

Blueprint

Beneath A Steel Sky

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TELEPHONE: 081 960 2255

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The most innovative adventure system of last year is about to return. We sent **Paul Presley** to find out as much as he could about Revolution Software and Virtual Theatre. Then he wrote some things about them.

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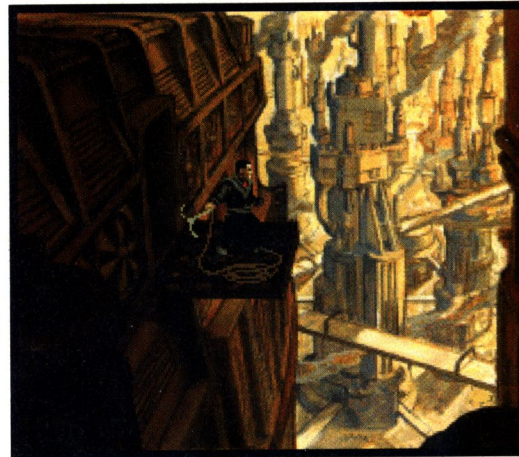
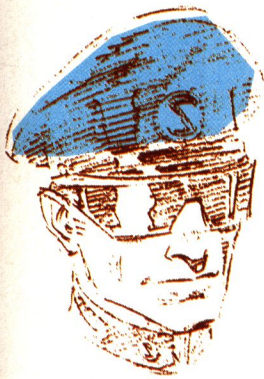
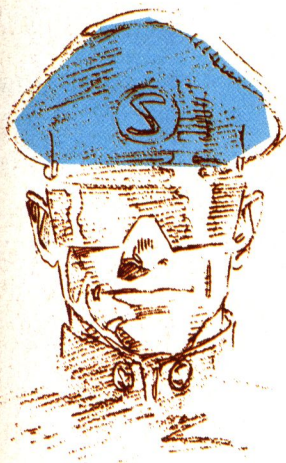
1992 was a good year for adventure games. We saw a sequel to the funniest adventure ever, *Monkey Island 2*, graphical splendour in the shape of *King's Quest VI*, accurate television folklore with *Star Trek: 25th Anniversary* and possibly the best all-round adventure ever, *Indiana Jones and the Fate of Atlantis*. But amongst all these marvels, one other game was receiving its fair share of the applause. With a clever storyline, attractive presentation and a unique handling of characters and locations, Revolution Software's *Lure of the Temptress* turned many a head.

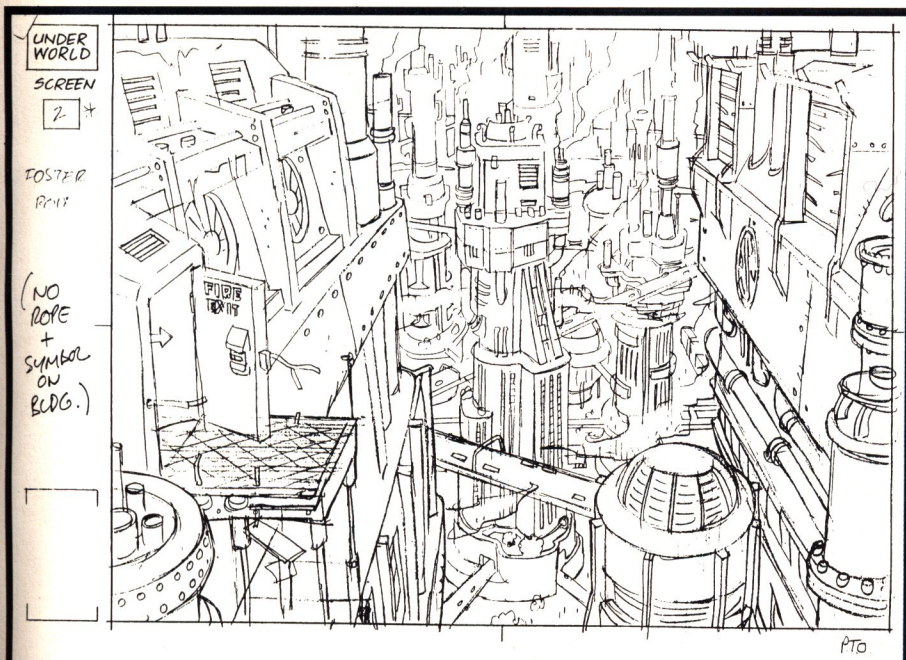
What made *Lure* so different from everything else was a clever little system called Virtual Theatre. Whereas in most adventure games everything revolves around the central character (i.e., whatever isn't on the screen doesn't exist until the character is due to interact with it), Virtual Theatre keeps every location, every character and every object in the game alive, regardless of what the player happens to be doing at the time. Say you talk to a blacksmith then leave his screen to go off and do something else. The blacksmith will continue to exist and will wander around the available locations - in *Lure's* case, a small village called Turnvale - doing as blacksmiths would most likely do in real life. Basically, the world in a Virtual Theatre game continues to exist whether the player decides to get involved or not.

How it all began

Charles Cecil is the head honcho at Revolution. He recalls how *Beneath a Steel Sky* was first created: 'While at Activision, I had met Dave Gibbons (British comic artist, best known for *Watchmen*). It seemed to me that, although he was relatively unknown in the UK, he was revered as a genius in France, Germany and the US. I considered that, thanks to his immense creative abilities, Dave could provide very valuable experience to our type of product.'

'In August 1991, we approached him and asked if he would help us with a new project that we were working on. Mirrorsoft agreed to commission the project, which we called *Underworld* (Origin had not produced a game of that name at this stage). With the demise of Mirrorsoft in December, the game had been put on the backburner until things were sorted out. ☹'





BIRTH OF A SCREEN

Dave Gibbons' artwork may be excellent, but that doesn't always mean that it meets with the technical design specifications. Here we follow the path of one location, from original artwork to finished screen:

MONO ARTWORK

1. The ledge is too wide, since the player has to cling from the back of the door when it opens.
2. Since the character is to swing across the gap and smash through a window, Dave has to change the layout of the building on the right-hand side.
3. The player needs something to swing from so the security sign has to be moved.

COLOUR ARTWORK

1. The ledge has been shortened and the shape of the building has changed slightly to compensate for the new composition of this side of the picture.
2. The windows have been moved down and the whole building has been raised above the top of the screen.
3. The security sign has been enlarged and placed so that the player can swing from it into the window below.

SCREENSHOT

And here is the finished screen complete with hero in mid-swing. Note the addition of shadow and small animations to add to the atmosphere. Darkening the edges also brings the player's attention to the centre of the screen where all the action takes place. There's more to this drawing lark than meets the eye, you know!



'The world in a Virtual Theatre game continues to exist whether the player gets involved or not.'

THE ART OF ILLUSTRATING



1 Limiting the vertical movement. These large gates prevent the main sprite from wandering towards the top of the screen, an act that would call on 'sprite scaling' – a feature that Revolution are keen to avoid where at all possible.

2 Avoiding exits on the Y-axis. Rather than have a 'black area' at the top of the screen which characters just appear from, the designers have to make any top or bottom entrance appear horizontal. Adding this tunnel solves the problem here.

3 Avoiding the 'box within a box'. The use of these bushes and leaves around the screen add to the atmosphere and make it seem more realistic.

4 Autorouting. The areas that allow character movement are all at least two characters wide to prevent 'character queuing', a problem from *Lure of the Temptress*.

5 Ensuring continuity. When you enter the building on the left, the rooms inside won't suddenly change shape. Everything inside will conform to fit the shape set here.

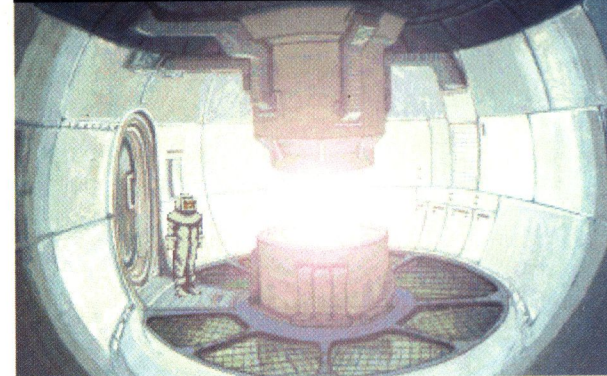
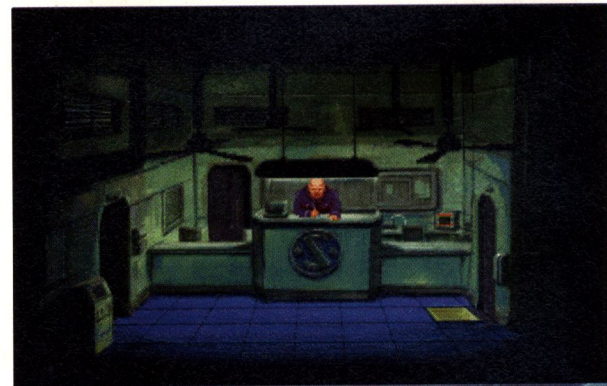
The background graphics went through several stages before becoming completed computer screens. First, the designers agreed what would appear; Dave Gibbons then drew roughs of the screens, following those basic rules. Next, they evaluated the screens from a technical aspect and Dave then made the necessary changes and supplied revised screens. This process would continue until both Dave and Revolution were both happy that they had the best composition possible, while conforming to the restrictions.

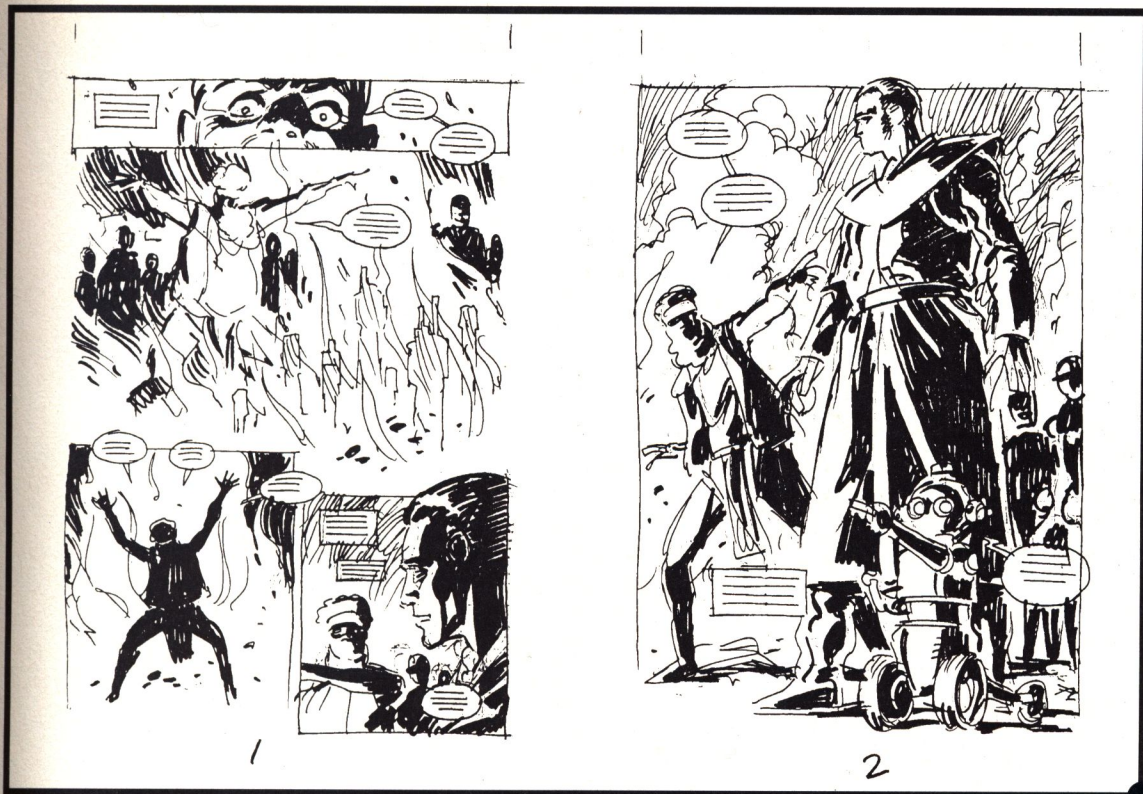
The basic rules for drawing the background screens were:

- Where there is no sprite scaling, limit the Y-axis (vertical) movement. This is to avoid the illusion that the sprite is getting bigger and smaller, caused by the relative size of objects around it.
- Avoid having exits/entrances on the Y-axis. This is to avoid characters seemingly appearing from nowhere when they enter a screen. If necessary, build an alcove so that they can appear from a Y-axis exit, having turned into the X-axis.
- Avoid 'box within a box' types of screen layout. Make it interesting. Where appropriate, add darkened foreground objects for atmosphere.
- The autorouting system requires areas in which people pass to be at least two characters wide. Avoid narrow gaps where people are going to meet.
- Ensure continuity. The external view of a building must be reflected by the shape of the rooms inside that building.

It was decided that the actual inking should be completed by a third party, as usually happens with comics and cartoons. After much hunting around, Revolution approached Les Pace, one of the animators on Disney's *Who Framed Roger Rabbit?* He was given the final pencilled screen to colour, which was then taken and scanned on to an Apple Macintosh in 24-bit mode.

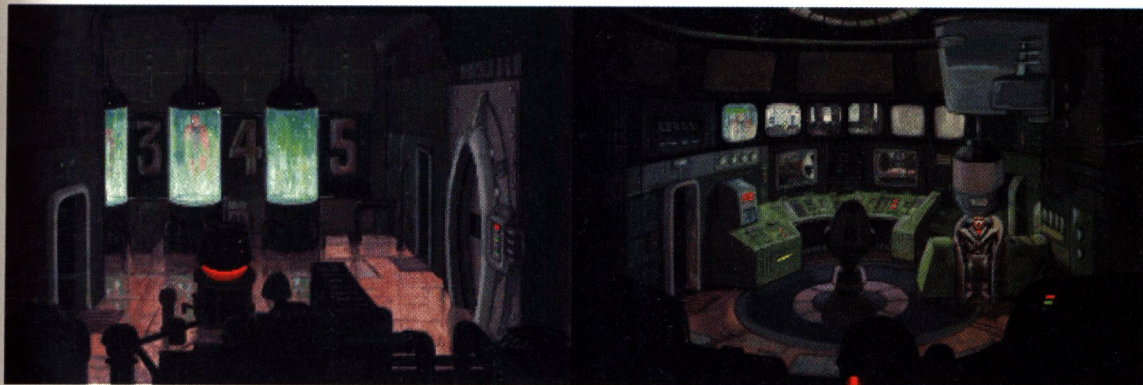
The scanner produced a very high-resolution image with a pallet of 25 million colours. This was then translated to a resolution of 200x320 with a palette of 256 colours – causing a severe loss of detail. With that came distortion, and so it was necessary for Revolution's artists to then spend several days 'touching up' a screen to maximise its quality within the technical constraints.





THE REVOLUTION COMI... SORRY, THE REVOLUTION 'GRAPHIC NOVEL'

With Dave Gibbons' talents to hand, it was only natural that Revolution would ask him to produce a comic strip to introduce the story. What you see here is some of the rough artwork for the booklet that accompanies the game.



PC ZONE specs

Minimum Memory: 2Mb RAM
Minimum Processor: 386
Installation: Essential
Minimum Hard Disk: 20Mb
Minimum Graphics: VGA
Sound Cards: Sound Blaster, Roland, Ad-Lib, Ad-Lib Gold.

(Above) If these cryogenic units work anything like my own freezer, everyone'll be defrosted within the hour.
 (Above right) Even hairdryers look sinister in the future.
 (Left) It may be the future, but even sinister and oppressive security forces have admin to file.
 (Below left) One of the many strange locations to come from the mind of Dave Gibbons, Charles Cecil et al.

'In March 1992, we approached Virgin and asked them if they wanted to take *Underworld* as well as *Lure*. They accepted the project on the proviso that it was written using the Virtual Theatre II system, which is an enhanced version of Virtual Theatre. Dave Gibbons was commissioned to provide input into the design and draw the background screens.'

The design work for *Underworld* - or *Beneath a Steel Sky* as it had to be later named - started again in April 1992. Six months of design work was re-evaluated and the project was started over.

Problem solving

It had originally been planned that *Beneath a Steel Sky* would be written using the same system that drove *Lure of the Temptress*. However, a thorough analysis showed that there were several aspects of Virtual Theatre that could be improved. 'The main one,' explains Charles, 'was that there were too many boxes on-screen, which could become confusing, especially when there were multiple conversations taking place in a location. Eventually we decided that the system should be completely enhanced to overcome this, as well as other problems.'

It was found that there was only one possible way of interacting with many of the objects. For instance, interacting with a door would open it if it was closed, and close it if it was open; interacting with the bolt would lock it if it was unlocked, or unlock it if it was locked.

'In this way, the interaction with objects can be quick and painless,' says Charles. 'To ensure that this did not close down the scope of puzzles we increased the number of problems that require a second portable object. For example, to open the fire door in the first screen, the player needs to pull a bar from the guard-rail and use it to prise open the lock.'

American cousins

A few months ago, Charles was quoted as saying that Revolution would continue to develop almost all of their products for low-spec machines. Now it seems that even this last bastion of hope for 640K 286 owners is falling. 'We may even have to go to two Meg of memory to get all the animations in,' he sighs.

This does seem to be the only way he'll get his games to match the quality of his American counterparts - a task that Charles set himself when Virtual Theatre began. With *Lure of the Temptress*, his main goal was to get people to compare it favourably to *The Secret of Monkey Island*. This time he's looking for equally favourable comparisons to LucasArts' sequel.

As one of the few serious British adventure creators (at last count there were only two), valiantly defending our two shores against LucasArts, Sierra and Dynamix on one side, and Delphine, Infogrames and Coktel Vision on the other, Charles is keen for people to rate *Beneath a Steel Sky* above all those competitors' products. And thanks to the uniqueness of the Virtual Theatre system, that may just become the case. [Z]

