that at present it was more a test of physical abilities only, favouring physical strength over intellect.

For many days they pondered and agonised over the seemingly pre-destined fate of humanity, and the possible consequences of interference in such a delicate scheme. Eventually however they came to a decision. They would combine Tobias' magical abilities with Geffrye's artistic craftsmanship to construct a series of puzzles and tests. These would be placed around the Temple, and would be designed to test the intelligence (or otherwise) of each contender. Rewards for correct answers would vary depending upon the room and the complexity of the puzzle; but all would relate to further puzzles closer to the grail, and give inside information, sometimes regarding secret passages, short-cuts or chambers.

Chapter 5 Aeternis and its inhabitants

Overview

The subterranean temple of Aeternis was built within existing, extensive cave systems under the monastery of Dunstanburgh, Northumberland, England in 1200 AD. It was constructed in total secrecy and with great expense by the Knights Templar to fulfil three main functions;

1. To house and train a new breed of immortal priests who, with the help of Grailstone, would establish a new world order under the control of the Templars.
2. To provide a platform from which to explore the remaining cave systems under Aeternis, and to extract all the remaining Grailstone scattered within them.
3. To house the most sacred of religious relics, the Holy Grail, which they would also use as a symbol of divine approval for their new religious dynasty.

The Templars failed in these endeavours for reasons already stated. The Temple was sealed and hidden from the world, its Guardians told to protect the Grail and keep it under Templar control – forever if necessary.

It would be nearly 800 years before its existence was uncovered, drawing the high-tech thieves known as Raptors down upon it.

(Note: Aeternis is derived from the Latin for Eternal.)

Metabolic Distortion

Grailstone has many profound and strange effects upon living metabolic systems. These effects occur wherever Grailstone exists in any quantity (as is the case within the confines of Aeternis) and gradually increases with the passing of time.

One such effect is to drastically slow down all metabolic processes. An individual is not even aware of this slow-down because the other living things around him have been affected in exactly the same way, so that comparatively speaking everything appears to be normal. If this individual, however, were able to see the outside world, he would be dismayed to see it flying by at an extraordinary rate. These fields of metabolic distortion vary throughout Aeternis, but the present-time, general rule of thumb is one hour underground equals one month above ground. Hence a gameplay of twelve hours would mean that one year will have passed in real time.

Another bizarre aspect of this distortion is that it seems to affect mechanical devices such as timepieces in exactly the same way, making them also conform to local 'time-fields'. Like so many other aspects of Grailstone the reason for this phenomenon is simply not known.

Aeternus Temple Floorplan

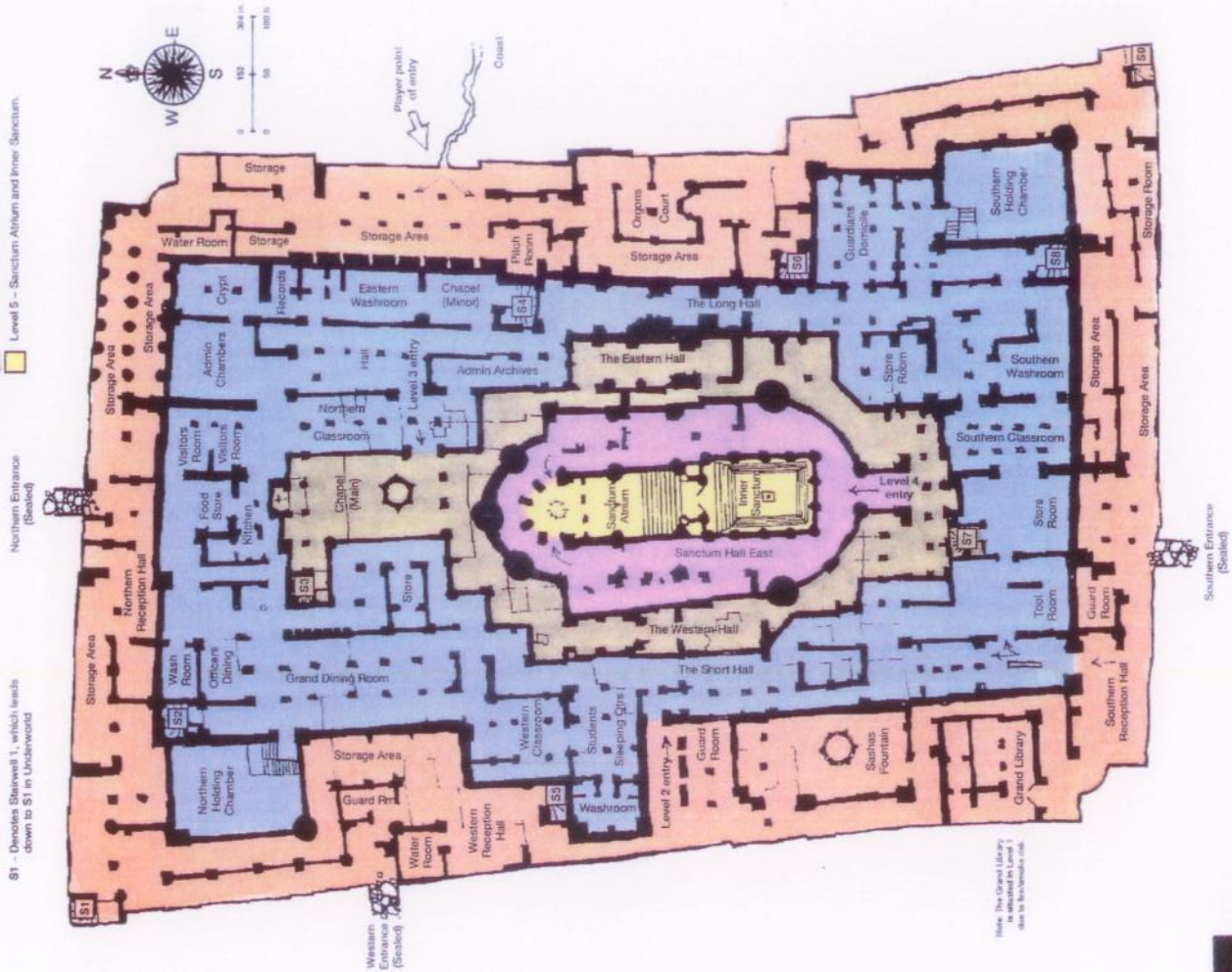
M/A - Mugs/Animals

A/G - Animals/Guardians

G - Guardians only

S1 - Denotes Stairwell 1, which leads down to S1 in Underworld

- Level 1 - Supply storage area.
- Level 2 - Teaching, Administration and general living areas.
- Level 3 - Religious and meditative area.
- Level 4 - Sanctum approaches.
- Level 5 - Sanctum Atrium and Inner Sanctum.



Detailed map of the temple system of Aeternis

Aeternis – a closer look

The Temple of Aeternis is a cold, shabby place – full of debris, tattered tapestries, cracked walls and broken, ancient furniture. An occasional flaming torch punctures the darkness, but it is still a world ruled by eternal night. Yet it retains a certain dark and majestic beauty which, despite the ravages of time, somehow manages still to reflect the pride and strength of the men who built it.

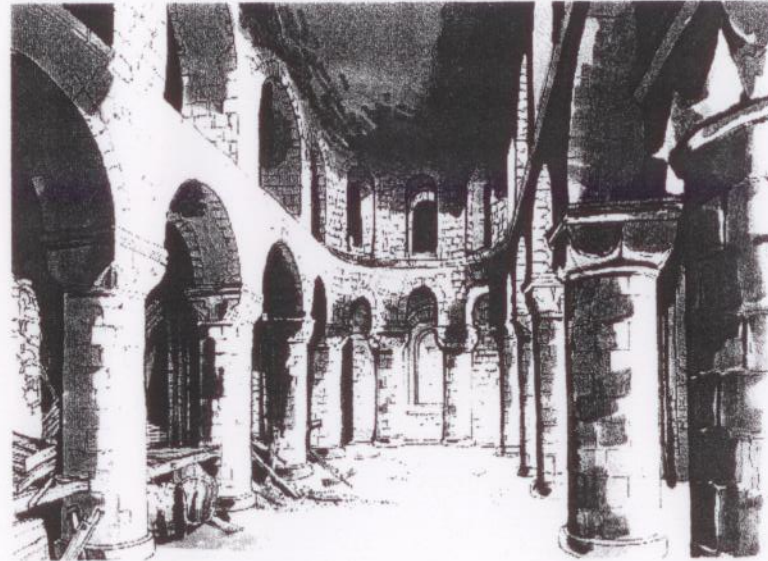
It is no place for the living, yet it abounds with life; all adapted and sustained perpetually by the Grail and the surrounding Grailstone. Every mouldy room and wind-swept corridor is home to some exotic form (or forms) of life, all perfectly adapted to survive and prosper in this harsh and unnatural environment.

Structurally the complex is divided into five individually secure but connected levels. All five levels are in an advanced state of disrepair and are in fact disintegrating. This degradation is not uniform, and seems to be at its worst in the outer level – i.e. the Inner Sanctum which houses the Grail is the area of the temple least affected. This of course perplexes and troubles the Guardians who believe that only nine years have passed since their interment – they do not realise that the Temple is simply showing its true age of nearly 800 years.

There are nine stairwells within Aeternis, each is a spiral staircase that leads to Underworld (Underworld is detailed later in this chapter). At the bottom of each staircase is a locked, heavy iron gate.

The puzzles are an essential, integral part of the gameplay, and provide much of the entertainment in Raptor. As has already been mentioned, the puzzles are intended to provide a test for the character, supplied and overseen by Tobias, and he might take an active part in some of them, offering hints to a humane and 'Christian' player, or opposing the player in hidden ways.

The following is a more detailed look at the five levels involved:



A storage chamber in level one

Level One

Is the outer level of the Temple and is the one in which a player first enters the game. Its original purpose was supply and storage, but the long corridors are now full of empty barrels and broken crates – the contents long since used or moved by the Guardians to safer locations. In fact the Guardians rarely patrol this outer level now, preferring to concentrate their efforts within the inner, more strategically crucial levels.

Another reason the Guardians avoid this level is the large concentration of animals who find the disused storage areas a perfect habitat for breeding. Also, the original cracks that gave the animals entry to Aeternis occurred here on this most aged level – another reason for the large animal numbers.

Although very hazardous itself, Level One provides a good introduction for new players to test their skills, become familiar with their technical systems and weapons, and start to build up some knowledge about the temple, before proceeding to the truly arduous inner levels. There are also many rooms for them to explore, ghosts for them to converse with and dangerous creatures to negotiate before they reach the access points to the next level.

Note that the doors to the Grand Library (situated on this level) will be locked to the player at this early stage of the game. Entry may be permitted later and by other means if the player proves himself worthy. Note also that fewer and simpler puzzles occur on this level and the bias is towards dealing with the creatures.



A corridor in level one

Level Two

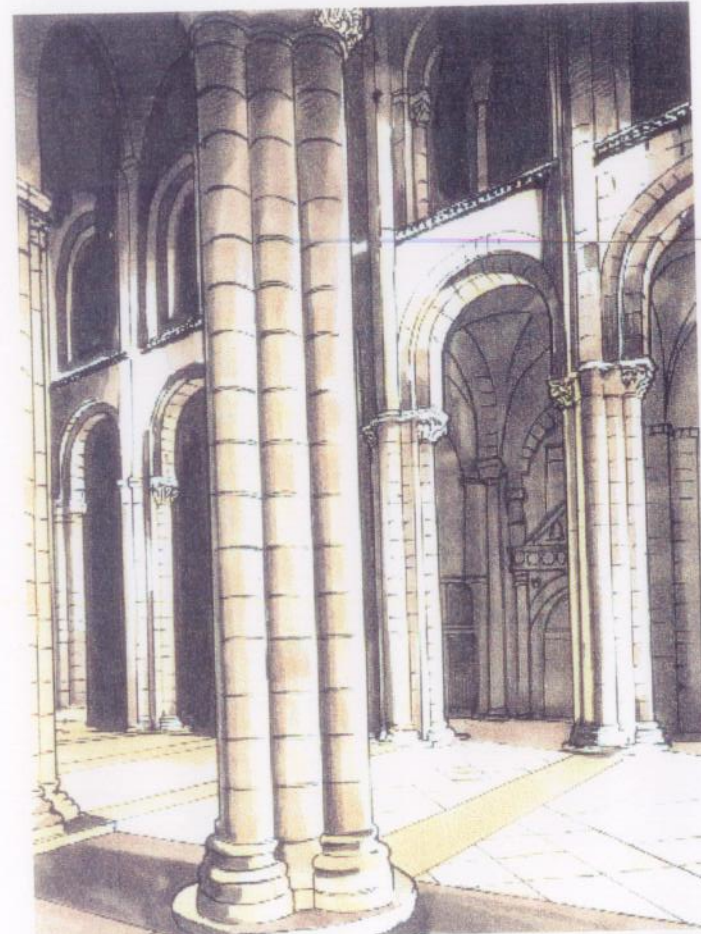
Is the main testing-ground of the temple. Originally designed as the general living, education and administration area, it contains numerous rooms for the player to explore, many with puzzles to tax the player's intelligence and logical thinking.

It is in this area that the player will come across patrolling Guardians for the first time and will learn to converse with them, fight them or run from them. The two Holding Chambers are also within this level, which the player will undoubtedly become all too familiar with as the game proceeds. It is also on this level that the player will first encounter living people who have stumbled into Aeternis over the centuries and miraculously survived. They furtively dodge from place to place avoiding trouble, and may befriend the player if they chance to meet and form a friendly relationship. These poor souls cannot find their way out and have no idea that the era they belong to has long since passed. They are detailed more fully later in this chapter.

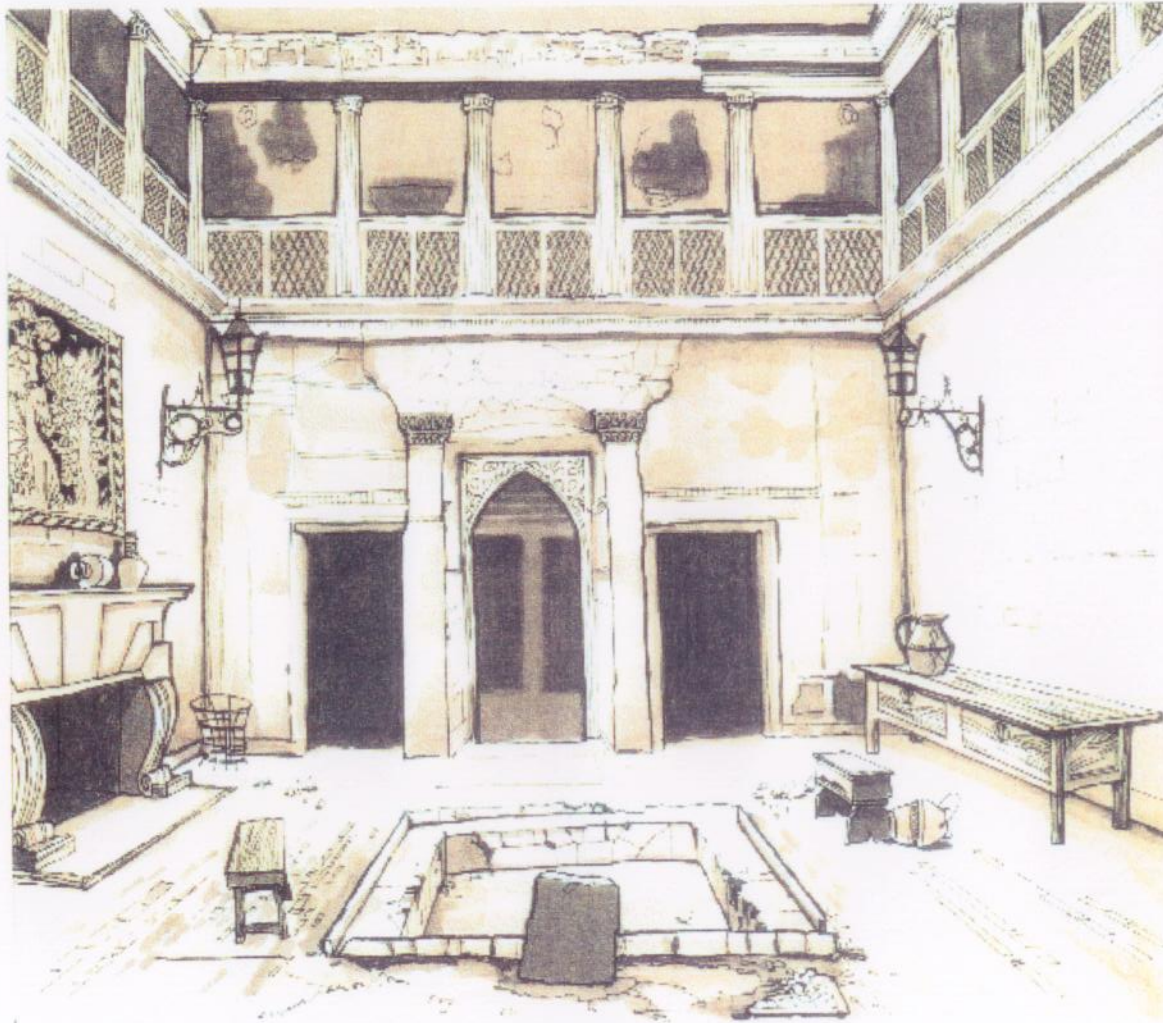
There are more ghosts to encounter here too, particularly in or near the Workers Crypt, and not all are friendly or helpful (also detailed later).



A section of the crypt



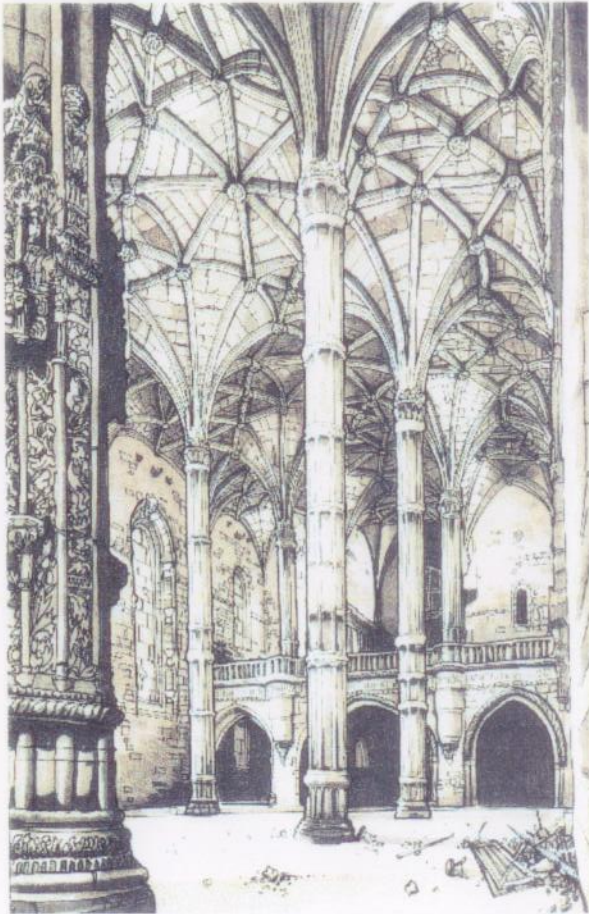
A corridor in level two



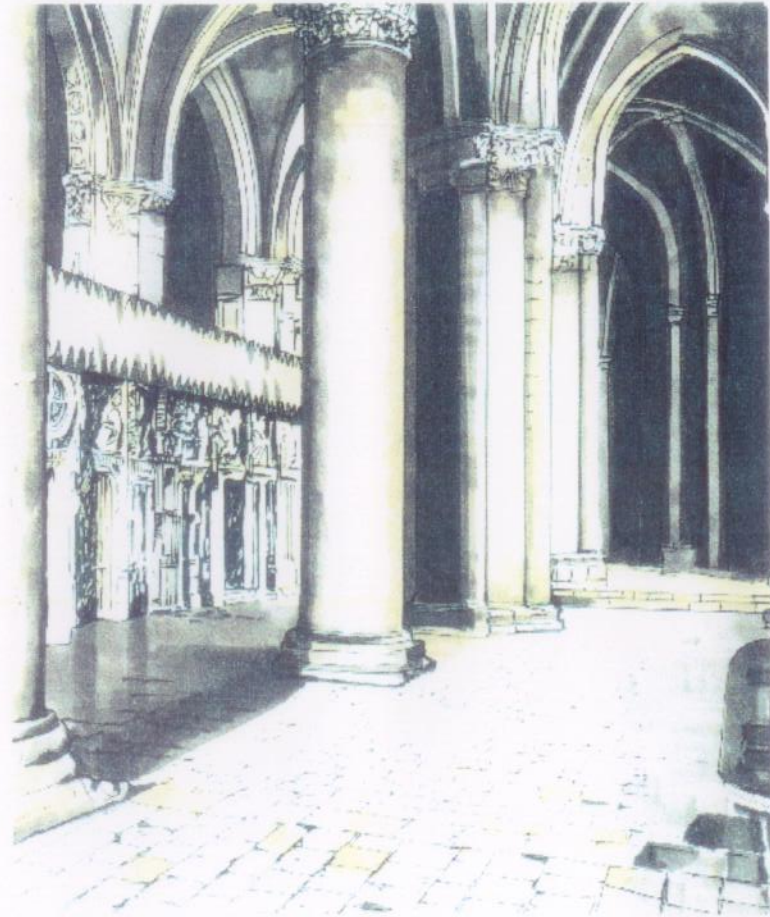
A stream also flows through this level in a south-easterly direction from the top north-east corner. It is ducted and guided by a tunnel system that runs right through this level and into the next. There are also a substantial number of strange creatures that dwell on this level. Though not as numerous as those on Level 1, they are by necessity smarter, harder and more predatory.

Level 2 is where much of the action of the game takes place. With both hostile animals and demented Guardians actively tracking the player, it is a difficult and dangerous place. A player who can survive here has proved themselves befitting the name Raptor and worthy to enter the next level.

A washroom



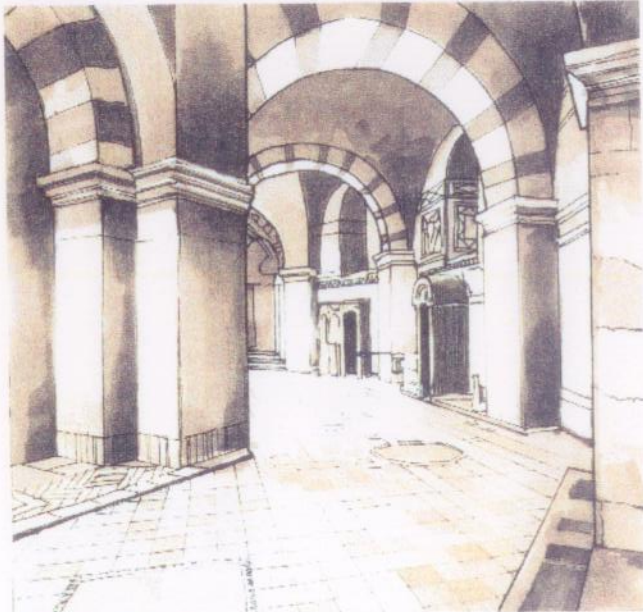
The feasting hall on level two



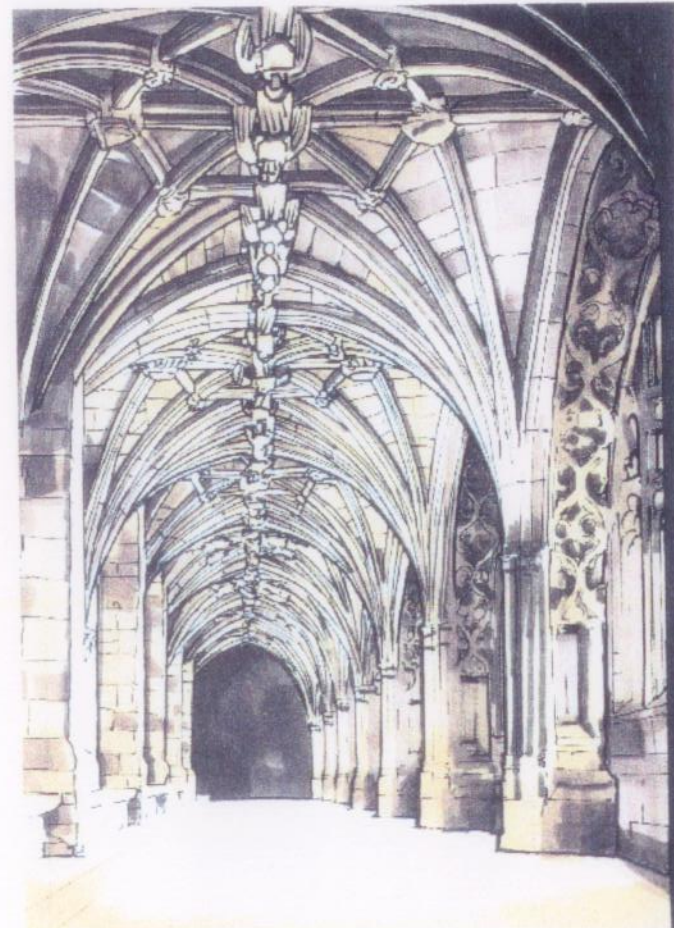
Part of the main hall

Level 3

Was designed to be the religious, ceremonial and meditative area of the temple. It therefore consists of large, impressive, high-ceilinged chambers and long, dark corridors.



A corridor on level three.



A corridor on level three, leading to the Grail's sanctuary.

Being structurally sound, the influx of animals into this level has been partially controlled by the Guardians, but an unstable power-balance exists here, which the Guardians are slowly losing as the animals continue to multiply on Levels One and Two. They are attempting to redress this imbalance by befriending a small number of Mogs (detailed later) and allowing them to live on Level Three as 'watch-dogs'. But the Mogs have long memories and have been mistreated by the Guardians in the past, so a player should be able to bypass them without too much trouble.

The main dangers on Level Three are the more vigilant Guardians and the small but hardy selection of animals that manage to stay there.

Level 4

Level 4 consists mainly of the long corridors that bring the player at last to the Sanctum Atrium – the approach to the Inner Sanctum itself. The Guardians have maintained control of this level completely, which means there are very few animals here for a player to contend with. There is one particular nasty however, that the Guardians have deliberately introduced as a final barrier against intrusion – a large, voracious predator from the caves below which they call Leo. It is a meat-eating dinosaur that is now, of course, perfectly adapted to life in Aeternis. Contained within this level, alone and hungry, it will track and kill any living thing that enters Level 4. There are ways a player can by-pass Leo, which are detailed later in this chapter.



The eastern hallway

Level 5

Consists of two areas; the Sanctum Atrium (the long and majestic approach to the doors of the Inner Sanctum) and the Inner Sanctum itself. The Guardians have many secret means of getting quickly from level to level, and may manage to launch a last-ditch attack upon the player along the concourse of the Atrium. They cannot enter the Inner Sanctum any more due to the bright golden light suffusing the Holy Grail chamber, which their sensitive eyes find extremely painful.

There is one last test for the player who successfully reaches the huge, double-doors of the Inner Sanctum – a final puzzle which must be answered before entry is allowed.

Once inside, the player is safe from all creatures and Guardians, and has only the challenges of the room itself to contend with (unless another player is in there at the same time of course). Stairs lead down to a large, marble-tiled floor, in the centre of which is an ornate altar with the Grail in the centre. The whole room is lit by a golden light about the Grail, and a strong shaft of bright sunlight stabs down through the ceiling high overhead to highlight the altar and the Grail. The solar cells of the helmet begin to re-charge rapidly and any physical damage the player has encountered begins to heal.

Having reached the altar, the player will now try to lift the Grail and place it in his pack. Removing the Grail from the altar also causes a deep, slow warning bell to toll continuously throughout the temple, alerting the Guardians that the Grail has in fact been removed. Also, the grail is quite heavy, and cuts down on the amount of equipment the player's Raptor can carry.

Having successfully stolen the Grail doesn't mean that the game is nearly over, on the contrary, the player must now make their way back through the same levels and dangers to the freedom of the outside world. Fortunately the possible ways out of the temple are as varied as they were on the way in.

A player who is killed during this escape will of course have to start again, and will find that the Grail has been returned to its rightful place upon the altar. There is also another danger for the newly-successful Raptor, which is that he may be tracked and held up by the other Raptors who have by now also been alerted. A player who is held up and relieved of his precious booty will need to track the thief and steal the Grail back before they reach the exit.



The Sanctum Atrium.



Creatures

Mogs

Mogs are an extremely ancient form of human being that inhabit certain rooms and chambers within Levels One, Two and Three. They are in fact the missing link between man and ape and are secretive, private and jealously guard their territory against intruders.



They have evolved within Aeternis and can now speak a crude form of English, but their intelligence is still fairly limited. A player coming into Mog territory will be asked politely but firmly to find another route. Doing so will show respect for their privacy and may bring benefits later in the

game. Continuing to invade their territory will often provoke them to violence. Sometimes this is unavoidable, particularly if being pursued by a Guardian, but a player can usually see them off with the help of his modern weapons. By doing so however, that player will then be marked as a 'Mog enemy' for the rest of the game.

Their weapons are crude spears and arrows, but their intimate knowledge of the territory and their natural stealth make them dangerous opponents. There are six tribes living within Aeternis, each tribal group numbering about ten individuals.

Lurka



Lurka is a Mog who has been adopted, trained and educated Tobias. He now has similar intelligence to that of a human and Tobias' eyes and ears within Aeternis, reporting any news and ents back to him in the Grand Library. He also issues orders or rries out specific actions under Tobias' command.

Lurka has a cunning and inquisitive personality, and enjoys the position of power he holds within Aeternis. He is aware of the Raptors and their objective, and is intelligent enough to suspect that the theft of the Grail will diminish his master's purpose and powers – his real fear however is the effect that this will have upon his position of authority within Aeternis.

He always obeys his master's orders however, for he loves him in his own way, but he has no love for the Raptors. He therefore appears at various times throughout the game offering advice or clues from Tobias, but usually hiding this information in the form of a riddle or a nonsense verse. He will appear like a mischievous imp to the player, who will have to tolerate his riddles and non-sense for the valuable information they will eventually divulge.

Sasha



Sasha is a water creature who lives in the canals, fountains and waterways of Aeternis. She is the last of an ancient race of beings who have vague links to both humans and whales. She looks human and female but is not, for her skin is composed of millions of minute scales, her long, clawed fingers are webbed and her bottom half consists of long dual fins. Her teeth are sharp and triangular and her eyes are slit like a lizard's, with a double eyelid like an alligator's. All the creatures of the waterway obey her.

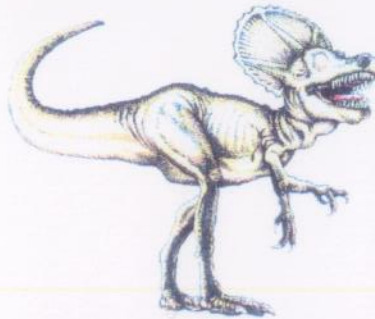
The rest of her race inhabited the open seas and died out many millions of years ago, but she favoured the deep, ancient waterways of the caves under Dunstanburgh and survived, nurtured by the surrounding Grailstone. She is old and wise now, but terribly alone.

Tobias found her centuries ago, befriended her and taught her to speak English. She is therefore aware of the Holy Grail, the Raptors and the terrible vision of the future that Tobias has foreseen.

A player can sometimes summon her by tapping on the side of her fountain on Level One (near the Grand Library) or else she may appear in one of the other fountains or canal ways on Level Two. Her thought processes are very different from ours which makes her difficult to understand, but if a player perseveres and a relationship develops, she may confer a gift of knowledge about the waterways.

Leos

Leos are one of the three species of dinosaur that escaped extinction by accidentally wandering into the cave systems millions of years ago. They have adapted perfectly now to life in complete darkness, and have long since lost their eyes. Instead they have gained a large, fan-shaped extended ear which runs along the back of their heads, which allows them to track their prey by sound. They use this 'ear' in conjunction with a complex sonar system which emits high frequency 'blips' from the front of their snouts. A player being tracked by a Leo can actually hear these sonic 'pings' getting louder as the animal zeros in – an unnerving experience.



This very sensitive and efficient system allows the Leos to almost 'see' in the dark, but relies completely on a moving target. By standing still a player can therefore obstruct a Leo, but they are not stupid and will roar and thrash about, hoping to intimidate the prey into moving or running away. But if the player holds their ground the Leo may pass them by. A player can also escape by firing on and damaging the large frilled ear at the back of their heads, but unfortunately this requires the animal to be quite close.

Their sense of smell has also become much more attuned, and this is usually how they begin to hunt.

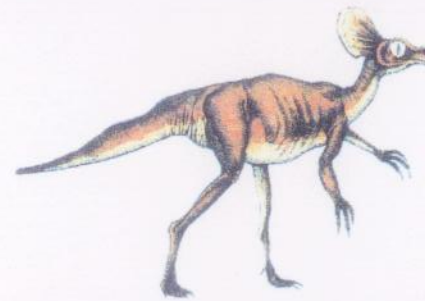
Skin colour and markings are of no importance in the dark, so their skins have lost their pigmentation, becoming almost transparent. A full-grown Leo stands about four metres high.

Thankfully they are small in number, but do hunt on all levels except Level One. Those still in Underworld often try to attack players who go too close to the bars.

All the dinosaurs in Aeternis are merciless, predatory scavengers, and have therefore been named by the Guardians after certain relevant Popes in history.

Theos

Theos are like smaller versions of Leos but have adapted back to the semi-darkness of Aeternis, retaining their eyes and pigmentation. Those that dwell in Aeternis have lost the ability to use sonar, and the frill at the back of their heads has reverted back to a purely ear-like function. This is not a disadvantage because they have developed a unique style of hunting – their skin has evolved



the chameleon-like ability to change colour to match the surrounding brickwork. Thus they blend into the background, waiting for prey to come past them – then they attack suddenly and violently, seemingly coming from nowhere. A player must therefore shoot quickly and accurately to despatch them.

This method of attack makes them extremely dangerous to a player, for the MS-2 helmet relies primarily on movement for detection, and thus there is no prior warning of their presence. A keen-eyed player will sometimes be able to see them in advance however, lying flush and motionless against a wall, and will easily see them off with a shot or two. The player must therefore learn not just to rely on technology but use their eyes as well.

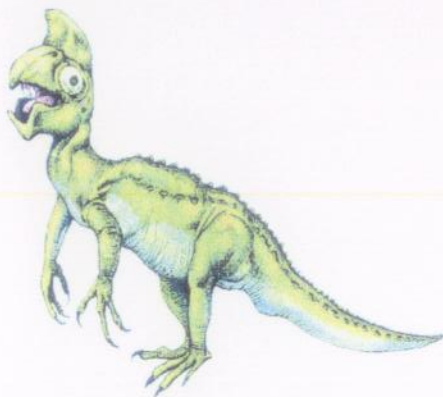
An adult Theo stands about two metres high. They occur on Levels One, Two and Three and rely on surprise and speed for the kill.

Eugenes

Eugenes are about the same size as a turkey. They make a precarious living as egg-stealers and as such help to control the populations of Leos and Theos, scavenging for food when times are lean. They are also the favourite prey of many predators in Aeternis and are therefore sly and nervous creatures by nature. As a side-effect of this, they tend to congregate in areas of brighter light, since most of the other creatures which inhabit the temple find it uncomfortable.

The only direct threat they present to a player arises if the player's Raptor is unconscious or immobilised, when they might attempt to eat them, believing them to be carrion. The largest threat they pose is indirect, for if startled they will run away noisily, squawking a warning to their fellows which often attracts the unwanted attention of nearby hunters.

They occur on Levels One, Two, Three and Four.



Other Humans – Living

The surrounding caves and the general decay of the temple walls have created many opportunities for people throughout the ages to stray into Aeternis. Many entered, survived and later left – they all rapidly aged and died once away from the Grailstone.

The following are those who never managed to find the way back out again. A player coming across these characters may be able to form relationships or partnerships with them if they can win their trust.

Ulrik



Ulrik is a Viking marauder, who became lost and trapped within the subterranean cave-systems over a thousand years ago whilst taking part in a raid on Scotland. Somehow he survived long enough to migrate with the animals into the more comfortable surroundings of Aeternis.

That he survives at all under such conditions is a testament to his abilities as a warrior. Of course the Grailstone has had a part in this, adapting him so that he can see in the dark and adjusting his metabolism to the cold. But he is unaware of this, and simply believes that his surroundings have become lighter and warmer with time. He is of course aware that odd and unnatural things are happening around him, and even to him, but simply puts this down to some act of the Gods. He believes his role is to simply survive until the Gods have finished toying with him, and that then he'll be allowed to go home to his family.

This simple attitude of accepting circumstances has been the real key to his survival, for there is no real conflict within Ulrik's mind which the Grailstone could exaggerate and distort. If anything, the Grailstone has strengthened these simple beliefs and increased his strengths and abilities as a survivor.

Ulrik's attitude is gruff and unfriendly, at least to start with. He is uncomfortably aware that he is a raider trapped on foreign soil, and may even attack the player on first sight, believing him to be a Scottish warrior sent into the caves to find him. Because of the time distortion, Ulrik believes that he has been underground only about six or seven years.

A partnership with him will be difficult to forge as he prefers being alone – but he may join the player for a while if he believes that the successful completion of the Raptor's quest will end his own ordeal.

Captain Ethleridge



Captain Ethleridge was the Captain of the naval frigate 'Dependable' and disappeared from human history on the 9th November 1863. On shore leave at his home near Dunstanburgh he told his wife he was going for a walk along the cliffs – and never came back. It was presumed that he fell into the sea and was drowned.

His military training and natural resourcefulness have kept him alive, but he is utterly bewildered by Aeternis and its inhabitants. However, his stiff and stalwart Victorian mind has put all of this aside as sheer poppycock and rubbish, which he and the Royal Navy will put to

right if only he could find his blasted way out of this infernal place.

Behind his pragmatic nature he is in fact a kind and gentle man, eager for news and conversation. He believes that he has been underground only about two months, so he will have questions about outside (1863) world affairs which the player will find difficult to answer – unless he is of course completely honest with him up front.

He has also found a sword within Aeternis, which he knows how to use and which makes him good company in a fight. He has met Ulrik, found him vulgar and now avoids him.

Jack Sinclair



Jack was in the Home Guard during the last war. He was patrolling the Dunstanburgh coastline one dark, cold night in 1943, thought he heard a noise in one of the caves and decided to investigate. He was never seen again.

Jack is old, but he was in the trenches of World War 1 and much more besides – in short he's been around. Faced with the daunting realities of Aeternis he quickly discarded his first conclusion; which was that the Nazis were behind it somehow, and even his second guess; which was that it was some top-secret War Department project and came up with the more or less right answer – that something much older and more sinister was afoot. Since that time his sharp and logical mind has pieced together most of the truth behind Aeternis.

He was rattled by the ghosts and wild creatures of Aeternis, but seeing Ulrik and talking with Captain Ethleridge disturbed him most of all. For these two were alive as he was, but were clearly unaware how far they were outside their own time! He was forced to conclude that time itself was being distorted here and that he too was now becoming a victim, being more removed with every hour that passed.

Realising his dilemma he tried desperately for several weeks to find an exit, but failed. After twenty days underground he gave up, for even his rough estimates placed him now at least forty years outside his own time. The player will now find a man saddened by his loss, but also a man determined to bring Aeternis to an end.

Ghosts

Many ghosts exist within the game. This is because any living thing that dies within Aeternis is held back from final rest by some strange property of the Grailstone. This also applies to animals, which is important to note as phantom animals can often appear and startle a player, despite his equipment telling him that nothing is actually there. They cannot physically harm a player but are often hard to distinguish from the living article, which can be confusing and often unnerving. A player will quickly learn to trust his instruments about what is real and what is not.

The ghosts within Aeternis fit into two categories; minor ghosts and major ghosts. The minor ghosts are the merest reflections of their owners and offer only annoyance and inconvenience. The major ghosts, though confused and disorientated by their present unnatural states, can still carry out short but often helpful conversations with the players. They are listed below.

Tomas



Tomas was a foreman slave who died in a rock fall shortly before Aeternis was completed. His ghost, along with several minor ghosts, now haunts the Workers' Crypt.

The slaves at that time suspected the cruel fate that awaited them, and engineered a daring plan for freedom. As foreman slave, Tomas was able to orchestrate their secret labours and construct a tunnel, under his master's very nose, that lead directly from the Inner Sanctum to a store room on Level Two. Unfortunately he alone

knew the means of opening the entrance to that secret tunnel, and to his eternal rancour that information died with him before his friends could use it.

Like all ghosts, he can be found lingering close to his bones in the Crypt, but he is surly by nature and not one to be summoned casually by anyone. The other ghosts may help or hinder the player, but ultimately Tomas himself will not appear unless he wishes to do so.

If a player perseveres and wins his confidence, he may disclose the way into the secret tunnel. This can be an immense advantage after stealing the Grail.

Niamh Cinn Oir

Oisín left his home, met Niamh Cinn Oir and journeyed to Tir Na n Og (the Land of Youth). Timelessness – he stayed 300 years though never aged. Returning to Ireland he found St Patrick and Christianity now had control and, putting his foot upon the earth, lost Tir Na n Og and so aged and died.
– Celtic myth



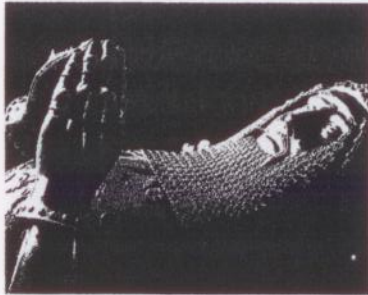
Niamh 'golden hair' was a member of the Celtic tribe called the Solenta, who originally came upon the caves of Dunstanburgh about 1900 BC (see History). She was forced into the caves as a human sacrifice by the Druids in a fruitless effort to appease the evil demons within. The Druids kept sending miners into the caves in an attempt to extract the valuable Grailstone, but each expedition was brutally driven back or lost. Eventually and reluctantly the site was abandoned and the Solenta moved on.

Deep underground, lost and alone, the beautiful Niamh survived.

As mentioned in Celtic mythology, Oisín came upon her several hundred years later in his wanderings. They fell in love, but any attempt to leave the caves made her ill and weak. He turned his back upon the world and joined her in the caves as her lover.

When she died tragically several years later, he left and returned to Ireland. He of course died shortly afterwards of old age, terribly alone and astounded that three hundred years had passed in his absence.

In 1364 the Guardians came upon her ghost whilst exploring the caves. Touched by her sad beauty they moved her bones above into the holier surroundings of Aeternis. She resides now in the Chapel Minor on Level Two.



Vincent 'the Innocent' and Ewatt of Cloyes

These two knights were murdered in the uprising led by Mallik in 1753 and were buried with honours in the Main chapel on Level Three.

Being dead they have a clearer perspective of matters, but a poor grasp on reality which makes them difficult to converse with. They are both aware now of the terrible danger to humanity that Tobias has foreseen, but have differing

views on their continued roles within this struggle. Vincent believes he should help any potential thief to get the Grail back above-ground where it belongs, whilst Ewatt's view is that they shouldn't interfere in Gods plans. The player will therefore find Vincent helpful with advice, but Ewatt will only appear to dissuade Vincent from saying too much.

Father Dunstan

Father Dunstan befriended and nursed Richard of Bramley through his final days in Embleton in 1763 (see History section). He also recorded Richard's last will and testament, and his very specific instructions for burial. He therefore learned all about Aeternis and the holy treasure that lay waiting there, ready for a brave and righteous soul to bring back into the service of mankind. He was sure that he was the man for the job and that God was on his side.

Armed with his simple faith, a sturdy walking-stick, some supplies and plenty of candles he descended into Aeternis. He lasted less than an hour – a Theo took his life on the western side of Level One.

Father Dunstan's ghost is warm and friendly, but of little help to a player who can do little more than take up his kind offer of helping himself to his food, water and candles.



Colin Scott



Colin is the Raptor who first uncovered Aeternis. He actually made it as far as the Inner Sanctum before being tumbled into the Northern Holding Chamber and dying from a broken neck.

His body is still there, as is his ghost which is confused and hasn't yet admitted that he is dead. This mixture of confusion and despair makes him difficult to deal with, but if the player can avoid alerting him to his death, they will find that he has invaluable information. Besides trying to help him adjust, a player should also take the opportunity to re-stock his supplies from Colin's satchel.

Chapter 6 The Raptors

The game is set in the year 2003 AD. This world of the future is very different from the world we now know; China has become a major world power while America, Japan and Russia have fallen into decline; the Third World has become poorer and the West has become richer...but it is not the purpose of this text to explain these events.

Moreover, the world's climate has also changed significantly - and in particular, global warming has become a reality. All nations have been affected by this, some disastrously, but again it is not relevant to go into detail here. However, one affected area which does in fact relate to our story is that of archaeology, for the world's changing water levels have led to the discovery of an astounding number of archaeological sites that had been lost for thousands of years. This did not just happen within the Mediterranean basin or Northern Africa, but in some very unexpected places, such as South America, Canada and Australia.

Most of these newly discovered structures were underground and some were vast and magnificently constructed complexes. They were discovered by indirect means; the fallen water levels revealed ancient waste drainage outlets, but what was interesting was the sheer quantity of sites and variety of cultures who had built them. It seems that the history of mankind was much longer and more complex than had been previously thought so that the textbooks on ancient human history needed to be drastically revised.

By the year 2000, sixty-four new sites had been exposed to the world, twelve of which were constructed by previously unknown civilisations. The most exciting of these were three intact subterranean Mayan complexes, two vast ancient Egyptian temples and evidence of an advanced culture who lived underground in Northern Australia nearly 4000 years ago. These discoveries generated a huge amount of excitement and the public became very interested in archaeology and early human history.

The discoveries also sparked a much-needed regeneration of pride in human achievement and a renewed sense of optimism for the future. People became proud again to be called human. The artefacts became the symbols for this new change in attitude and a new obsession swept the world. People started buying artefacts, and those that could afford it wanted the genuine articles. It soon became a social necessity among the wealthy to have at least one valuable artefact on show in the home.

Large corporations too wanted artefacts in their foyers and offices - a symbol of new hope and pride in a shared humanity. Serious collectors desperately wanted genuine artefacts from the recent finds. They were willing to pay extraordinary prices, and they didn't care whether they came from legal or illegal sources. The demand couldn't be met by the existing, inadequate black market, so new entrepreneurs came in and filled the vacuum.

At the top end of the plundering trade a new breed of young, smart and ambitious people emerged. Employing a large network of spies and using the very latest technology, they were soon exposing and exploiting new sites before the archaeologists had even started packing their suitcases. These were the elite of the plunderers, professionals who took only the best, and left the rest for the small-time operators or, heaven forbid, the academics. Competition between them was fierce but good-natured (after all this was a time of plenty) and by the end of 2002 it was estimated that between 40 and 50 million pounds had been spent by the most ambitious and acquisitive collectors on antiquities. It was big business. By 2003 this elite group of plunderers had gained a code-name; 'Raptors' meaning plunderer in Latin. They are a group of nine men and women whose identities remain secret to all but a privileged few. The following are regarded as the best plunderers in the world.

Lincoln



Age: 29

Lincoln first became aware of the plunderer trade while working in the buying department of an exclusive artefacts shop on London's Bond Street. It didn't take him long to see the earning potential in 'artefact acquisition' as it was called by the company's more genteel clients, and he quickly decided on a career change. He has never looked back.

A qualified pilot and Olympic oarsman, his obsessive fitness and an ability to remain cool under pressure have brought him rapidly to the forefront of his new trade. Intelligent and methodical, Lincoln has constructed an efficient network of paid informants within the archaeological and artefact fraternity. These individu-

als, while often in senior positions of trust and confidence, nevertheless keep him well informed about choice pickings all over the world.

His retail experience has provided innumerable contacts among those who merchandise and distribute artefacts, many of them influential people whose interests are expressed in a wide variety of business activities. He lives in Kassel, Germany with his girlfriend, Greta. They have lived together for three years, and have a four year old son, Karl Wilhelm.

Lincoln also supports his recently widowed English mother. His frequent visits to the family home in London's Chelsea often mask the real purpose of his travels which is to pursue contacts in the many London clubs of which he is a member.

Emma



Age: 32

Emma is probably the least likely person to find within this unusual profession. Well-educated, (Cheltenham Ladies College and Newnham College, Cambridge) and with a double-first in Natural Sciences, she stumbled into the trade following the tragic and mysterious death of her husband Daniel in 1998.

Daniel M. was a notable plunderer before his death, operating his business from the cover of an apparently respectable antiques shop near the Angel, Islington. Unfortunately he had secret gambling debts, so his death in a hit and run accident in which the offending vehicle and driver were never identified was a double tragedy for Emma who had to cope with both a sudden be-

reavement and impending bankruptcy.

With typical courage she picked up the threads of her husband's business, successfully staving off the creditors until she could start repaying them. She is gradually paying off the loan - despite crippling interest charges. She now runs the business better than her husband Daniel ever did, which is one of the reasons why the creditors have been willing to wait. She has strengthened and refined the network of informants by relying on the influence and information supplied by Cheltenham old-girls as well as many of the contacts she made at Cambridge. This has given her a highly developed ability to select her assignments carefully, and above all, profitably.

Always strong-willed and highly motivated she has rejected all requests of marriage despite several tempting offers. The more malicious imply that the proposals are generated by her evident wealth and intellect rather than her looks. The spectacles she wears are not really necessary, her sight is as sharp as her mind, but she believes - rightly - that they intimidate many men.

She is currently planning one last success in order to break free from the burden of her husband's debts.

Warren



Age: 41

Unaffectionately known as 'the Weasel', Warren is a shifty character. Nevertheless he is intelligent, unscrupulous and has the ability to make money fast - in any enterprise. He is helped in this by not being burdened with the usual financial encumbrance of a large and avaricious network of spies and the need to bribe petty officials. This is because he simply steals information from the plunderers themselves! - in short, he plunders the plunderers.

Warren used to own a small company which supposedly specialised in corporate security, but really excelled in corporate espionage. His company secretly sold the inside information he gained about his

clients to their competitors. The business was first exposed by the 'Accurate Eye' investigative television programme and subsequently shut down in 1998 by the Corporate Espionage Division (CED) of Scotland Yard acting under orders from the Department of Trade.

Skilfully avoiding the pursuit of journalists, the police and court officials, Warren moved into a new and more-exciting profession - plundering. He now spends most of his time carefully stalking his fellow Raptors. Few jobs, particularly large ones, can be researched and prepared for without his becoming aware of it. He then employs a large arsenal of electronic bugging equipment, sophisticated shadowing techniques and illegal break-ins to discover the whole story - before moving with astonishing speed to plunder the site first. These tactics combined with the latest in espionage technology have raised him to the heights of his new profession.

He employs a corps of small-time East End crooks to do his dirty work, controlling them through blackmail and intimidation. Only very occasionally does he take on a job himself if the prize is so large that his minions can't be trusted. But in general his reputation for nastiness is such that few of his 'employees' ever dare to step out of line. This professional parasite is of course exceptionally unpopular with his hosts, many of whom have sworn to cut off vital parts of his anatomy if only they could find him.

However, he is an expert at concealment, and has yet to be found by anyone - plunderers, police, journalists or debt collectors. Kurt in particular has been financially crippled by this leech on more than one occasion and has sworn to kill him. In the meantime Warren continues his parasitic existence unabashed and unpunished.

Conrad



Age: 28

Conrad comes from a wealthy American family who winter in Aspen, Colorado and spend the summer in Newport, Rhode Island. Descended from Ukrainian immigrants, the original family fortune was based on railroad speculation and then first world war armaments.

Conrad enjoys a hard and fast life-style and revels in physical action and excitement. He enjoys a reputation for recklessness but in fact everything he does is finely and carefully calculated. Essentially rebellious, he cannot tolerate authority of any kind. His father George owned several key companies operating within the North American military industrial complex. One such

company, RaXXol Specific Technologies, developed and manufactured the MS-2 Helmet. Because such products could fetch phenomenal prices on the black market, Conrad was never averse to bucking the system and earning a little extra money. It was therefore while handling a deal on a couple of MS-2s that he first became aware of the Raptors and their lucrative profession.

His reclusive father developed Alzheimer's disease but surprised everyone by marrying his Louisiana nurse (Ginney, the 23-year old former beauty queen 'Miss Cajun Country 1998') and then dying shortly after their sexually energetic honeymoon in the Bahamas. His father left everything to his briefly grieving young wife.

The estate was immediately plunged into extensive litigation which promised only to enrich the competing lawyers. Meanwhile, unable to sit around and await the outcome of the litigation, Conrad decided to satisfy his needs for physical excitement and social rebellion, and to finance his expensive life-style - through becoming a professional plunderer. In the three years since, through tenacity and courage, he has at last joined the unofficial ranks of the elite and is now one of the top plunderers in the world.

Patrick



Age: 51

Patrick is a veteran of the trade and has seen plunderers come and go. He started business in the late 1960's, uncovering and selling bronze Celtic relics to private collectors in America and Italy.

The next two decades were the boom years for Patrick, before governments clamped down on cultural and archaeological pilfering. Now he's struggling as the business he's known all his life changes beyond recognition - becoming more technical, competitive and highly organised as the new blood moves in. The real problem for him is that the industry has become immensely profitable, attracting the young, well-

educated and ambitious with whom he cannot compete.

Like all the 'big league' plunderers he has a network of paid informants within the industry (mostly relatives or old friends) but like him they are getting on and many have retired. Thus his international dealings have fallen back rapidly in the last few years but he still dominates the small market in Ireland.

Married for 32 years with 6 children and 3 grandchildren Patrick wants to retire. But he also wants one more big win to finish off - he wants the Grail.

Helga



Age: 29

Helga is beautiful, dangerous and the undisputed wildcat of the plunderer elite. Little is known of her early background but police records in Colombia show that she became involved in petty crime and drug-dealing during her teens. By the time she was twenty she had progressed to cat-burglary - an area in which she obviously excelled.

How she became involved in 'artifact acquisition' is not clear, though the noted plunderer Henri Montagne was reputed to have been one of her many lovers at that time. She was certainly well-suited to the task and has risen rapidly to the top echelon of her new career within an astonishing 18 months! The reasons

for her success are many.

First is her complex personality which combines a fearless determination and street-wise cunning with a rebellious and aggressive sense of independence. Second is her superbly fit, cat-like body which is both strong and extremely agile. Finally there is her previous criminal experience and links with the South American underworld. All this combines to make her a formidable female. She is notorious for her ability in street-fights, mostly learned the hard way, in the back streets of Bogota, and is an expert with a flick-knife. She lost her right eye in a knife fight in Marseilles in 1985 but the diamond-decorated eye patch she subsequently wears only accentuates an air of mystique.

Her earnings fund a lavish and promiscuous life-style. Her rebelliousness appears again in her love-life where she is rumoured to be 'flexible' regarding the gender of her lovers - but this has not been verified conclusively. She has a large network of contacts, both professional and romantic all over the world. Interestingly her longest known affair was with fellow top plunderer Kurt W. which lasted almost 12 months. Their reasons for parting are unknown.

Kurt



Age: 42

Kurt was a soldier who left the Parachute Regiment to become a mercenary and gun-runner. This lucrative and promising career came to an end in the year 2000 after a parachute accident left his right leg broken in five places. As a result he still has difficulty moving fast. While recovering in a private Cuban hospital he had the good fortune to meet the plunderer Graham Wiley, who had been injured while on a job nearby.

Wiley immediately saw Kurt's potential and over the following days convinced him to become a partner in his small business. Wiley then taught Kurt the trade. Kurt was a natural, and master soon became student as Kurt forged ahead. By hard work and a

determination to be the best, Kurt single-handedly turned the business around, pushing it towards the top end of the market. This brought him into heated conflict with the lazy Wiley who liked 'his' business as it was.

Following a violent and regrettably public argument in one of Havana's most prestigious gambling houses, Wiley's body was found by police, apparently stabbed after a clumsy mugging. Kurt was suspected, but there was insufficient evidence to link him with the murder. The following year Kurt achieved his ambition and joined the Raptor elite.

The reasons for his success lie in his military background, his controlled killer instinct and his ability to stay cool under pressure. His ruthless determination to succeed and survive have often seen him finish jobs that others wouldn't have dared to attempt.

Kurt is unmarried but his roguish charm and rugged good looks have won him many hearts over the years - most notably that of fellow plunderer Helga R. who lived with him for nearly 12 months. Their reasons for separating are unknown.

Ingrid



Age: 39

Ingrid studied archaeology at Copenhagen University, and later opened her own business as a dealer in ancient artefacts. She married a wealthy Swedish businessman in 1995 and moved to Zurich but continued her passion for collecting. She is a gentle but head-strong woman who refuses to deal with middlemen. Eventually she made direct contact with two of the elite plunderers, Helga and Kurt, who then provided her with some of her better and most valued pieces - but always at a price.

She became an obsessive collector, always demanding the best. This eventually led to friction with her husband, a commodity speculator, whose soaring personal income could

not keep pace with the increasing cost of his wife's expensive hobby. This tension increased as the prices for these artefacts kept escalating, but Ingrid was by now a fanatical collector. Suddenly she hit upon a desperate idea to curb expenditure - she would do her own plundering!

But could she really do it? The more the idea grew in her mind the more she liked it. After all she was fit, intelligent and had always found a thrill in extreme physical action. She became excited by the idea and decided to try it! Tentatively at first, then with more confidence, she began constructing her own network of informants. Next she started compiling the technical equipment she would need for the job, carefully keeping all this secret from her husband.

She carried out her first raid in October 1999. She failed to get there first, but the excitement she felt during the raid was to become a new obsession for her. Her fractured marriage did not survive, however, and she was divorced in the year 2000. She was forced to sell part of her precious collection, but by then she was already organised and well along the path to becoming a top plunderer. By 2003 she holds a place within the Raptor elite.

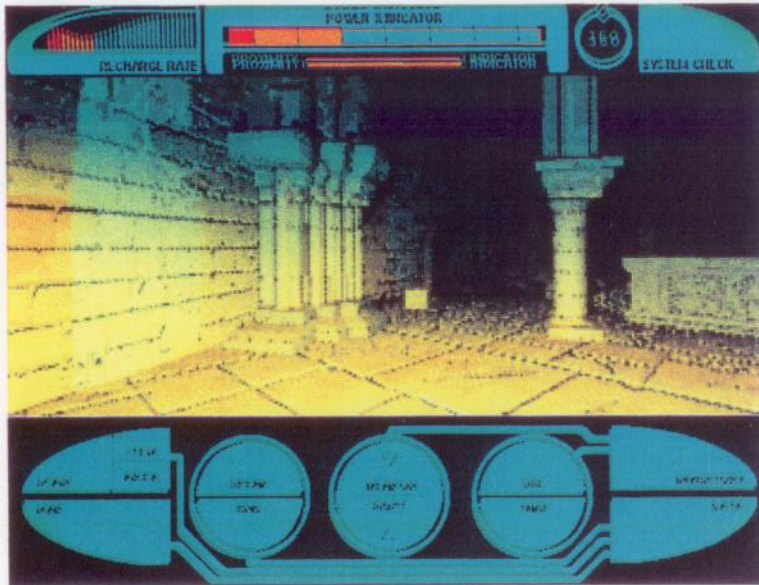
Collin



Age: 32

Was once a member of the elite but died recently within Aeternis.

Raptor Equipment / Head Up Display



The Raptors are sophisticated cat-burglars by nature. Not for them the heavily armed storm-trooper approach, they prefer to be light and fast, quietly finishing the job before anyone even knows they're there. Clothing-wise, they therefore tend to wear light-weight thermal leotards with soft-soled sneakers. They also carry a light back-pack or satchel which holds their tools and supplies (the specialised tools that they carry and the weapons they use are detailed in the next chapter). For maximum speed and efficiency they never carry more than 15 kilograms - this is for satchel and weapons combined.

The only other piece of equipment still to be discussed is the MS-2 Helmet. It is a piece of sophisticated military hardware, equipped with a range of multiple technical functions that are superbly suited to the Raptors' profession. It is an expensive and impressive piece of equipment, difficult to obtain but considered now to be standard kit for any serious Raptor. It is in reality a minute and complex computer set into a hard-shelled helmet, that can provide a vast array of functions for its user. It can be powered by any source but relies on solar-power while in Aeternis. It is completely capable of auto-repairing itself when damaged. It is however a fairly new product and as such is not completely free from the occasional 'bug'. Primarily, it provides the Raptor with sophisticated 'Head-up display' information in the form of text and wire frame pictures in the style of the film 'Terminator'. A list of its major functions follows:

Power Indicator

Shows the current power level, and is calibrated loosely in percentages of the maximum; it is linked closely to the light meter allowing quick feedback and advice when the power level is low, as well as automatic warning systems for when power has reached critically low levels.

Detection

This facility reports the distance, direction and classification (Guardian, Creature or Other Player) of any target within its detection range. The range is dependent upon power-levels. This information is represented as text scrolling down an area of the viewing window in the manner of a Terminator-style display.

Light Meter

The Light Meter function advises the distance and direction of any light source within its detection range. This allows a player to re-charge power-levels when needed.

Translation Module

This function allows the user to understand and converse with people using foreign tongues. This module does however have difficulty with the outdated and often strange dialects spoken within Aeternis, and so therefore may sometimes provide only patchy or partial translations. This function also links to a player's database of stored dialogues which will act as a library of clues and information throughout the game.

Strategic Scan

Allows the user to scan in front, to the sides or behind, providing detailed information on all living creatures and Guardians within the chosen direction, up to the detection range. This is a more powerful tool than the normal detection system, and can be used to warn the Raptor about life-forms a considerable distance away, but it is correspondingly expensive in energy consumption, and can only be utilised for short periods of time.

Navigation Assistance

Provides a constant location guide for a player in Aeternis. It does this by supplying an on-screen compass and the facility to refer to Sir Richard's hand-drawn map.

Map

This map has been scanned into the Helmet's memory and can be accessed and referenced at any time by the player. As the player moves around the complex, the map will update to a technically accurate version, generated by the helmet and lying over Richard's version. The map can also act as a database access, and selecting areas or objects on it can activate information stores which tell the player all that they have discovered about the relevant object.

Systems Check

This feature reports on the operational status of all on-board electrical and computer systems. If any function is damaged the diagnostic features will automatically provide self-repair timings and inform the wearer when that function comes back on-line. The diagnostic function also reports on the physical status of the player, detailing physical damage and the effects of such damage, levels of exhaustion and degrees of dehydration.

Knowledge Database

The helmet keeps track of all objects, characters and information encountered by the player. This forms a database of linked items to which the player may refer to at any time. Information may be relayed from helmet to helmet, allowing the exchange of information between raptors.

Chapter 7 Puzzles

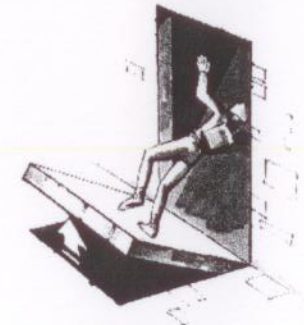
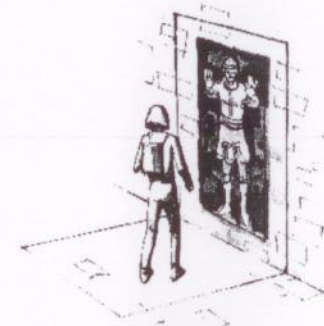
There are 5 basic principles which govern the generation of puzzles in the game. They are as follows:

- 1) All puzzles will be linked together, either in short chains or as parallel paths through the complex. No puzzle will stand entirely alone.
- 2) Puzzles serve to build up the player's knowledge about the temple and how to pass through it, with the solutions to the puzzles themselves adding to the usable information the player has. Wherever possible, 'real' mediaeval symbols and information will be used, to give a feeling of high authenticity to the setting.
- 3) Some of the puzzles will require player co-operation with other characters, including other Raptors, and many will become considerably easier using this method. It will be possible however to complete the game without co-operating with anybody, but in this case another Raptor would probably find and remove the grail first. The player would then have to steal it from them on their way out of the complex.
- 4) Most of the puzzles will have more than one path to their solution.
- 5) The paths to solving the puzzles will be influenced by the personality and inter-relationships of the character adopted. All puzzles may, however, be dealt with to some level of satisfaction in the style of any of the Raptor characters.

Each puzzle will offer a reward to the player who completes it and give feedback to the player while its solution is being sought. The reward for a correctly completed puzzle varies according to the complexity of the puzzle itself. Solving puzzles can provide accurate and detailed inside information on the chambers and creatures that lie ahead for the player, open small, hidden recesses which contain useful tools, documents or suchlike, or can open secret doors or passageways which lead to other areas of the temple.

Example Puzzles And Situations;

1) The 'rotodoor' trap as the player approaches a wall, they trip a pressure switch, and the floor rises up beneath them, rotating to drop them into a chamber on the other side. The floor and wall form an L shape; it rotates until the floor beneath the player becomes the wall behind them, leaving them standing on the wall that had been in front of them. In order to leave the chamber, they have to operate a water clock device which eventually tips them back out & resets the trap. There is then an opportunity to use the set-up to trap a monster or other character and prevent them from following the player.





One of the murals used in the puzzles

2) A large carnivorous dinosaur (a 'Leo') stands blocking a passageway. It cannot be moved by direct gunfire and is too dangerous to move around. The way to by-pass it is by using another character to lure it forwards into a larger space, either by persuasion or by overpowering them. In the former case, some benefit must be offered to the character (the return of an object in the case of Edgar, or for Ulrik the mere challenge of fighting the creature in plain sight) or they must be fooled into participating. This could be combined with another puzzle in which a group of Eugenes guards a valuable source of light. In order to remove them without attracting predators, the player has to lure them away using some of their food, moving them into the 'sight' of the Leo. A more dangerous alternative would be to fire on the Eugenes: the noise they make will attract the Leo, and the ready food they represent will distract it for long enough for the player to squeeze past.

3) Light is directed about the complex by means of bronze mirrors. In some areas a mirror might be loose in its setting, allowing the player to direct the light it provides selectively among a few rooms. Options include starving a couple of rooms of light in order to make them more attractive to beast, or less attractive to Raptors and Guardians, to move a group of Eugenes around, or to light up an interesting object in a room.

The mirrors that direct light about the complex could also be mechanisms for Tobias to give helpful hints or present puzzles. He appears with a recorded message, and then fades out again. A Raptor could break the mirror after having heard the message to prevent others from gaining the same information.

4) This puzzle is set in a large room with a domed ceiling arranged in an octagon/Greek cross.

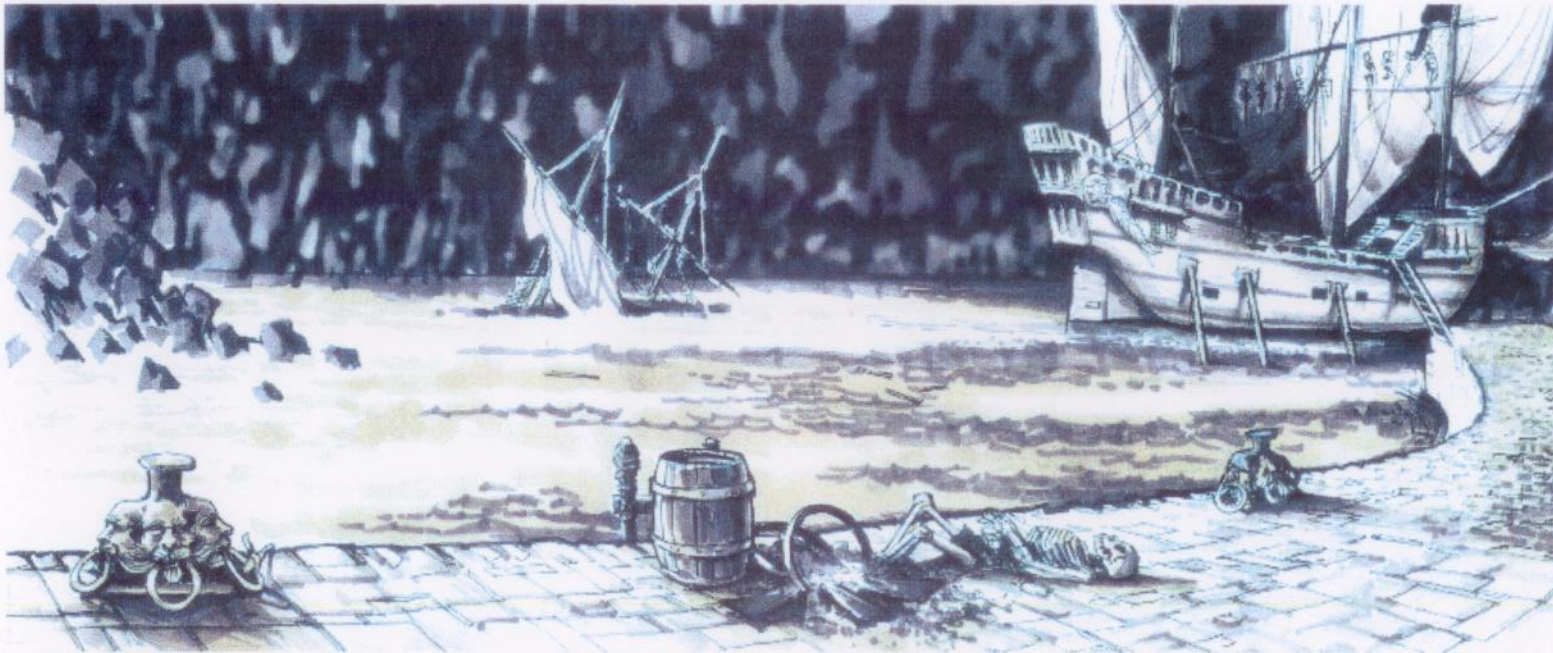
On the floor is a circular Mappa Mundi (map of the mediaeval world), in the centre of which is a golden Orrery (mechanical device for replicating the movements of the planets). The two Grail sites are represented as large set jewels, and the whole map is made up out of tightly interlocking circles. By moving the elements of the orrery, the player can move sections of the map, but will only notice the form of the changes from the viewing platform. When the player brings the two Grail sites together, another part of the map forms an explanatory diagram for a further part of the complex. The map starts and ends as an ordered representation, but there is a period of chaos between the two states.

On the underside of the orrery there is a further device of concentric rings, painted red & covered in deeply carved names. Its discovery and manipulation lead to another chamber below the map chamber which contains a schematic map of Hell, the roof of the chamber being covered with gears & workings for the map above. At the centre of the map is Mallik's name, scrawled obsessively into the stone. If the player aligns the circles of hell, they open an aperture to Underworld (from which many monsters pour), or are rewarded with a visitation from the ghost of a murdered worker who tells the player the characters of the knights & who they might trust.

Note; there are different layers of information to be gained from this puzzle, so the player will keep returning and get more from it as their knowledge increases.

Linked to previous puzzle; one part of the orrery is missing - it is one of the knights' precious objects, and must be wrested away from them.

5) A puzzle in the form of a mural, containing seven planets. A man indicates one of the planets, and wears a robe of seven colours. The player must talk to Lurka to connect the colours and the planets. This should not be immediately obvious to the player because the mural will contain many colours, and the man's clothes might only contain decoration using the planetary hues. (If Lurka tells you that the planet is Mars and the colour red, the player might be rewarded with an item of iron - perhaps a magnet). This might lead to a follow-on puzzle where the player uses their new knowledge of colour correspondence to identify Saturn as black, is given some lead, and then has a weight and a magnet with which to solve a more physical puzzle.



6) A capital for a door is positioned near the floor, and there is a slight gap between wall & floor immediately under it. Upon deciphering of the carvings on the capital, there is revealed to be a buried door there, and an animation plays of the floor dropping into the shape of a Roman amphitheatre, leading down to the now exposed door.

6a) Linked to the previous location- there is a lowered section of tunnel, filled with water from the river that flows through part of the temple. By diverting the river, the player can make the passage passable. Beyond it is a dock area, with a small inaccessible aperture to the outside world (which might alternate rapidly between light & dark) and a large decayed galleon which the player can move onto. If a further puzzle is completed on the ship, the he player is rewarded with information about the history of the temple culminating with instructions on how to find Tomas' tunnel from the Inner Sanctum to an outer layer of the complex.

7) Door puzzle: in this one the player is directly opposed to Tobias, with his pre-cognitive powers and ability in manipulation. This puzzle seems most suited to a position by an important door, the complexity of the puzzle being offset by the immediacy and apparent nature of the reward. The player is presented with a capstan-like pedestal, with 4 apertures at the cardinal compass points. Within each aperture is a switch with 2 positions (up & down). Only two of the apertures can be accessed at a time (the others scythe shut), and between accesses, the capstan spins around by an unpredictable amount. The aim of the puzzle is to have all of the switches facing the same way, in which case the door will open. The capstan is controlled by Tobias, who ensures that no matter which apertures the player decides to investigate, the least helpful pair are presented (without physically changing the order/status of the switches). In board game play, one simply decides which apertures are presented after the player has decided what configuration to investigate. Since there are only two configurations the player can choose (opposites or adjacent), the computer will also be able to use pre-set presentation decisions for each possible situation.

Solution: At the start, there must be either 2 up/2down; or 1/3.

If the arrangement is

```

      u
    d   d
      d
  
```

and the player picks adjacent holes, you'll get d-d. Flip one of the switches to yield;

```

      u   or   u
    d   u   d   d
      d           u
  
```

Next choose opposite holes. If they are the same, change them both and solve the puzzle. If they are different, flip them over to yield the last pattern shown, then choose opposites again.

8) Claude and Ewatt, the two ghost knights, still fight out the battle Mallik began. They are the only standing figures left in a chamber filled with skeletons. The player must intercede between them and settle their dispute, which incidentally will lead to the player's learning about the battle, and Mallik. If they succeed, they are rewarded with a great deal of information, especially about the other surviving guardians.

9) The player encounters an alchemist, trapped in an Iron Maiden. Hated and reviled by the other guardians, he has been imprisoned here, suspended from death by the influence of the grail. If freed(not an easy thing to accomplish in itself)he will become a loyal companion, a useful key to the meanings of the mural puzzles, and a guide around the temple. However, on discovering him at large, the other knights will attack both him and the player, and will refuse to deal with either of them.



The mosaic pool – another puzzle

Chapter 8 The Production Team

Producer

Matthew Stibbe B.A. (Hons) History - Pembroke College, Oxford

Matthew has been running the company full-time since graduating in 1991, having run the company in his spare time since 1988. Matthew not only oversees the development of all Intelligent Games products, but is also involved with the design and coding and has personally programmed several products, including AutoRoute and 'Nam.

Designer

Ken Haywood

After a two year, part time, fine art course and a full time two year graphic design course in Sydney, Australia, Ken moved to London. He has been a professional graphic designer for five and a half years and is currently self-employed in Winchester. He has also worked as an illustrator while freelancing. His interests in fine art, history, architecture photography and design have come together in Raptor.

Artists

Richard Evans B.A. (Hons) Graphic Design - Middlesex Polytechnic

Richard graduated in 1991 and, after Matthew Stibbe, is the longest-serving member of the Intelligent Games team. A specialist in animation, Richard's work is unique and distinctive. Richard has used our *VideoWrap* technology (texture-mapping live action video onto three dimensional models) to great effect in producing the graphics for a prototype CD-ROM game, and has also worked on the design and scripting of several projects.

Richard Guy B.A. (Hons) Fine Art - Oxford University

A graduate in fine art from Ruskin College, Oxford University, Richard can contribute a detailed and creative edge to Intelligent Games graphics and his long-standing interest in role playing games will help him interpret and enhance Ken Haywood's design.

Programmers

Harry Holmwood B.Sc. (Hons) Computer Science - Southampton University

Since graduating in June 1992, Harry spent some time touring and recording with a rock band, both sequencing keyboards and playing bass guitar, before joining Intelligent Games as a musician and programmer. At university, Harry undertook a project involving artificially intelligent music generation. Harry will be project leader for Raptor and will also produce the music for the game.

Other Personnel

Script Writing: Mark Giles. Mark wrote the scripts for a Virgin Interactive Entertainment CD-ROM title for Intelligent Games, and is currently working on new scripts for the company.

Second programmer: A second programmer will need to be hired to work on the game. A third programmer may be hired to augment the OVM tools development system.

Intelligent Games background

Intelligent Games Limited is a small computer software company, specialising in computer strategy and role-playing games. It has been operating on a full-time basis for the past eighteen months, although the company was started by Matthew Stibbe 1988, and run by him in his spare time at university until August 1991. Since leaving college he has turned this hobby into a thriving small business employing eight people.

Philosophy

At Intelligent Games, we believe that a computer game needs more than impressive graphics to maintain any appeal for the player. It must have real depth and gameplay. For this reason, we build our games 'bottom-up', often creating a playable prototype which we can test for playability and depth *before* adding the graphical and aural polish. We are now at a stage where all computer games, including ours, have stunning rendered graphics and breathtaking animation, but many games on the market fall short in terms of sheer playability. This is where we make a difference.

Previous work

- Imperium, published by Electronic Arts. Designed by Intelligent Games.
- 'Nam 1965-1975, published by Domark. Designed and programmed by Intelligent Games on Mac and PC.
- AutoRoute - programmed a Macintosh version of the popular PC electronic atlas.

Current Work

Intelligent Games has three games in production for publication in 1994. All our games are produced first on PC and some will be translated to Mac or Windows. One game, to be published by Virgin, is a CD-ROM based title; another is for floppy distribution by Maxis.

Target Platform

CPU: 486 SX, 25MHz

RAM: 8MB

HD: 20MB Free

OS: MS-DOS 6, running in protected mode

Video: SVGA running VESA mode 101 (640x480x256 colours)

CD-ROM: Capable of 300Kb/S transfer rate minimum

Development environment

Video Grabbing

VideoVision Studio. Server upgrade to include: .CD-ROM gold disk mastering. CD-ROM player. 4 GB hard disk.

Programming

486/66s, 170MB Hard disk, 16MB RAM, Network card, Windows, DOS, Mouse.

Watcom C++ 9.5, Rational DOS 4GW DOS extender, WVideo debugger, Delta source code control.

Testing

One 486/33, 170MB Hard disk, 8MB RAM, Network card, Windows, DOS, Mouse. 1GB hard disk to simulate CD-ROM. .

Artwork

One Macintosh Centris 840AV. 20MB RAM, 2GB Hard Disk.
Canon CLC-10 Scanner / Printer
Adobe Photoshop, Adobe Premiere, Studio/8, Morph

Rendering and modelling

Silicon Graphics Indy 1GB disk, 48MB Ram, SoftImage or Alias software, tape backup.

Software tools

Intelligent Games tools

Intelligent Games will contribute its OVM class library with a non-exclusive, single product licence, in object code only format. OVM stands for Object Virtual Machine and is designed to speed implementation and porting of computer games by providing a standard API to wide variety of generic components. Some components will be enhanced for use with CD-ROM titles. Detailed user documentation is available for all the components, and demos and test programs are available for most. OVM consists of the following components:

GFX	Low level graphics
SND	Digitised and MIDI sound manager
RES	Resource manager
MEM	Memory manager and protection
DBG	Tracing and other debug tools
SEQ	Synchronised sound and animation
VWM	View hierarchy manager for high level user interface work
APP	Application shell
GEO	Geometric primitives
FLI	Animation player
FIL	File handler
FON	Font manager
EVM	Event manager
CC	Collection classes

Publisher provided tools

Miles Design sound drivers.

If necessary, video compression software.

Chapter 9 Implementation Details

Interaction with non-player characters

Dialogue and knowledge acquisition

When the player meets a non-player character (NPC), s/he may elect to engage them in a conversation. Conversation takes two main forms :

Branching dialogue trees will be used to convey information about the characters themselves - the player may have a variety of questions and statements which s/he may ask the NPC - these will be about general topics (which will depend upon the game status and the player's relationship with the NPC) and exist partly to give the impression of natural speech and partly to introduce the player to new topics via the NPC's answer. The NPC will also have a number of these questions available - deciding which one (if any) will be done using our existing 'branching plot' code. If the player chooses not to start a dialogue, the NPC itself may start one. This works as follows :

A *dialogue lookup table* is a two-dimensional array with one character as the 'x' index and another as the 'y'. By examining the array entry at the point (x,y) for two characters, a pointer to a list of possible dialogues for those two characters is obtained. Associated with each possible dialogue is a flag which stores the probability of that dialogue occurring for a particular situation (if the dialogue has already occurred between two characters, then the chance of it occurring between them again is zero). By taking the most likely dialogue, and entering into it (all the dialogues are stored in a third table), there is no need for random numbers to generate realistic evolving conversations. Certain game events and changes to variable values (such as the *empathy* variable) will change the values of some of these flags, making different dialogues available.

Once a dialogue has been entered into, it may still branch and flow in a number of ways - at each point in a dialogue, the player (or NPC) may have a choice of a number of paths to take the conversation through. In the player's case this choice is his/hers, and will be chosen from a list on the HUD. For NPCs, the branches will be prioritised, the priority values being decided by that character's empathy for the player.

Non-branching dialogue is at the heart of many of the game's puzzles. Like the player, the NPC raptors in the game are searching for information which will help them in their quest for the grail. When a Raptor first enters a room, meets a character or examines an object, s/he will have acquired a basic piece of information. Generally, all characters, objects, locations and puzzles will have several pieces of information about them which can become available to the raptors over the course of a game. These will have associated with them an *importance* variable, hidden to the player, which is used to rate pieces of information according to their value. Therefore, in addition to the questions and statements the player may issue, s/he may also select '*Tell Me About...*', at any point in a dialogue situation. Once selected, the HUD will prompt the player to select whether s/he wants information about a location (which includes any objects the player may see from that location), a character (which includes generic creatures such as Theos and Eugenes) or an item (anything that any character may have in their possession). The player's choice determines what is overlaid on the head up display next :

Location

The map appears on the head up display (HUD). The player may select an area of the map to ask about, either by clicking with a mouse or by cycling through the available locations with a key press. Only locations previously visited by the player may be asked about. If the location contains a number of items about which information exists, the player will be further asked to specify which object is needed.

Character

The player is presented with a scrolling list of character names to choose from. One is highlighted at a time, with a picture of the currently selected character shown to the right of the names.

Item

The player's inventory window is overlaid onto the HUD, and s/he must select one item to ask about. If the desired item is not a part of the inventory, the player may click on the 'Other...' option. Now, details of all non-inventory items that the player has seen or heard of will be displayed on screen (in the same way as for characters) and the player may now select one of these.

If the NPC knows anything about the selected subject s/he may or may not decide to give away the information. This depends upon the character's *empathy* variable for the player, which itself has been determined by the player's actions in the past. Unless the character has a very high empathy value for the player, it is likely s/he will want something (either an object or information) in return. What the NPC will want is determined by examining where that NPC has explored (assuming the NPC is a Raptor) and the relative values attributed to the relevant pieces of information. For non-Raptor NPCs, there will be pre-set questions to which they require answers.

Information given to the player is added to the *knowledge database*, which may be called up at any time for reference or to give information to an NPC. Along with the information is stored details of how the information was acquired (either directly by the player, or the name of the character revealing the information) and the time of its input. This information allows the player to judge the reliability of any piece of information based upon his/her relationships with its provider at the time.

Lying

If an NPC has a very low empathy value for the player and is asked for information, s/he may lie. Whether or not an NPC will lie will depend upon both the NPC's *truth* variable, and that NPC's empathy value for the player. The incorrect information will still be added to the knowledge database, but if the player discovers contradictory information directly, the lie will be erased from the database - the player will know not to trust that character in the future. If two NPCs give conflicting information, both pieces will remain in the database - the player must use his/her judgement of the NPCs to decide which to believe. NPC lying may be used to the player's advantage - by asking a question to which the player already knows the answer, s/he may 'test' an NPC's honesty, and can decide whether to trust them in the future. Sometimes, the lies will be less believable than others, allowing the player to use his/her judgement in deciding what to believe.

The player may also lie to an NPC during conversations, but obviously this can lead to NPCs being unwilling to help in the future.

Object Exchange

Additionally, the player may, at any time in a dialogue, ask an NPC to 'Give me...' an object. The player may have used his/her scanner to determine which objects the NPC possesses. Like pieces of information, objects have values attributed with them - these are determined by the number and difficulty of puzzles which can be solved with them, as well as their material worth and apparent usefulness to the casual observer. An NPC will often be unwilling to trade objects of high value for lesser ones.

Character Collaboration

Many of the puzzles within Aeternis can only be solved by two characters working together. At any point in a dialogue, the player may select 'Join Me'. This is an invitation to the NPC to join with the player temporarily to achieve a common goal. Whether or not an NPC will join with the player depends partly upon their empathy for the player, and partly on how successfully the NPC is progressing alone. Generally, NPC Raptors will be far more willing to join a player than the non-raptors, although even they may be persuaded in exceptional cases. Once joined to an NPC, the player takes the dominant role. From this point on, when a dialogue occurs with the NPC, a further set of choices appear :

Go To : The player may instruct the NPC to travel to a particular location, selected from the map on the HUD. Alternatively, the player may select another character - in which case the NPC will try to find that character.

Wait For : The player may choose either a period of time (measured in seconds, in the time which characters experience in the presence of the Grailstone - therefore 'Wait for 30 seconds' will cause the NPC to wait for around 30 seconds of game time) or a character (selected using the HUD in the way described previously).

Kill : The player may instruct the NPC to attack a character. Obviously, the Grailstone will generally render any injuries temporary.

Fetch : The player may instruct the NPC to get an object. The object must be in the room the NPC is in at the time the order is interpreted.

Use : The player may instruct the NPC to use one object on another object, location or person, or to use 'themselves' on an object, for example to move it.

Leave : The player chooses this if s/he no longer wishes to associate with the NPC.

An NPC will store its forthcoming actions (whether orders or independent actions) as a list of the above statements. The player may, when giving orders, use the word 'THEN' to separate actions, allowing the issue of complicated orders to be given.

Example :

The player, playing the part of Ingrid, has persuaded Conrad to join her. She has seen a heavy portcullis blocking her way into a small room - surely these measures suggest there's more to the room than meets the eye. She orders Conrad to '*Use yourself on the portcullis - THEN wait for me*' - he cannot lift it alone, so she helps. Together, they manage to lift it just enough for Ingrid to slip underneath. Once inside the room, she soon discovers a hidden panel and crawls away. Realising he's been tricked, Conrad swears never to trust her again. Ingrid doesn't care - she's gained a valuable advantage.

Mutiny

In the above example, Conrad would, having discovered Ingrid's deceit, immediately stop co-operating with her.

Whenever an NPC enters into a partnership with the player (or another NPC), a new variable comes into play. Known as the *co-operation index* this measures how willing the character is to continue the arrangement. When this variable reaches a certain level, a *mutiny* situation will occur. At this point, the NPC will break the partnership, and will have his empathy variable for the player reduced. Therefore it is in the player's interest to keep co-operations as short as possible - the player can break the partnership with little or no damage to the empathy value. Situations which would reduce the co-operation index include :

- Another character persuading the NPC to join him/her.
- Giving too many orders (each one will decrease the empathy value a little).
- Putting the NPC at unreasonable risk.
- Asking an NPC to kill a character whose empathy value is higher than that of the player.
- Failure to give the NPC any orders - to start with the NPC will generally follow the player around. All the time, however, the co-operation index is being reduced, resulting in a mutiny within a very short time.

NPC-Initiated dialogue

With the player

Obviously, NPCs may start dialogues as well as the player. This will happen if the NPC finds that the player has items which s/he might find useful, or if the NPC needs a piece of information that the player might have. Because the NPC objects essentially have access to solutions for all the puzzles in the game (although the game engine will only ever let them behave as though they are slowly working their way through), they will always be able to ask the player questions (they know what they need). However, NPC behaviour scripts and AI routines will be such that the characters will always appear to be struggling as much as the player.

To initiate a branching conversation, an NPC will examine his/her branching dialogue table, to see which dialogues (if any) are available at that time.

With another NPC

NPCs must also be able to converse with each other, without the interference of the player. There are two mechanisms for this :

NPC-NPC dialogue in the player's presence

The player must be able to observe and overhear dialogues between NPCs (for example, the player could be hiding in a dark area of a room, hoping to overhear a conversation which could provide important clues. To achieve this is very simple - both NPCs will behave as if the other was the player. With no additional coding, once one NPC has initiated a conversation, it will flow as easily as any NPC-player dialogue. The distance between the player and the other speaker will be used to determine how much of the dialogue can be heard. The dialogue will be delivered at a reasonable pace, to allow the player to understand what is being said.

Should the player decide to leave the area during one of these dialogues, the dialogue will cease to be spoken, but will continue as a dialogue in the player's absence (see below).

The player may also interrupt the dialogue by making his/her presence known (by walking past, or making a noise). In this case, the NPCs will stop their dialogue. Once stopped, they will carry on their normal activities (which will often involve attacking the player) - two NPCs who have been speaking together may well have formed a partnership, and could thus represent a serious threat to the player.

NPC-NPC dialogue in the player's absence

If the player is not present, there is no need for the dialogue to take place. Processing time and disk access can be saved if such NPC meetings simply concentrate on information and object exchange. When two NPCs meet like this, both will 'know' which objects and pieces of information they need. If a situation occurs where an exchange of information or objects of approximately equal value can occur, and this change would benefit both characters, then the exchange may take place. Naturally, no branching dialogues will take place in the player's absence.

Speech

Whenever the player observes or indulges in a dialogue, sampled speech will be heard through an appropriate sound card. Most of the NPCs will speak in English, particularly the Raptors and characters who have entered Aeternis relatively recently. Each character will have a unique and distinctive voice, with each phrase spoken by a real actor/actress. Because there are many dialogue segments which could be spoken by a number of characters, it is necessary to distinguish between spoken dialogue and information exchange (between raptors) via the MS-2 helmet.

For branching dialogues, all lines that an NPC can speak are stored together on the CD-ROM. Storing them together will minimise the seek time required to find the next dialogue segment. For NPC-NPC dialogue in the player's presence, the whole dialogue and its outcome will be cached to hard disk for one of the NPCs before the dialogue session begins. In this way, one NPC's dialogue can be taken from the CD-ROM while the other is taken from the hard disk, eliminating the need for the CD-ROM drive to jump from character to character.

With non-branching dialogues, it is important to differentiate between the character who *originates* a piece of information, and those raptors who merely pass it on via their HUD information stores. If a character (often one of the Templar Knights) has a piece of knowledge specific to him/herself and chooses to reveal it to the player, that piece of information will be spoken in the appropriate character's voice. If, on the other hand, a fellow Raptor has acquired a piece of information and decides to reveal it to the player, the information transfer will occur between their helmets, avoiding the need for each speech segment being stored in each possible character's voice.

Interrogation of the knowledge database

At any time during the game, the player may examine his/her acquired database of knowledge. The MS-2 helmet stores every piece of information the player encounters, whether about locations, characters or objects, as well as when and how the information was acquired.

By selecting the 'database' icon, the player enters the database interrogation mode. The HUD overlays an 'index' of topics, which the player can manipulate like a hypertext system, using interactive 'hot links' to join related topics. The first section gives the player a choice of 'Character', 'Location' or 'Item', and the player may select a topic in exactly the same way as with non-branching conversation. Now, details of the relevant topic appears overlaid on the HUD (with a picture if the player has seen the location/item/character). These will be presented as a series of pieces of information, each of which is time-stamped and features the name of the character (if any) who provided the information.

Information which the player has found for him/herself will be shown in a different colour, as it can be assumed to be 100% reliable.

Often, these pieces of information will contain references to other objects, characters or locations, which can be clicked upon to change the selected item. Any information known about the new item will now be displayed in a similar fashion. At any time, the player will be able to click on an 'Exit Database' button, whereupon the HUD overlays will be removed. Note that database interrogation takes place in real-time, so the player must remain alert while using the system.

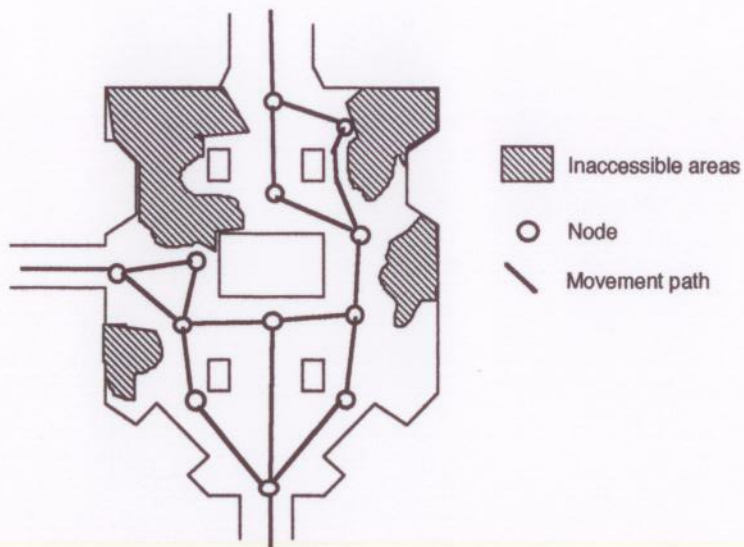
The knowledge database system will be derived from our existing hypertext code.

Screen Display

The game will run in SVGA mode 101. This has a resolution of 640*480 pixels, at a depth of 256 colours. Most of the screen will be taken up with the view through the HUD, which shows a three-dimensional first-person view of the world (in a cinematic 640*280 window), overlaid with a constant stream of analytical, computer-generated information. The HUD is generated from a 320*140 image by doubling the size of the pixels. This reduces the disk space, processor loading and caching requirements while allowing the HUD to take advantage of the extra resolution.

Nodes and Links

All background graphics will be pre-rendered using Silicon Graphics workstations running Alias software. Unlike existing CD-ROM games, Raptor will feature very high granularity movement - the player may move to many different viewpoints within each room. This is achieved by subdividing the entire play area into a series of linked nodes, each node representing a place where the player may stand. At a given node, the player may rotate the view through a full 360 degrees, allowing inspection of an area from any angle.



The above diagram shows an example of a room. The nodes, represented by circles, are the places in the room where the player may stand. The player can only move between nodes along the movement paths shown. Some rooms will be designed in such a way that some areas will be inaccessible (because of rubble or other obstacles), which allows us to reduce the number of nodes required. More nodes will be present around important objects to allow the player to investigate them more closely.

Although each node stores 360 degrees of rotation (rendered using a 'slot camera' in Alias to maintain perspective), the player only ever has a 90 degree field of vision. The graphics for each node will be stored as two 640*140 PCX bitmap images (known as a *node map*). Often, when the player first moves to a new node, only one of these images needs to be loaded immediately, the other only being needed as the player rotates. This will reduce the time taken to move from node to node, as only 60k of data (assuming 30% compression with the PCX file format) needs to be loaded at a time).

A average of 120k of disk space will be required for each node. These graphical backgrounds will be spread across the two CD-ROMs (a total of 1.2 Gb of storage space). Of this, we will allow around 600Mb for the node rotations, which allows a maximum of 5000 nodes to be modelled in the game.

Caching of Node Graphics

Whenever the computer is idle, it will be busily copying graphics from surrounding nodes from the CD-ROM onto the hard disk and into memory. The computer will store the location of each node (i.e. whether its graphics currently reside in memory, on hard disk or on CD-ROM). This means that, when a new node graphic is required, the game engine will be able to find the quickest way of loading the data onto the screen. The caching algorithm will be intelligent, and will attempt to predict where the player is likely to go next, on the basis of play test data, caching the graphics before they are needed, and discarding them once the player has passed through.

Physical node co-ordinates

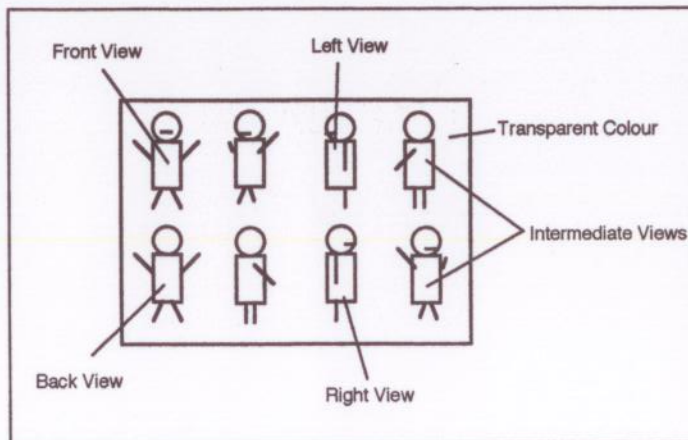
It is not enough simply to represent the game world in terms of nodes and links - because the nodes are not uniformly spaced, we must assign an (x,y) co-ordinate value to each node in the game world. Therefore, each node object will contain a *TPoint* member variable (a class from our OVM library, storing a pair of co-ordinates to represent a point in 2-D space), with the two co-ordinates representing a distance in metres from an origin at the top left of our game world.

Sprites

All creatures and characters (except Sasha) in the game will be modelled as sprites. The sprites will be generated using Alias animation software on Silicon Graphics workstations (with the possibility of rendering the individual frames over a network of PCs using Pixar Renderman or equivalent software).

Sprite Rotation

Although the player will have total freedom to rotate his/her viewpoint through 360 degrees, it is not feasible to store a view of each sprite for each of these angles. Therefore, each sprite can be viewed from any of eight angles. A sprite will be stored as a series of animation files, stored in our variant of the FLI file format, with one section of the bitmap area of each file given over to one rotation :



Each sprite action (such as walking, shooting or picking up an object) will have its own animation file. One frame from such a file is shown above. The FLI format stores only the differences between each frame (this is known as *delta compression*) to save space and time when loading a new frame. By holding one bitmap which holds all possible views for a sprite at a given moment in time, there will be no delay in accessing a new view for a sprite when the player rotates the view or when the sprite turns around.

When the system knows that a sprite may be visible (see below), the relevant NPC object is examined to see which action it is performing (running, shooting etc.). The appropriate FLI file for the sprite action can then be accessed - in a similar way to backgrounds, these will be cached to hard disk and memory whenever possible. Once one of these files has been accessed in this way, it will constantly cycle through its frames in an off screen buffer, meaning that any rotation of the correct frame can be accessed at any time.

All sprite animations will start and end at the same frame, so that they may be looped, and so that one animation can lead onto another one seamlessly.

Sprite Location

Although the player's viewpoint may only occur at the pre-set nodes (there will be around 5,000 such nodes in the game), NPC sprites must obviously be seen to move freely around the game world. Conversely, the player must not get the feeling that NPCs appear to travel anywhere, whereas s/he has only limited movement. This problem is avoided in two ways. Firstly, the very large number of nodes means that the player does indeed have total freedom of movement. Secondly, an NPC sprite moves along exactly the same movement paths as the player, but can exist 'in between' nodes, which the player cannot.

An NPC's location can therefore be measured in terms of one or two nodes - at all times the NPC will either be on exactly one node, or will be moving from one node to another. The NPC's position in the game world will therefore be represented as two pointers to nodes, with an integer value representing the distance the NPC is from the first.

View Calculation

Every time the view is to be recalculated (the exact frame rate will depend upon the host machine's capabilities), the game engine will examine the player's current node to determine which node map is required. A lookup table will be examined to determine whether the map is already in memory (most likely), cached to hard disk, or only on CD-ROM (only likely if the player moves very quickly and unpredictably for a considerable period). If necessary, the map will be loaded into memory.

Next, the player's rotation is considered, and used to calculate exactly which section of the node map will be visible to the player. This area is then copied onto the screen.

Next, the game must decide which sprites will be visible. For each player node, there will be stored a list of which other nodes are visible (including any which may be brought into sight by rotating the view). Whenever an NPC moves between nodes, its new node stores a reference to it in a list structure. Thus, by iterating over the list for each visible node, it is possible to generate a list of (possibly) visible sprites. Note that this need only be done when entering a node, subsequent changes being made only when an NPC arrives at a new node. When an NPC is travelling between nodes, it will be pointed to by both nodes' list structures. Only upon its arrival at the new node will it be deleted from the old one.

Now that we know which sprites *may* be visible, we can use their rotation relative to the player to calculate which of the eight views of the animation will be visible. Because, once the system knows that a sprite may be visible, its relevant (for its current action) animation file will be in memory and cycling through its frames, it is possible at any time to pull a frame from the off screen buffer. In this way, the player can move around a sprite, the sprite continuing its actions smoothly, independent of what angle it is viewed from.

If a sprite is found to be visible, but such a long distance away that it would appear very small, there will be no need to scale down the full-size sprite - this is simply a waste of processor time. Instead, there will be a number of very small 'walking' sprite animations, which can be scaled up or down slightly for characters a long way away. Far fewer of these sprites will be needed as, at this distance, it will be difficult to distinguish between characters. For example, we will need only one generic Raptor sprite and one generic 'cloaked figure' for the Guardians at this size. Therefore, the disk space requirements for these sprites are negligible.

Lighting Effects

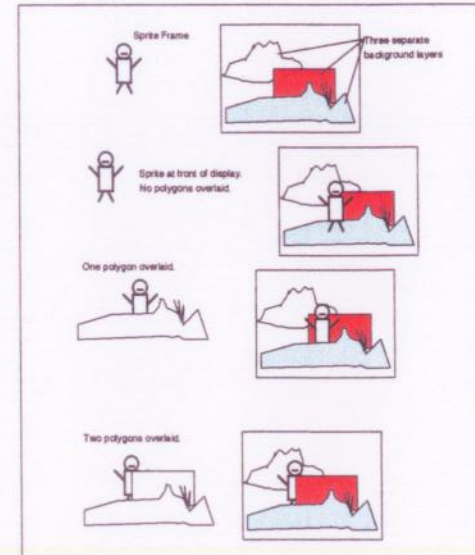
Raptor's pre-rendered backdrops will use ray-tracing to allow dramatic lighting effects. To prevent the sprites from looking out of place against these backdrops, the effects of this lighting on the sprites must be simulated in real-time. Two mechanisms will be used :

A variant of the *Depth cueing* technique - This involves adjusting a sprite's brightness and contrast according to the distance from the viewer. The further away an object is, the darker it will appear. This is a relatively simple process, which will involve calculating the physical distance (in metres) from the player of the sprite, and using an extended Bit Blit routine to use a lookup table which will take, as indices, the distance (to the nearest 10m) from the player to the sprite, and the colour of a specific pixel. The lookup table will return a palette value of a darker colour, which will be substituted for the initial one.

For rooms with complicated lighting patterns, for example if a shaft of light rises from the centre of the room, the depth cueing method will not be adequate - here, we would want sprites to appear in silhouette if they appear between the player and the light source, but brighter if they are in a position illuminated by the bright light. To achieve this effect, some nodes will have a list of lighting values for all other visible nodes. These values will indicate the relative brightness of the various visible nodes from that viewpoint. By examining the brightness value at each NPC's node (or interpolating between two brightness values for two nodes), the required brightness for each sprite may be determined. Note that this method will require considerable hand-preparation to identify which nodes are in light and their relative brightness, and so is only to be used for rooms needing specific treatment for dramatic effects.

Murhspective

Finally, each sprite must be 'cut' to take into account any obstacles between it and the player. For each node map, there will be an associated list of polygons which define the boundaries of each 'foreground' object (a foreground object is anything which is not at the very back of the picture). Associated with each polygon is a depth value, which indicates its distance from the viewpoint. Using the Murhspective system, we can check each sprite's depth against those of the polygons, to see if any objects should appear in front of the sprite. Any overlap between the sprite and a polygon is drawn onto the sprite frame in a transparent colour, so that when the sprite is finally put on the screen, the transparent colour will not be shown, leaving the background still visible, making certain objects seem as if they are in front of the sprite.



This method avoids having to store (and draw) multiple planes of bitmapped graphic background material, while allowing any number of depth planes.

Pre-set NPC behaviour

NPCs will have pre-set structures of linked behaviour states, which will allow them to behave independently and intelligently. At a given moment in time, an NPC will be able to select a new state to move into, the available states being determined by previous game events. When, as in the example above, an NPC is unable to satisfy its current requirements (to move to a specific node) it may simply select another set of states and state transitions to enter into. These behaviour states will be stored in a similar structure to that used to store branching dialogues, with a transition (the movement from one state to another) occurring when one state's goals are either achieved or deemed unachievable.

Whenever an event occurs which interferes with the NPC's current state, such as discovering a new location or object, or meeting another character, a state transition will occur, resulting in the NPC now entering into a state suitable for dealing with the external stimulus. Once this event has been dealt with, the NPC may either return to its previous state, or, if the event has made changes to which states are now available, will branch to a totally different state.

Because these states are essentially hierarchical in structure, each NPC will have fundamental states (desires), all other sub-states being simply means to achieve the state above them in the hierarchy. For example, a raptor's primary desire is to possess the grail (in this respect they are all the same), and a sub-state of this is to reach the centre of Aeternis. It is the sub-states below this that provide the differences between the raptors, since their behaviour structures will be different from one another.

Character's states, and the rules surrounding their transitions, will be determined by role-playing the characters as part of a board game version of Raptor, and eventually by building a network-based testbed where human players can assume the roles of different NPCs, allowing their actions to be studied and mimicked in the computer game - this will provide the maximum level of realistic behaviour.

The player may 'exist' only at specific points (called nodes) in the game world. At each node, the player may rotate his/her view through a full 360 degrees, by pressing the left and right keys. Equivalent actions may be performed by moving the mouse down below the HUD and its icons and pressing the left or right mouse buttons.

User Interface

The game will be presented through the eyes of the player's chosen Raptor, who is wearing a state-of-the-art military-issue MS-2 helmet, which provides a constantly updated supply of invaluable information about the surrounding environment and characters, and can scan the area around the player to identify points of interest.

The game may be controlled with the keyboard, a mouse pointer, a joystick/joypad or a combination of two of these. This gives two advantages :

- The player may use whichever system s/he is most comfortable with.
- Porting to other platforms (such as those without a mouse or keyboard) will be possible without radical changes to the look and feel of the game.

Despite the above, it is anticipated that the game will play best with either a joypad (provided it has at least two fire buttons) or a computer keyboard. This allows the use of specific buttons for moving forwards and backwards, and for turning left and right.

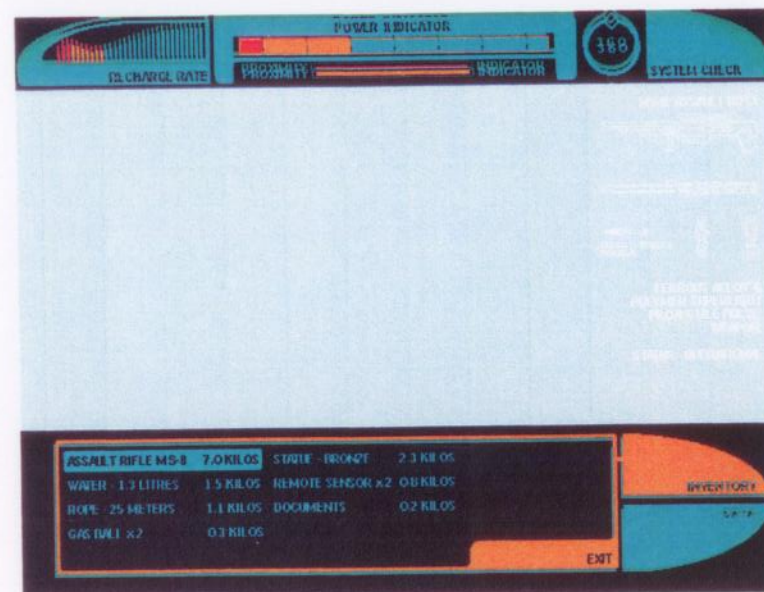
Below the main display will be located a number of icons, each of which performs a specific game action. There will be several mechanisms to activate these icons - the player may press the TAB key on the keyboard (or button 1 on the keypad) to indicate that s/he wishes to select an icon. The leftmost icon will then be highlighted. Successive presses of TAB (or button 1) will result in the next icon being highlighted, until the player presses SPACE (or button 2) to select that icon. If the player tabs past the last icon, the selection will be cancelled and no icons will be highlighted.

Secondly, when using the keyboard, the player may press the first letter of an icon's name to select it. The icons will be carefully named to avoid any conflict of initials.

When a mouse is to be used, the screen will feature several areas, each providing different functionality for the mouse. In the centre of the screen (i.e. over the main HUD area), the mouse will appear as a set of cross-hairs, in the style of other HUD items. The player will be able to use these cross-hairs like a mouse pointer, and may click on items on the screen to perform actions on them.

Movement

For the purposes of this section, the cursor keys on a computer keyboard and the directional control on a console-style joypad may be assumed to perform the same function.



Sample inventory screen

From any given node, there will be one or more directions in which the player may travel. Pressing the up arrow (or forward on the joypad) will allow the player to move forward. If there is no forward route directly in front of the player, but there is one within a relatively small (30 degrees) arc, the view will rotate smoothly to that point before taking the player to the next node (and updating the positions of all other objects in the game world taking into account the time the player's character would take to move to the new node in the game world). The time taken to move to a new node should be well under 1/2 second.

To move to a new node using the mouse, the approach is quite different. Here the player must move the cross-hairs on the HUD over the area s/he wishes to move to before pressing the right-hand mouse button. If the move can be done, the player will change nodes.

Graphics

The icons at the bottom of the screen are as follows :

Scan - Clicking once on this executes a scan of the currently selected scan type. Clicking and holding down this icon results in the choice (Area / Object / System Check) being displayed on the HUD. One of these may be selected by clicking on it or by highlighting one with the cursor keys/joypad. When an area scan is to be performed, the HUD will systematically identify (if possible) any life forms in the surrounding area. An object scan will prompt the player to select an object or character (by tabbing through or clicking on it) to scan, and will overlay a wire-frame model of the item on the HUD, adding any information known about the object to the knowledge database. Finally, a System Check will overlay the HUD with information concerning the player's health and equipment status.

Talk - If there are any NPCs in the vicinity the player must click on them to indicate that s/he wishes to enter into a dialogue.



Head up display layers text information over the player's view.

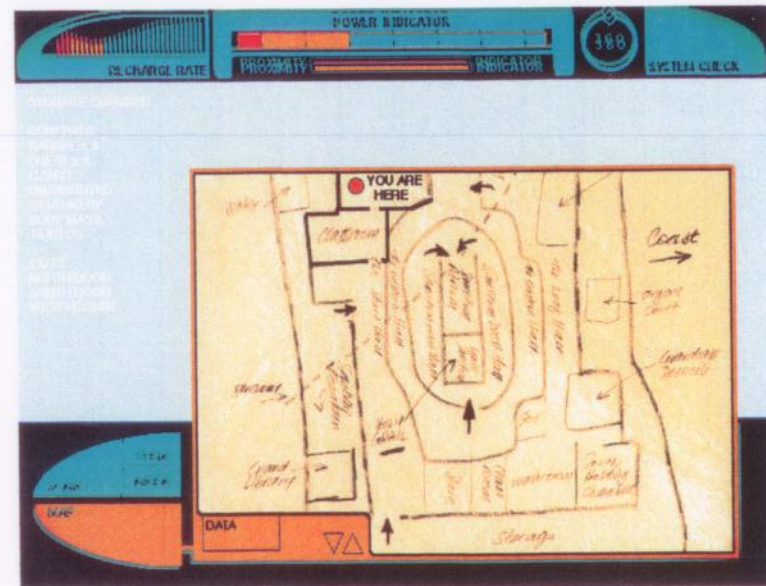
Inventory - Selecting this icon places the player in inventory mode. Here, the HUD displays each inventory item (allowing scrolling of the display if there are too many items). At any time, two items (one weapon and one non-weapon) may be specifically highlighted. The highlighted weapon is the one which will be used when 'attack' is selected, with the other highlighted object (if any) will be used when 'use' is selected (see below). The player may click on an item to select it (be it a weapon or not), and may drag one object onto another, in an attempt to use one on the other, possibly to create a third, more useful, object. Additionally, the player may interrogate the knowledge database (see below) for more information about the object (if any is known).

Use - This has two modes - when no inventory objects are selected (except for any weapons) the player may click on or select an item on the HUD, to attempt to use it. The actual function performed on the object will depend upon the context of the operation. For example, selecting 'use' then clicking on a lever will result in the player's Raptor attempting to pull the lever. Alternatively, if an inventory object is currently selected, it will be shown on the HUD as soon as 'use' is clicked upon. The player may then click on an item in the HUD to use the inventory item on it (for example, opening a door with a key).

Attack - This readies the player for combat, and is essentially an on/off toggle. When it is selected, any character in the HUD clicked upon will be attacked using the currently selected weapon (see section on inventory). Additionally, any object clicked upon will be 'attacked' with the weapon - for example, firing at a door in an attempt to break it down.

Map - Overlays the player's map on the HUD. At the start of the game, this will simply be a computer scan of the hand-drawn map given to the player. As the player progresses through the game, the map will 'auto-correct' itself to show the maximum amount of detail. The player may zoom and pan the map, and may click on key areas to interrogate the knowledge database (see below).

Database - The player builds up a detailed database, containing information about all the characters, locations and places s/he has encountered. This build up into a highly visual hypertext-like system, which appears overlaid on the HUD and can be interrogated at any time to provide a wealth of invaluable reference information, and can also be used to exchange with NPCs for information, items and assistance. See the section 'Interrogation of the knowledge database' for more details.



Map display on HUD

Chapter 10 Media Requirements

Total Disk Space Requirement

Total CD-ROM space required for game = 1033 Mb.

Backgrounds

One node stores 2*640*140 bitmap images = 180kb uncompressed,
120kb PCX compressed.

To store 5000 such nodes requires 5000*120 = 591 Mb.

Sprites

On average, one animation frame containing 8 sprite rotations will require 15 KB (FLI compression of a 320*140 bitmap). Each animation will last for around two seconds (and can be looped), at a rate of 12 frames per second.

Therefore, total number of frames per sprite, per animation = $2*12 = 24$ frames (each with 8 rotations).

Each sprite will have, on average, 10 animations associated with it = $10*24 = 240$ frames.

Sprites required

- Eight Raptor sprites : Kurt, Lincoln, Emma, Warren, Conrad, Patrick, Helga, Ingrid
- Four generic creature sprites : Mog, Leo, Theo and Eugene
- Seven Guardian sprites : Tobias, Edgar, William, Phillip, Odro, Tallum, Geffrye
- Five Ghost sprites : Tomas, Niamh, Vincent, Father Dunstan, Colin
- Four other sprites : Lurka, Ulrik, Captain Ethleridge, Jack Sinclair

Note - Sasha does not move around the game world accessible to the player, and is thus not modelled as a sprite.

There will be 28 sprites, so number of FLI frames needed = $24*28 = 6720$.

So, for all sprite animation, number of individual sprite frames = $3600*8 = 53760$.

Space required for all sprites = 6720 frames * 15kb per frame = 100Mb.

Some of these sprites (all raptors plus around six others) must be on both CDs, but the others will only be needed in specific sections of the game, and so need appear on only one disk. Therefore, it is anticipated that 75Mb of each CD will be taken up with sprites, so the actual total storage space required, including duplications, is 150Mb.

Speech

For all the characters in the game (with the exception of the generic creatures) there will be a certain amount of sampled speech.

Speech will be stored as 8-bit mono samples, sampled at 30kHz. This requires 30kb per second (uncompressed) or 1.8 Mb per minute.

For the Raptor characters, this speech is limited to fairly simple branching dialogues (see NPC dialogue section) which set the scene and characters and provide the player with feedback on how the other raptors feel about him/her - any exchange of information here takes place via the player's HUD, so no speech is needed. For each Raptor, we should store around 2 minutes of sampled speech. Total = 16 minutes.

The Guardians and ghosts have a more complicated role in explaining the plot and giving out information - they will have 3 minutes of speech each. Total = 36 minutes.

Ulrik, Captain Ethleridge and Jack Sinclair will require only 2 minutes each, as they have been in Aeternis for a shorter time, and have less information to convey. Total = 6 minutes.

Sasha will require 2 minutes of speech.

Lurka will be used more extensively than any of the other characters (in terms of speech). Tobias' representative for much of the time, he will require 6 minutes of speech.

Unlike the sprites, most speech will not need to be duplicated across the two CD-ROMs. The exceptions to this are the raptors, and it is estimated that about 45 seconds of speech will be duplicated, per Raptor. This brings the total speech required for the raptors to 22 minutes.

Therefore, total speech required = 72 minutes.

Storage space for speech = 130 Mb.

Music and Sound Effects

Music and sound effects will be treated slightly differently from speech - the sample rate used for a sound effect will depend upon the effect itself. Low-frequency effects, such as earth tremors and falling bodies, can be sampled at 8-bit resolution at a very low rate (such as 15kHz), whereas high-pitched sounds, such as the screams of a Eugene or breaking glass, must be 16-bit samples at rates in excess of 30kHz. The Nyquist limit states that a sound must be sampled at a frequency twice that of the highest pitch in the sample to avoid aliasing (unwanted sound shapes being superimposed upon the sample). The threshold of human hearing is 22kHz, and hence the sample rate used for CD audio is 44kHz (allowing any sound the human ear can detect to be reproduced perfectly). Most of the sound effects will be sampled in 16-bit mono, and can be panned during the game to appear anywhere in the L-R field. Around **20Mb** will be used for sound effects.

Music will consist of 16-bit samples, both mono and stereo, triggered by appropriate game events. It will be sampled at around 35kHz, which will provide a quality very close to that of CD audio. In total, the game will feature around 20 minutes of music. This will be formed into loopable segments which will fit together interactively, allowing long periods of non-repeating music to be played without excessive disk use. This music will be spread evenly across the two CD-ROMs, and will require a total of **80Mb** of storage (70kb per second).

Cut Animations

These are animations which, although not interactive, are essential for building the atmosphere and explaining the story. They include the intro sequence, visions the player may experience, set-pieces with Sasha (among others) and so on.

These animations will be stored as FLI files, generally at a resolution of 320*140 (although a few of them will be stored full screen). We will display these animations at a rate of 12 frames per second, with each frame, on average, requiring 10kb to store.

Including all intro, end game and in-game animations, there should be around 10 minutes of cut animations.

600 seconds * 12 fps * 10kb = **72Mb** of storage, spread across both CDs (no duplication).

Other Items

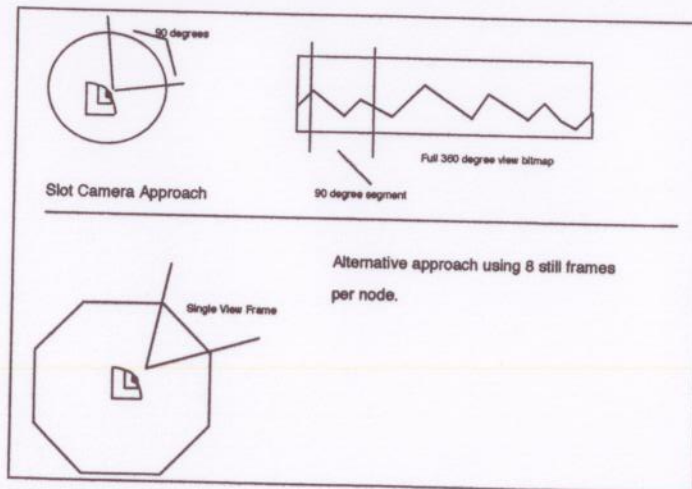
Other items, such as game code, maps, text files and sound drivers will be stored on disk one and will mostly be copied onto the hard disk at install time. This should take up no more than **10Mb**.

Chapter 11 Technical Risks

This section seeks to identify the most difficult implementation areas of the game, providing fallbacks wherever possible.

360 degree view

The background graphics for the HUD are to be pre-rendered using Alias software running on Silicon Graphics workstations, or using 3D Studio across a network of PCs. In order for perspective to be maintained during view rotation, a 'slot camera' approach will be used.



This will create a 1280*140 bitmap image, containing a full 360 degrees of view (see above diagram), which may then be scrolled in real-time on the PC to give the impression of a smooth-rotating 3D view. In the very unlikely event of any problems occurring in either the generation or display of these graphics, an alternative approach will take 8 still-frame renderings at each node, each player rotation resulting in a new frame being shown. This will be easier to implement, although a disadvantage is that each node will require twice as much storage space as before.

Text Display

The text display for the HUD will be limited by the fonts which can be displayed at VGA resolution. For a small font, we are limited to 3*5 pixels which, although perfectly legible, may not be desirable in a game of this nature. An alternative approach, therefore, is to use Super VGA 640*480 mode 101. Because of the very slow nature of CD-ROM, it would not be possible to store the background graphics at this resolution (also the sprite manipulation operations would run around five times slower). Therefore, a technique known as pixel doubling could be used - this would involve storing the graphic display area as a 320*140 off screen bitmap (as before), but drawing a group of 2*2 pixels to the screen for each pixel in the bitmap. In this way, animation, movement and rotation would look exactly the same (and run at the same speed) as for the VGA game, but text (and the line drawings used by the HUD) would be superimposed at the far crisper Super VGA resolution. We have already developed a Super VGA library.

Lighting Effects

The player will be able to switch lighting effects off for slower machines. Because this functionality will be built in from the beginning, any problems with the techniques used will not hamper game development whatsoever. In the worst case, some of the more complicated lighting effects could be removed at any stage of development. However, no such problems are anticipated.

Chapter 12 Audio

Introduction

Raptor will make extensive use of music, sampled speech and sound effects to enhance the atmosphere and enjoyment of the game. From the very beginning of the game's development, work will begin on the sound and music - this is essential for several reasons:

- Traditionally, developers have considered audio only at the end of a project, resulting in music and sound effects which sound hurried and so do not do justice to the gameplay and graphics.
- Research in areas of industrial and corporate video has shown that the quality of music in a presentation directly affects the viewers' perceptions of the quality of the visuals.
- Composers can work together with artists and animators, fitting music to animations, and vice versa for maximum effect.
- Interactive music may be developed, which may branch and flow with the player's actions.

Music

One of the great advantages of the CD-ROM medium is that the additional storage space provided allows not only high-quality graphics and video to be stored, but also high quality stereo music. Throughout the game, music will consist of digital sound samples, sampled in stereo at 16-bit resolution at a minimum sampling rate of 35kHz (which will be virtually indistinguishable from Red Book CD-Audio quality). Music within the game will take two main forms:

- **Linear Sequences** are those sections of the game (such as the intro sequence, or cut animations) where all the onscreen action is preset, and player interaction is minimal. In these sections of the game, the accompanying music can consist of self-contained pieces of music, which will play from start to finish without branching. The advantage of these sequences is that there are fewer restrictions placed upon the composer, giving him/her a good deal of creative freedom.
- **Interactive Sequences** will be used in parts of the game where the player's actions can change the mood of the game, and hence must change the mood of the music. For example, if the player is walking along a quiet corridor in Aeternis, the mood of the music will reflect the atmosphere - peaceful, yet somehow tense. Suddenly, a Leo springs from nowhere into the player's path. A sudden change in the music at this point (probably an enormous orchestral hit) will terrify the player, not only enhancing but actually creating the atmosphere of the piece. The vast majority of the music in the game will be of this form, and will greatly enhance the feel of the game.

Speech

Within the game, whenever the player speaks to another character, s/he will hear them speak. Human speech has a far more limited dynamic range than music, and can be sampled at 8-bit resolution, in mono, at a rate of 30kHz. The space savings made by sampling this way (there will be no noticeable reduction in quality) allow far more speech to be stored, increasing the number of possible dialogues. Despite the fact that the speech will be stored as mono samples, we will be able to adjust the pan position of speech playback to appear anywhere in the left-right field, giving the player full directional hearing.

Lip Synch

Characters within the game, when speaking, will appear fully lip-synched with the sound. This will be achieved by filming, for each character, a front-view of an actor's face, with his/her mouth in a variety of positions (each position corresponding to a lip movement associated with a phoneme). These video images will be texture-mapped onto the relevant sprites' faces using our *VideoWrap* technology on Silicon Graphics workstations. The sprite may then be 'filmed' from any angle, with the animated face featuring computer-generated shadows and highlights from the ray-tracing procedure.

A simple PC-based utility will be written which allows speech samples (taken from DAT recordings of actors' speeches) to be played while a user views a frontal view of an actor's head. Various keypresses on the computer keyboard will allow the user to change the actor's mouth position, with one key representing one mouth position. By 'recording' which keys are pressed during playback of a sample, an electronic representation of the mouth movements can be generated, and saved to a file. During the game, these files will be used to play back the mouth movements in perfect synchronisation with the speech. This method not only saves a great deal of disk space (storing moving images of each sprite speaking every possible phrase would take far too much space, and *VideoWrap* cannot be performed in real-time), it also avoids the many problems associated with synchronisation loss which frequently occur in multimedia video applications.

Sound Effects

Sound effects will also feature heavily in the game. These will consist of sampled sound fragments, the sampling method used depending upon the specific sound effect. Low-frequency effects, such as earth tremors and falling bodies, can be sampled at 8-bit resolution at a very low rate (such as 15kHz), whereas high-pitched sounds, such as the screams of a Eugene or breaking glass, must be 16-bit samples at rates in excess of 30kHz. Many of the sounds made by the player's MS-2 helmet can actually be synthesised by the player's sound card (by their nature they will have an artificial sound). This is useful, because most sound cards place a strict limit on the number of samples which can be played simultaneously.

In linear music sequences, some sound effects can actually form a part of the sequence and so will require no additional disk space or processor time to produce. Other sound effects will be triggered by the player's actions and game events (such as the arrival of a character, the opening of a door or the falling of rocks).

Chapter 13 Technical Specification

OVM Introduction

OVM is Intelligent Games' own class library for implementing the low level functions needed in all games, such as sound, graphics and primitive data structures.

OVM Primitives

VGA/SVGA screen drivers (GFX)

Graphics routines for drawing geometric primitives to off screen bitmaps, and for translating those off screen bitmaps to the screen. Includes facilities for clipping, bit blits, highly optimised line drawing, flood filling and polygon drawing. Anything that is drawn to the screen will be drawn by GFX. FON uses GFX's bitmap handling capabilities to display fonts. These fonts are in a proprietary format, but can be generated from any Macintosh font so that a wide range of fonts are available for use in programs.

Supports all popular VGA / SVGA boards

Runs in protected mode

Supports Mode 13 and Mode 101

Palette manipulation and fading

Off screen bitmap handling

Clipping

Graphics primitives: rectangles, circles, lines, points, polygons

Displays text using a variety of Macintosh-derived fonts

Loads pictures

Sound drivers (SND)

Object oriented interface to the Miles sound drivers, allowing simultaneous playing of digitised sound effects and MIDI music. All the music, speech and sound effects for the project will pass through SFX.

Supports SoundBlaster and SoundBlaster Pro
Plays MIDI files and sound patches simultaneously
Plays patches and MIDI on an interrupt so that the program can continue operating

Resource Manager

A resource compiler allows different files to be concatenated into a single resource file and indexed. The resource component allows easy access to subsections of a resource file by using the index. RES will be used to pre-cache, interleave and access all the assets on the CD-ROM.

Reads and writes data to resources files

Access data in resources files using indices

Caches resources in memory according to need and memory available

Allows resources to pre-loaded

A resource creation programs allows any number of files to be concatenated into a single

resource file and allows files to be interleaved (so that packages of sound and video, forexample, can be mixed to stream in data from CD-ROM)

Mouse and keyboard handling (EVM)

The event manager handles user input from the keyboard and mouse and queues it for handling by VWM. It also handles timer and special program events. It enables event masking, and fine feedback on cursor movement for cursor tracking.

Interrupt drive event queue

Handles keyboard and mouse events

Allows the use of variable sized bitmaps as mouse cursors

Animation conversion tools

Animation conversion tools assist the translation of files from one format to another. See the section on Technical Details in the Artistic schedule for more information.

Move frames of a PICS file from the resource to the data fork of a file

Convert a PICS file to a FLIC file

Demonstrate the process using a sample PICS movie

Use Debabelizer to convert QuickTime movies to PICS/FLIC's

Synch sound and video in an animation format

Convert sound files from Mac to PC sound format

Animation player (FLI / SEQ)

The animation player can play basic .FLI files, and modified .FLI files which are capable of variable sizes and a variety of frame compression methods. The SEQ system used FLI to play animations. Simple scripts allow the synchronisation of sound and animation using a proprietary algorithm. Integrates closely with FLI, VWM and SFX. Every video sequence in the project will be generated by SEQ.

Plays modified FLIC files at different speeds
Plays single and multiple flics simultaneously
Uses a variety of CODECs
Integrates with VWM

Memory Manager (MEM)

Provides valve functions for accessing memory using handles and pointers. These valves check for memory protection errors, memory leaks, dangling pointers, and pointer overruns. All the memory use in the project will be co-ordinated by MEM.

Allocates and frees memory and provides pointers to memory
Traces and accounts for memory allocated
Provides debugging support

Debugger (DBG)

Controls the use and output of OVM's debug facilities; which include tracing, memory dumps, variable dumps and object validation. DBG will simplify debugging of the game by providing additional checks and security and an alternative to a source level debugger.

Provides on screen, to disk and to stderr output for errors and messages
Facilitates tracing, object validation and information dumps

Switches off for non-debug code transparently

View Hierarchy Manager (VWM)

VWM marries the screen, EVM and GFX by providing a framework for user interface components like buttons and bitmaps. It co-ordinates redrawing, user input and layering in windowed user interfaces. It simplifies the creation and manipulation of user interfaces.

Co-ordinates drawing priorities for different views
Provides resolution independent scaling and co-ordinate translations
Clips updates
Focuses, clips and orchestrates full screen or partial updates

Provides standard buttons, text, scrollbar and edit text views

Geometry Primitives (GEO)

Geometric primitives include lines, circles, rectangles, and polygons. These can be drawn, clipped, intersected and overlapped using GEO and GFX. They provide a machine independent way of representing graphical primitives.

Geometric primitives are used everywhere in a game.
Geometry primitives include: points, lines, boxes, circles, ellipses, and polygons.
Draws, scales, and transforms primitives consistently
Provides 'Point in Primitive' checks for each primitive.

Application Shell

The application shell provides the main event loop, OVM start-up and shutdown, and client start-up functions. It simplifies porting by isolating a program from the operating system. The game will use the APP object to handle interaction with the user interface.

Starts up and closes down OVM and provides a core event loop

File Manager

This provides simple wrapper classes for basic file manipulation (like saving games or RES's internal file handling) to check for errors.

Collection Classes

Collection classes include all the basic data structures, including lists, stacks, queues, hash tables, sorted lists, sets and (optionally) binary trees. They all are object oriented and include a range of utility functions and debugging aids. Any program that uses these collection classes and DBG gains a considerable amount of automatic debugging help.

Display systems

Layered bitmap display

Background display

Rotation of backgrounds

Light effects using bitmap recolouring and palette animation

Sprite display

Sprite scaling, rotation and animation

Prototyping

Dialogue prototyping

The dialogue prototyping allows the entry and editing of dialogues between characters. Using Hypercard or a similar PC system it allows branching dialogues to be tested by walking through them simulating player choices.

Implemented in Hypercard or similar program

Easy input and editing of dialogue text

Output of text in ASCII and resource manager string formats

Hypertext links between speeches to simulate player choices

Simulation of the selection of dialogues according game events

Simulates game event flags

Simple text based user interface

Network multi-player option

Board game

Dialogue testbed

User interface prototype

Uses Macromind Director to simulate different elements of the game user interface. Allows us to test different methods of interacting with the game and different user interface graphics styles without major reprogramming.

Allows key and mouse input

Simulates different screens: map, inventory, HUD, player database etc.

Simulates dialogue between the player and NPCs

Gold Disk CD-ROM testing

Game play testbed

This is a fully coded prototype of the game models and database, but without a complete user interface. This will allow the testing of different elements of the game play. It uses network multi-player support to simulate NPC AI.

Movement model

Combat model

Hearing / noise models

Simulated dialogue

Energy model

Game implementation

User interface

Integrates mouse and keyboard driven commands

Controls cursor shape and updating

Controls palette changes

Save / load dialogues

Displays start up screen, attract mode, dream sequences, and end games.

Displays 3rd person animations during gameplay

Integrates map, inventory, background, sprite, database and dialogue views

Integrate display systems

Game start-up screen

Map display

Toggles between map modes

Shows exploration and player's knowledge of the map

Allows player annotation of the map

Auto-maps for the player

Scrolls and zooms

Displays icons and map overlay information generated by HUD

PC / NPC / Object interactions

Inventory display

Save and load game

Game controls

Head up display

Smart cursor

Knowledge display / hypertext system

Targeting system

HUD icons

Status line

Status graphs

Raptor toys

Scanner

System check

Night vision

Light meter

Torch / flares

Plot engine

Hand coding complex plot elements

Game models

Player health

Combat

Dialogue system

Integrate OVM components

Game Database

All information needed by the game models and display will be stored in a game database, and access to it will be via a number of valve functions which acts as information 'librarians'. As well as allowing for efficient programming (they will be software black boxes), this will allow the database and the front end to run on two different machines (see Network Test).

Network Test

The network test component is designed to test the feasibility of running Raptor as a client / server style multi-player game over a network.

Integration

Testing

Production path testing

Primitives testing

Compatibility / configuration testing

Board game play testing

Prototype board game play testing

Final game play testing

Non-player characters

NPC empathy

Relationship table

Rules for co-operation and defection

Trust tables

Indirect relationships (the friends of my enemy is my enemy)

Branching dialogue

Prisoner's dilemma code

Hard code responses for special behaviour

NPC dialogue

Branching dialogue

Non-branching dialogue

Object request

Information request

Collaboration request

Orders

NPC learning / memory

Knowledge exchanges

Recording information about objects, puzzles, and characters

NPC behaviour

Specification for script language for NPC behaviour

Compiler for script language to generate NPC behaviour finite state machines (FSM)

FSM transition checks coded

FSM interpreter

FSM actions for movement, interaction, combat, puzzle solving, NPC objectives, and interaction

Script writing

Script testing

Special behaviours and reactions

Chapter 13 Artistic Specification

Miscellaneous

Manual

Installation program

Code documentation

CD-ROM research

Hard disk slow down code

Disk interleaving

Mastering

Music

Sound

Asset acquisition / creation

Character voice recording

Dialogue scripting

Character VideoWrap face acquisition

NPC object modelling

Location modelling

Rendering

Intro and outro sequences

HUD graphics

Inventory graphics

Map graphics

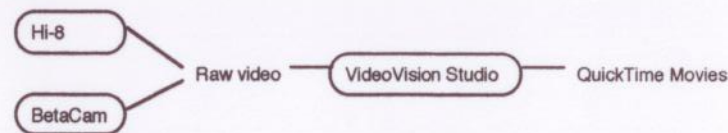
Player database graphics

Nodes, maps, Murphspective

Vision animations

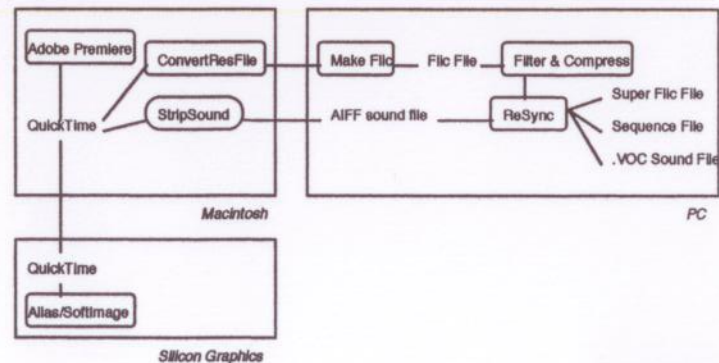
Video Grabbing

A Macintosh Quadra 950 equipped with a VideoVision Studio board (hardware JPEG compression) running Adobe Premiere will be used to grab video. HI-8 video will be used for low-priority and test sequences, BetaCam will be used for the rest. Grabbed video will be archived on DAT tapes before and during editing.



Production paths

Video, once edited in Premiere, will be saved and archived in QuickTime format and then converted to a proprietary format for transfer to the PC and the sound stripped for later re-synchronisation. On the PC the video will be run through a filter program to optimise the compression, and it will then be re-synched to the sound and a sequence player script automatically generated so that it can be played on the PC using our animation player.



Formats

The following file formats will be used in preparing video for use in the game.

QuickTime

Apple's standard multimedia file format - combines and synchronises sound and video. With hardware compression, can store and edit production quality video.

AIFF Apple's sound file format - easily stripped out of a QuickTime movie. It allows different levels of quality and stereo sound.

PICS A Macintosh equivalent of FLIC file. Used to transport animation from the Mac to the PC before conversion into a FLIC file.

Flic file This is a slightly modified flic file format. The main modification is to allow frame sizes bigger or smaller than 320x200 pixels. If these files were 320x200, then they could be played and edited on any Flic file compatible PC program.

Super flic file

A heavily modified flic file format capable of interleaving sound and video, and supporting multiple frame compression types. It is used primarily to store extra information used by VWM and SEQ to control the area to be updated and to carry information about the length of time taken to decompress each frame to synchronise with the sound player.

Sequence file

This file is the output of a script compiler which is used by the OVM component SEQ to synchronise sound and video. For every animation sequence, there will be a sequence file, a super flic file and a .VOC file.

.VOC file This is Creative Labs digitised sound file format.

Format conversion

Format conversion from PICS to FLIC already exists, using an Intelligent Games utility. The ConvertResFile program makes a PICS file PC compatible by moving the resource fork into the data fork. The StripSound and QuickTime to PICS conversions can be done using features of Adobe Premiere, although it may be useful to have custom utilities to speed up these conversions and to carry them out in batches. Converting AIFF to VOC files can also be done with public domain utilities, and again it may be useful to write custom utilities. The Filter and Compress utility is game-specific and depends on the video compression technique chosen.

Chapter 14 Game Rules

These rules have been designed to make a playable board game only; they are not protocols for a computer game.

The board game requires: a board, Stat Sheets for all characters, 1 six-sided die, and at least 1 Raptor player + 1 person who takes on the task of Moderator (should have experience of role-playing).

The movement rules presented below are intended for a structured traditional board game approach only. The intention is for turn movement to only become important in combat/conflict. Other actions are handled at the discretion of the moderator as in a non-computer based Role Playing Game. The moderator controls all characters not under the direct control of Raptor players hereafter referred to as Non-Player Characters or NPCs).

Movement/ actions

Actions take place simultaneously in the game.

Players select their actions in advance using the sliders on their sheets, then declare them in turn sequence. A character can only perform one action in a turn. The board is divided into spaces, which represent the 'grains' used in the computer game. They may move in the direction of their facing. Moving forward 1 space constitutes 1 turn.

They face, are aware of, and may move through a field of 180 degrees forwards (inclusive of directions precisely at right angles to direction of facing). When characters move, they automatically end their turn facing in the direction of movement. To turn right around (through 180 degrees) is 1 action. All movements are equal in duration.

Moving Things Around

In order to move an object/character, you have to overcome its original body level with your current body level. If yours is equal to or higher than the object's, you can move it, if lower, you can't. Certain paths may be of constricted size as well, and exclude larger characters. Object size in a constricted space is subtracted from the size of the space to calculate the size of the gap left.

(Example; Kurt finds his path blocked by a heavy wooden throne (size 5) which almost fills a doorway, leaving only a size 3 gap to pass through. He is Body Size 4, and therefore cannot budge it, nor can he pass through the gap: he must find another path. Later, Edgar (body size 5) comes to the same throne. His size equals that of the chair, and so he can push it out of the way, and pass through the now larger gap.)

Perception

Basic sight extends over 2 spaces, but is further limited by lines of sight, determined by the moderator where necessary. 'IR' augmented sight extends up to 4 spaces by line-of-sight. This only remains active for 1 turn, it does not remain active across turns. Creatures begin hidden (only the moderator knows about them) and are only revealed to the Raptors when discovered.

Normal speech may be overheard over 3 spaces. Characters may make themselves heard over up to 6 spaces, but this allows all within up to 6 spaces to overhear them.

Gunshots may be heard over 10 spaces.

Footsteps may be heard over 1 spaces.

Any significant obstruction (closed doors, 3 consecutive corners) reduces sound range by 4 spaces.

Any line-of-sight obstruction generalises the direction of sound to a quadrant of 90 degrees (the hearer can only identify the source of sound as being within this quadrant). If a clear line-of-sight exists, the sound can be pinpointed precisely (particularly important in the case of animals which steer by sound).

Raptors' helmets give an automatic proximity warning if any life form approaches within 1 space.

All perception ranges and reactions are kept up-to-date by the moderator.

On a surprise encounter between Raptors and other characters (one where no line of sight has existed previously and no sound has carried between them) the non-Raptor character is surprised for 1 turn. Surprised characters must continue the action they were conducting last, and cannot react to the presence of the Raptor.

(Example; the Raptor Kurt and the guardian Edgar both approach one corner from different directions. Arriving at the corner first, Kurt waits before continuing around it. He therefore hears Edgar when he approaches on the next turn (footsteps carry over the one space that separates them), but because Kurt is not moving when Edgar approaches, Edgar can hear nothing. Therefore, when Edgar rounds the corner, he is surprised and Kurt has one free action before Edgar can react.)

Combat

If you can see it, you can shoot at it. You need only spend one move aiming, after which the cross hair is centred on the target and firing is instantaneous. Whether or not you hit is determined by rolling 1 six-sided die. To the number rolled you add the Body Size of the target, and from it you subtract the range from firer to target in spaces. If the result is 5 or greater, you have hit. Damage for the gun is calculated from the number shown on the die +2. Therefore, requiring a 5, you roll a 1, +4 for body size =5, -0 for no spaces range- a hit. 3 points of damage would be inflicted (the number shown on the die +2). As yet, no rules exist for partial cover. If the Target has elected to move during the turn that they are attacked, a further modifier of -1 is applied to the roll.

Guardians throw round knives, based on the same to-hit system as the gun, but with a to-hit number of 6 instead of 5.

Damage inflicted is the guardian's current body level +1, -1 per space of range.

Hand to hand combat can only occur if two or more characters occupy the same space. The number required to hit is 5, on 1 die + body size of target, - 3 if the target attempts to dodge/parry the attack.

Hand to hand weapons (generally swords/axes) inflict damage equal to the wielder's current body level +/- the modifier of the weapon. Fists have a modifier of -2, and swords or axes have a modifier of +2.

(Example; Kurt wants to shoot Edgar. Edgar has body size 5 and is at a range of 1 space. Kurt requires a 5 to hit. He rolls a 2, +5 for Edgar's size, - 1 for the range, -1 for Edgar's movement makes 5, and Edgar duly takes 4 damage (original hit roll of 2, +2) leaving him on 1 body level. Edgar simultaneously advances to the same space as Kurt, and for their next actions, both attack. Kurt fires again, rolling a 5 + 5 - 0 = 8, for 7 more damage, which will kill Edgar outright (leave him on -6). Edgar rolls a 6 to-hit + 4 (Kurt's body size) - 0 (Kurt is not trying to dodge) = 10, meaning that he could do 7 damage (5 (Edgar's body size) +2 for the axe) under ideal circumstances. However, his current body level is 1 (due to the wound he sustained on his last action, but not counting the damage Kurt is doing him at the moment), which means he can only do 1+2 for the axe = 3 damage to Kurt. At the end of the combat, Edgar is dead and Kurt is left on 1 body level.

Healing/Regeneration.

Characters heal at a rate of 1 body level per turn. There is a delay of 2 turns before any healing takes place in order for blood loss to stop etc.

While a character is on 0 or less body levels, they can take no actions.

Total, final death comes when a character has been reduced to less than the negative of their maximum body level. Therefore, a character of body level 4 must be reduced to -5 (1 below the negative of their body level) to die without hope of regeneration. All characters may use swords to administer a coup de grace, though only guardians may use swords in combat. If a monster has incapacitated you, and remains to eat you, it inflicts its own body levels in damage/turn.

(Example; Kurt is left on 1 body level. No healing takes place for 2 turns, then Kurt heals at 1 pt/ turn. It will take him 5 turns to heal entirely. Edgar, on the other hand, is on -2. It will therefore take him 2 + 3 turns to get up to 1 body level and regain consciousness, then a further 4 turns for him to heal fully)

Energy Use

Raptors' equipment carries a maximum of 20 energy points(EP).
Every turn spent in lighted spaces can regenerate 1 EP.
Every turn spent in an unlit space (corridors/certain rooms) costs 1 EP.
Alternative Rule; Energy is generated by body movement/heat, and normal actions can maintain a sight level of 2 grains. Every turn spent stationary or speaking only costs 1 EP. Every turn of movement forwards gives 1 EP.
Vision may be augmented to the further zone at 2 EP cost per turn.
All of the above costs are calculated at the end of a turn, after all actions.
Each firing of the gun costs 5 EP.
Alternative Rule; Firing the gun costs no energy, but you only begin with 7 shots' ammunition. In this case, the max. energy level is 10 points.
The strategic detection system allows you to detect life within 10 spaces' range and costs 6 EP/move or second to use.
The narrow beam scanner allows you to scan straight ahead in a 90 degree arc for 10 spaces, and costs 2 EP/sec to use.
Viewing through other Raptors' helmets costs 1 EP.
All of these costs are calculated at the time the action is taken.
If at any time Energy falls to 0, the first three turns spent in a lit space thereafter (or moving) are used for rebooting the system, and only after this time does energy start to regenerate. Only the proximity sensor remains operational at all times.
(Example; in the above example, Kurt is about to enter a corridor, and uses his narrow beam scanner to check the terrain ahead (costs 4 EP for 2 second scan, returned 1 EP for still being in a lit space =17). He detects Edgar moving through the next room, and advances into the corridor (-1 EP for 1 turn in an unlit space gives total 16), where he waits for 1 turn(-1ep: total 15). Edgar rounds the corner, and Kurt fires his gun(-5 for the shot,-1 for the un-lit turn,: total 9). The next turn Kurt fires again (-5 for the shot,-1 for the turn: total 3), and, having downed Edgar, advances around the corner (-1ep for an un-lit turn: total 2) and into the next room (regenerate 1ep: total 3). He will not now be able to fire his gun for at least a further 2 turns. If he fires at that time, he will use up all of his energy reserve and will be on 0 energy for 3 turns.)

Special Locations

These are intended to give an additional degree of complexity to the setting, and to provide relief from the oppressive, heavy atmosphere generated by the sombre gothic architecture which dominates the temple complex.

1) The Wharf described in the 'examples of puzzles' section - the player treks down a cramped passageway for some distance, eventually emerging into an enormous cave-like space - the 'Caverna Marea' or Cavern of the Sea. Immediately in front of the player is a crumbling stone wharf, moored to which is a pair of huge, decayed galleons, which sag and slap against the quayside. These are the ships which transported the materials for the temple's construction, and which brought the slave labourers to the site.

Hanging from the rigging of the further ship is a string of corpses - the mutinous slaves who tried to escape the complex when it became apparent that they were not to be allowed to leave on its completion. The ship is infested with the angry ghosts, who will attempt to mislead the player as much as possible, and will berate the player for as long as they remain in the area. The ships are in an advanced state of decay, and in many places the decking has fallen through - the player will, however, through perseverance, discover objects and notes made by the guardians during their torture of the captives, which allude to the secret passage made by Tomas, and which detail where Tomas was buried in the complex. No mention is made, however, of where the outlet of the passage is, the guardians know only that its entrance is somewhere near to the grail.

2) A chamber which has mostly collapsed into the cavernous labyrinth of Underworld - the haven of the dinosaurs, and other mutated creatures. The floor of this chamber has fallen away in almost all places, and has been replaced by a makeshift wooden scaffolded structure. The animals cannot climb the supports, so the walkways are actually relatively safe, but the paths are narrow, and there is a vertiginous drop to the floor of the cavern. This might well be home to a group of Mogs, the ape-men that have claimed certain parts of the outer temple, and passage through it could prove extremely difficult without their goodwill. Both above and below, this location holds a multitude of crawl-ways, nooks and crannies, all affording unexpected views of other parts of the cavern and the scaffold structure - an ideal place to hide objects, characters or clues.

3) The 'light' room - a haven for all humans, this room has large colonies of the phosphorescent fungus which can be found throughout the temple's precincts. The light in this room repels the animals which have grown accustomed to the dark that reigns most of the outer temple, and so the room has become a valued safe place inhabited occasionally by guardians and others who have merely strayed into the temple. As well as providing a good source of light in which to recharge the Raptors' helmets, this room can be a good place to arrange to meet people, and a good means of encountering new characters for the first time. Generally, the player will only be able to find it through invitation, and it is not represented on Sir Richard's map.

These are protocols for a board simulation of the computer game. The game detailed here will appear stilted unless played out with the speed and management abilities of a computer.

Moderator's Notes.

The role of the moderator is unlike the role of the players. The players need only control their own Raptor character, and their objective is to win. The moderator, however, must manage the game, help to make it fun for the players, and present all the details of the game to the players' satisfaction. This involves some spur-of-the-moment invention on the moderator's part in both description and arbitration, and especially in the conversations which may take place between the Players' Characters (PC's) and the Non-Player Characters (NPC's). It is the moderator's job to make the setting and the characters come to life, and this can only be achieved through vivid description and enthusiastic storytelling. To help with this task, and in order to give players a clearer view of Raptor pictures of all the major locations have been included, along with descriptions of all the characters involved, so that the moderator can have a template on which to build the inhabitants of the temple.

Checklist For Moderator's Bookkeeping:

- 1) Hide all tokens the PC's can't see so they don't use them as clues.
- 2) Mark unlit rooms once explored.
- 3) Use the Moderator's map for your own reference.
- 4) Make player screens so they can hide their decisions.
- 5) Keep the game moving along- don't give players too much time to think, keep them off balance.

Moderator's Turn Sequence:

- 1) Get players to make a decision on moving
- 2) ...and MOVE.
- 3) check all players' views - if any can see a new scene, show it to them at the first opportunity
- 4) describe the scene fully. If there are any bits of puzzles around, tell the player about them- do not wait to be asked. Show all relevant pictures immediately - they are a powerful clue to the presence of puzzle.
- 5) Always turn all characters to face the direction of their movement.

Gameplay Summary And Moderator's Instructions.

This is a complete list of the characters and puzzles, and their locations in the temple complex. It is intended as a set of guidelines only, and not an exhaustive treatment of all the situations which can occur in the game, or all of the possible paths to solving the puzzle.

18) Sir Phillip. If a player talks to Phillip, he will tell them that Sir Tallum patrols the corridors and will not tolerate anyone else being in the temple, not even himself, Phillip. He says that the way to deal with Tallum is to tell him that they are a friend of Sir Richard's, whom Tallum feels guilt over, believing himself to have killed him. This stratagem will allow them to get close enough to dispatch him at (8).

12) Darkened room. Subtract 1 ep per turn in this space.

11) Room inhabited by Warren- If played as an NPC, he will not move until another Raptor comes within his sight or makes a sound he can hear. Then he will do nothing overtly violent to the other Raptors unless fired upon himself. Warren exists to help the other Raptors by example - if they cannot work their way through a puzzle, Warren will complete part of it himself, or act in a way which suggests the solution. Warren, in addition to the usual Raptor gear, carries a light pick which can be used in combination with the ratchet mechanism from the baths to raise the portcullis without co-operation with another character.

10) Tomas the surly ghost inhabits this space. He will try to direct Raptors towards one another, referring to them as all being friends. He hates the knights (he maintains that they killed him) He will tell anyone who waits around for long enough that he is buried in the sarcophagus in the middle of the room, with "the marks of his trade". If the top of the box is moved aside (it has a Size of 4) the body is revealed with a wooden mason's square, a pair of dividers and a measuring pole (which can be used as per Warren's pick-axe). At the moderator's discretion, there might also be an entrance to a passageway of 4 spaces' length leading to the space behind Sir Tallum.

8) Sir Tallum waits at the far end of the corridor, and will challenge anyone who enters. He is armoured, and armed with a throwing knife. The player must talk to him about Sir Richard to stop him from just trying to kill them before they can get close enough to get a shot through his armour. The situation is highly volatile, however, and ultimately, they will have to shoot him.

7&9) At 7 is a large dinosaur called a Leo blocking the corridor. It is disinclined to move. At 9 there is a small group of turkey-like dinosaurs called Eugenes huddled in one space. The suggested way to pass the Leo is by shooting one of the Eugenes, then remaining still in the corner. The Leo will come towards the sound, and, distracted while eating the dead Eugene, will be easy to sneak past. If, however, the Leo detects any sound either before or after it falls to eating the Eugene, it will pause, 'look' around by emitting a series of sonar 'pings'(see description), and let out a truly ear-splitting roar, in an attempt to frighten anyone there into moving and betraying their position. If a few seconds elapse and the player does not move, then the Leo will calmly resume its meal.

6) Baths puzzle: There are two chambers in this puzzle. The first is a confessional. On examination, The player will discover that one side holds a skeleton. If they enter the other side, a voice asks them to tell their sins. It is Father Dunstan, a ghost. He tells them to have themselves baptised in the room next door. If they complain that the water is too dirty, or not holy water, he will drain the baths for them (believing that they will refill with clean water), so that when they enter the floor is visible. On the floor is a greek key pattern and a set of symbols as shown in picture 20.

If the player investigates the fish tile on the wall, it rises up, and reveals the pump/ratchet mechanism for emptying the baths. Above the original water level are two bulls of bronze- they are the founts from which the water normally flows. On the floor of the pool is the third, which has fallen from its perch. Three is the correct number of bulls for the Christ mural.

Almost opposite this, and marked on the map, is a picture on the floor of a knight, his feet facing the wall, and his hands raised in warning. On the wall at his feet is an area of paving. This is the reverse of the rotodoor trap in the pink area beond the wall.

5) Chest/crypt puzzle: player first encounters an ornate devotional shrine - a few yards further along the corridor there is a mural of the canonized Sir Vincent, under a tombstone. Almost opposite this, and marked on the map, is a picture on the floor of a knight, his feet facing the wall, and his hands raised in warning. On the wall at his feet is an area of paving. This is the reverse of the rotodoor trap in the pink area beyond the wall. In Vincent's hand is a symbol which is repeated on the shrine (the double-barred cross), which, when pressed, swings the shrine away to reveal a staircase down to the crypt which has 4 gothic sarcophagi in it. The one which bears the same heraldic device as the mural figure is Vincent - on the side is a date printed in Roman numerals. The date is MCLXI. Returning to the mural, the player scans down the numbers on the book he holds and picks out the ones which repeat the number on the coffin. When the sequence is completed, the numbers glow brightly, and the number of lions at Sir Vincent's feet reduces to 4, the correct number for the Christ mural.

At the junction of the green and pink levels is the Portcullis puzzle: this requires co-operation between Raptors, or the pump tool from the baths puzzle. The way is blocked by a heavy portcullis, which requires the strength of two Raptors to lift. Once raised, there is a short delay before it falls back down again, so that both Raptors have a chance to get through. Alternatively, the pump tool can be used on the portcullis, but for this a player also needs the rod found & carried by Warren or the measuring stick in Tomas' tomb.

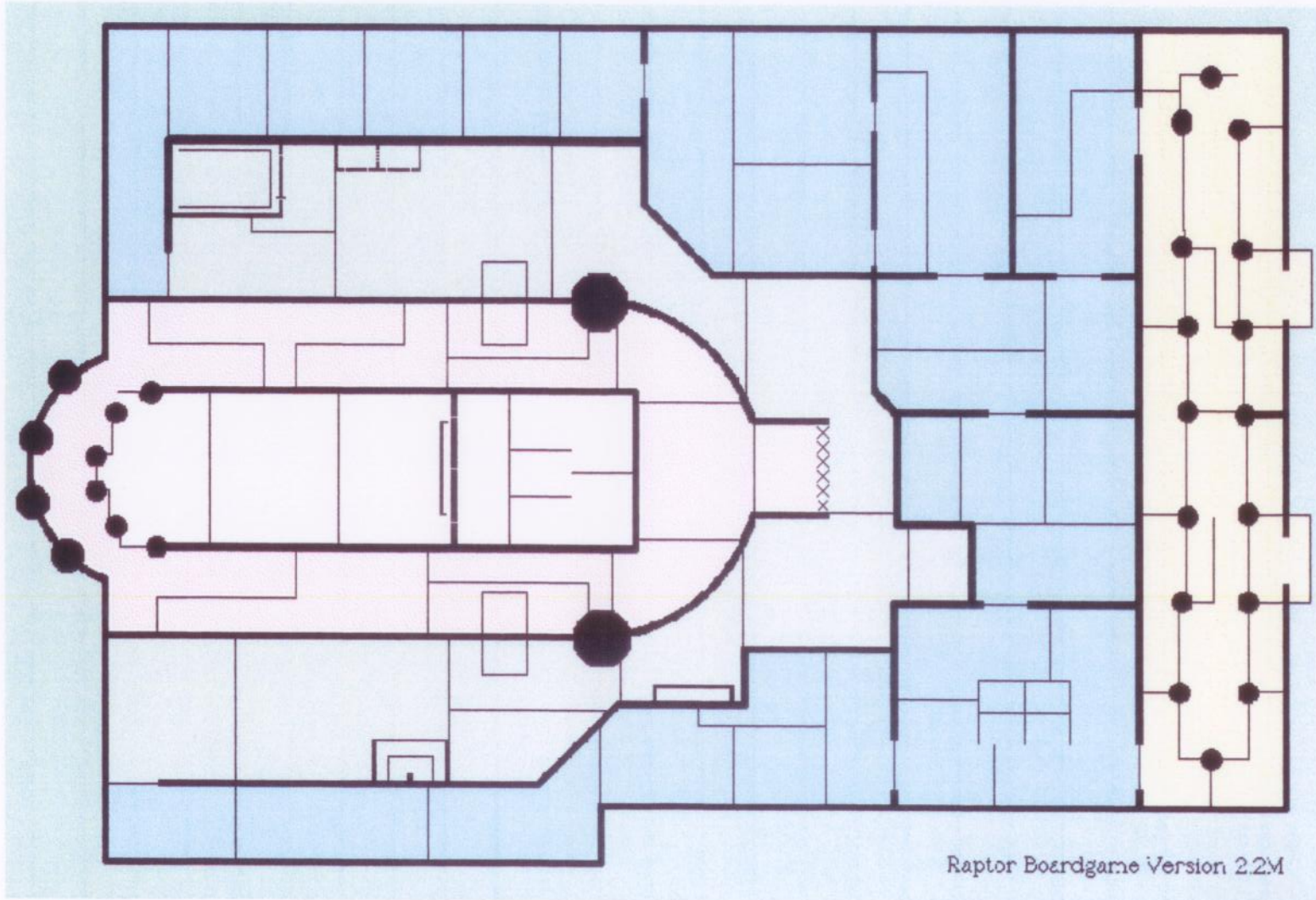
3&4) The pink area in which a Leo dinosaur roams. There is no scripted way to pass this Leo, except by remaining still in its presence, no matter what it does, until it goes past the player. This Leo is larger and nastier than the one on level 2. It will not simply blunder into the player if the player is wise enough to leave another space in which it may pass. It will, however, play for dramatic tension, and do its full roaring, sonar scan act, before moving on. A sadistic moderator might have the Leo enter the same space as a player, and then describe it as roaring directly into the player's face, causing the player to lose all hearing for the next 7 turns.

Also in each of these areas is a 'rotodoor' trap. At the trap is a mural of a knight, standing erect with his hands raised in a gesture of warning. If a player continues towards the mural, they are thrown out into the chamber on the other side of the wall. This is heralded by a scraping grinding noise. It is possible to attract the attention of the Leo, then run across the trap, and spring the Leo out of the room that way.

2) Atrium. On the four pillars which face the doors to the grail chamber are four eagle figures, their wings spread in a gesture of benediction. On the door to the grail chamber is a mural showing a figure of Christ, surrounded by Eagle, Bull, Lion & Angel. He holds a book in his hand. The other hand indicates the angel.

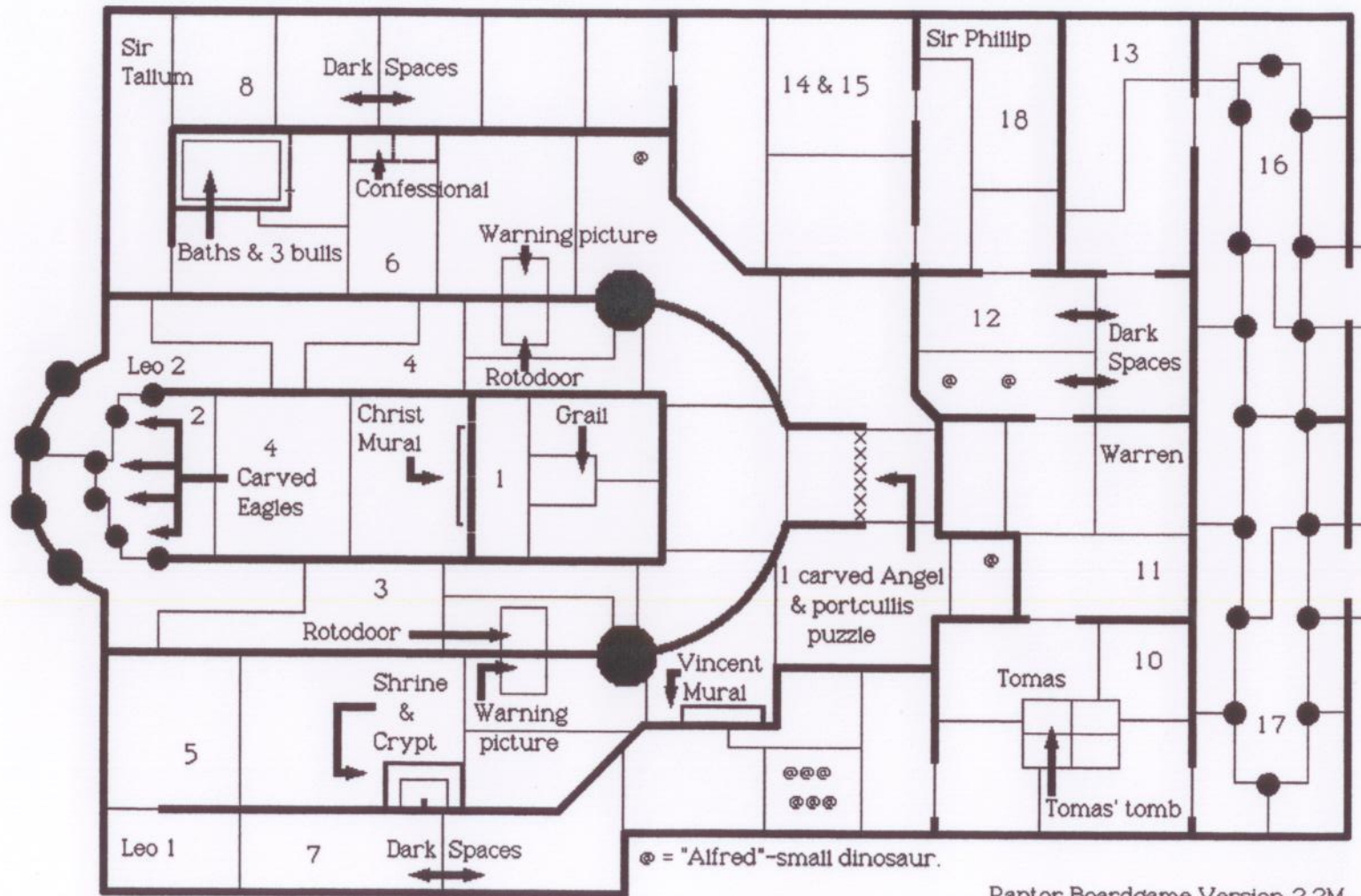
The Solution is to select the numbers on the book which correspond to the numbers of creatures you find in the complex— 1 angel over the portcullis, 4 eagles on the pillars in the atrium, 3 bulls in the bathhouse, 4 lions on the mural of St. Vincent, then enter them as a Roman numeral date as per the mural of Sir Vincent at (5), to make MCDXXXIV

1) Grail room. The first character to reach the centre space is the winner.



Raptor Boardgame Version 2.2M

Player's map



Moderator's map.

Raptor Boardgame Version 2.2M

Character Stats and Descriptions.

Sir Phillip de Beavauls.

Body level 4. Equipped with a sword and 1 throwing knife.

Sir Phillip is paralyzed by indecision. He will speak in a friendly manner to all non-hostile players, and will volunteer the information about Sir Tallum, while constantly interrupting himself with doubts about whether he should talk to these unknown folks who are so strangely dressed...

Sir Tallum Broadhand.

Body Level 5. Wears armour which automatically reduces all damage by 1.

Equipped with a sword (shackled and welded shut to his wrist) and four throwing knives. When the player's HUD identifies him, it will distressingly report the presence of 67 metal items.

Sir Tallum is now only just capable of reasoning enough to speak. He will challenge the player as soon as he senses them (at a range of 5 spaces) and unless answered immediately to his satisfaction will start to throw his knives, advancing each turn. If placated by the mention of Sir Richard, he will become slightly confused, but will reet to his usual murderous psychotic state within a few turns. If the player says anything inappropriate or unwise, he will turn against them immediately.

Tomas

Tomas has no physical stats. He will speak readily enough to anyone who challenges him, trying to disturb them by being unnecessarily graphic about his execution and the state of his corpse. He will side with any who denounce the knights, and will offer his tools that were buried with him if he's convinced that the player will use them to thwart the guardians.

Father Dunstan.

This ghost has become confused about his own situation, and will offer to take confession from anyone who enters the confessional. He will act in a kindly manner, and carry on a conversation easily, but will swiftly recommend that the player be baptized in the baths nearby.

Eugenes / Alfreds

Body level 2. If alone, will skulk in the shadows. If in a group, will hog the brightest area of light. These are scavengers, and if left alone with an immobilized player for three turns, will start to eat them at a rate of 1 damage per turn. If they are injured, they will start to emit a loud hooting noise, audible over 12 spaces, and will not shut up unless their circumstances change. If there is a group of them, and one of them is attacked, they will all start to hoot. When a Leo enters their space, they will all immediately fall silent. Also, when in a group, they will retaliate if disturbed by attacking for a total of 1 damage per turn.

Leo 1 in the blue area.

Body level 7. Teeth +3 damage.

This is an enormous carnivorous albino dinosaur, with a large sonar-sensitive fan ear across the back of its head instead of eyes. It will not move unless drawn forwards by a loud noise. As soon as it senses anything, it will emit a series of high pitched sonic 'pings' looking for signs of movement. If it detects a movement but cannot acquire a definite 'fix', it will let out an ear-splitting roar audible over 15 spaces, endeavouring to frighten any creatures present into moving, which will enable it to 'see' them again.

Leo 2 in the pink area.

Body level 8. Teeth +3 damage. Impervious to gunfire except for the fan across the back of its head, which counts as body level 2 for both targeting and damage purposes. This one will move directly towards any source of sound. It can detect footsteps up to 2 spaces away, and speech at double normal range. It will react to nothing, however, until the portcullis is raised, in which case it will advance towards the noise this causes.

Glossary

Ad-lib	The original PC-compatible sound card. The Ad-lib play synthesised music, but has no capacity for playing sampled sound.	CD-ROM	Compact Disk Read Only Memory. A method of storing computer data on compact disks, like those used in the audio world. CD-ROM allows around 600 megabytes of data per disk (compared to 1.5 megabytes on a floppy disk) but is considerably slower than a PC's built-in hard disk drive.
Aeternis	The underground temple in Raptor. The name is derived from the Latin for 'eternity'.	Console	Any home video game system which is not classed as a home computer (this generally means that it does not have a typewriter keyboard). This includes systems made by Nintendo, Sega, Atari and the 3DO licensees.
AIDS2	A mutation of the AIDS virus which threatens to destroy the world.	Cursor	An on screen pointer, generally controlled with a mouse.
Alias	A powerful 3D graphics creation program which runs on Silicon Graphics workstations.	DAT recording	Recording audio signals onto Digital Audio Tape (DAT) the standard media for high-quality audio work.
Array	A data structure used frequently in computer programming to store information as a table.	Depth Cueing	The technique of displaying objects at a brightness related to their distance from the viewer. This not only looks impressive, but can cut down the number of sprites which need to be displayed.
Assault Rifle	A weapon with a high energy cost to the player, which inflicts considerable damage but has limited range.	Dunstanburgh	The home of Aeternis, in Northumberland, England.
Bit Blit	A routine which takes a piece of graphics stored in memory, and actually moves it onto the screen (or into another part of memory).	Empathy	A measure of an NPC's general trust and liking for the player (or for another NPC).
Bitmap	This is how a computer stores a picture, as a series of dots, or pixels.	Eugene	A relatively harmless scavenger, about the size of a turkey. Eugenes can cause trouble by making a loud noise when distressed, attracting other, more harmful creatures.
Branching Dialogue	A system used by Intelligent Games to store conversations and game occurrences as a tree-like data structure with dialogue fragments chosen according to their priorities (which are decided by other game events).		
C++	A high-level, object oriented programming language which compiles efficiently for fast executable programs. C++ is ideally suited to game development, and is used extensively by Intelligent Games.		
Cache	An area in memory or on hard disk used to store data temporarily to avoid many of the speed problems associated with CD-ROM games.		

EVM	Event Manager - A part of Intelligent Games' OVM library, which deals with mouse, joystick and keyboard use.	Hypertext	A visual method of associating pieces of information (pictures, text, animation and sound) - the user may select certain 'hot links' in one passage which may lead onto another topic. Raptor uses a hypertext-like system for displaying the knowledge database on the HUD.
Finite State Machine	A means of representing the behaviour of a character or object as a series of states. The character can pass from one state to another, depending upon its stimuli.		
FLI	An efficient animation format for computer graphics. This method only stores the differences between successive frames of animation.	Icon	A small picture (or piece of text) on a computer screen which may be clicked upon (often with a mouse pointer) whose appearance suggests its function. For example, a 'save game' icon may be represented by a small picture of a floppy disk.
Grailstone	A phosphorescent rock with strange healing powers to which prolonged exposure may result in mutation - the material of which the Holy Grail is made.	Inventory	This contains all objects in the player's possession.
Gravis Ultrasound	A relatively new PC sound card. The Gravis Ultrasound offers higher music and sound effects than those possible with a SoundBlaster or Ad-lib card.	Joypad	The game controller which now comes with all consoles. It has superseded the traditional joystick in function, allowing the player to control an 8-directional movement pad with one thumb, and providing between three (Sega and 3DO) and six (Nintendo) fire buttons.
Guardians	The Templar Knights guarding the Grail.		
High granularity movement	The ability to move freely around a game world. This is not a feature of most CD-ROM games, which restrict the player's movements and hence his/her gameplay.	Knowledge Database	The system of information storage available to raptors via the MS-2 helmet.
Holy Grail	A goblet fashioned from Grailstone like that found around Aeternis, which has since passed into Christian history.	Knowledge database	The player's store of acquired knowledge, held in the MS-2 helmet for convenience.
HUD - Head-Up Display	A Terminator/Robocop-style overlay, which overlays important information onto the player's real-world view.	Leo	A large, eyeless, sonar-tracking, translucent albino dinosaur. The successful player will learn to steer clear of these.
Hunter/Seeker	The tracking device attached to a raptor's MS-2 helmet.	Link	A path between nodes. NPCs may exist at any point along a link.

Lip Synch	The accurate synchronisation of speech to animation, to give the impression that the words are being spoken by an animated character.	PCX	A file format for still-frame pictures.
MIDI	Musical Instrument Digital Interface - A means by which electronic musical instruments (synthesisers, sequencers, samplers etc.) can communicate.	Pixel	The smallest measurable point on a computer screen. Each pixel can be displayed in any of 256 colours on a PC VGA or SVGA screen.
Miles Sound Drivers	A set of programs for PC-compatible computers, allowing a variety of different sound cards to be used with no additional programming.	Puzzle	A puzzle in the game represents any problem which the player must overcome in his/her quest. Some puzzles are part of a test prepared by the knights Tobias and Geffreye. Some puzzles require co-operation.
Mogs	Primitive, human-like creatures residing in Aeternis.	Raptor	A professional plunderer.
MS-2 helmet	A state-of-the-art virtual reality helmet worn by the player's Raptor to provide information about the environment.	Ray Tracing	This is a process which traces light beams back from the viewpoint, through each pixel on the screen. Each ray is followed back into the virtual world until its source is found - the resulting colour of the pixel is then calculated. Ray tracing allows transparency, reflections and shadows.
MurphSpective	Intelligent Games' system allowing sprites to appear behind or in front of background objects, without using layered background planes.	Remote Sensor	A small, circular movement sensor which the player may attach to walls to detect other characters in the game.
Node	A point at which the player may stand in the game. At each node, the player may rotate his/her view through a full 360 degrees.	Render	The process of creating a photorealistic image using a 3D modelling package.
NPC - Non Player Character	Any character encountered in the game.	Renderman	A package which runs on a variety of different computers, which can render 3D images.
Nyquist Limit	A value which places an upper limit on the frequency of samples which can be taken at a certain sampling rate.	Sample	A piece of audio data, stored in digital form inside a computer.
OVM - Object Virtual Machine	Intelligent Games' code library which allows games to be ported to a variety of machines with no additional coding.	Silicon Graphics	The company which manufactures high-end graphics workstations, such as the Indy, Indigo and Reality Engine.

Sniper	A weapon available to raptors. Has a lower energy cost to the player, and can be used over a longer range than the assault rifle, but it inflicts less damage upon an opponent.	Theo	Man-sized translucent chameleon descendent with long feelers and a highly developed sense of hearing.
Sound card	An add-on card for the PC, which extends the computer's functionality to allow the production of sound of higher quality than is achievable with the PC speaker.	Transition	The movement of a finite state machine from one state to another.
SoundBlaster	The 'standard' sound card for the PC. The SoundBlaster uses FM synthesis (as used in Yamaha synthesisers in the early 1980s) for music, and supports 8-bit sampled sound.	Underworld	A dangerous area under Aeternis, to which entrance has been barred (to keep its inhabitants out of Aeternis, rather than vice versa).
Sprite	An animated, graphical figure used to represent a character in the game. Conventionally, sprites are 'flat', existing in two-dimensional game worlds (such as in a platform game). Raptor uses 3D sprites, rendered from eight viewpoints, to give a real feeling of depth and freedom.	User interface	The level of a computer program at which the user interacts. User interface design is an intriguing mixture of art, psychology and science.
State Machine	See finite state machine.	VGA	A graphics mode supported by all modern PCs.
Super VGA - SVGA	A set of high resolution graphics modes for the PC, which supersede those defined as VGA. Intelligent Games' library includes full SVGA support for mode 101, which has a resolution of 640*480 pixels with 256 colours.	VideoWrap	Intelligent Games' system of texture mapping live action video onto a three-dimensional model. VideoWrap will be used extensively in Raptor, for generating realistic faces on NPC sprites.
Templar Knights	An ancient order of knights charged with guarding the Holy Grail.		
Texture Mapping	The process of applying bitmaps with texture information to 3D models, to give added realism. This will be used in conjunction with ray-tracing when generating the game's backgrounds and sprites.		