

**VIRTUAL  
REALITY**  
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92

IMPACTS AND APPLICATIONS

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## **VIRTUAL REALITY: A NEW MEDIUM FOR THE ARTIST?**

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The traditional activity of art has been the representation of reality – manipulating materials to create tangible mirrors of our experience and desire. Now with the mechanisms of the new digital technologies, the artwork can become itself a simulation of reality – an immaterial digital space which we can literally enter. Here the viewer is no longer consumer in a mausoleum of objects, rather he/she is traveller and discoverer in a latent space of audio visual information. In this temporal dimension the interactive artwork is each time re-structured and re-created by the activity of its viewers – each person becomes raconteur and auto-biographer of the artwork's many possible forms.

The computer-graphic installations I have been making over the last 15 years use mechanisms of simulation and interactivity to create an immaterial and virtual space of imagery which the viewer can enter and explore.

In my installation *THE NARRATIVE LANDSCAPE (1984)* flat images were given specific relationship to each other in a virtual three dimensional space. The image was video projected down onto a screen on the floor of the exhibition space, and the viewers looked down from above. Using a joystick the viewer could travel in this space of images. The joystick gave three axes of movement of the picture window – panning in the N.S. and E.W. directions over the surface of the image, and zooming down in the vertical axis. And it was also in this zooming axis that the viewer could penetrate through from one level to another. The work gave the viewer nine different places to visit, each place constituted by a narrative group of three images.

In my installation titled *GOING TO THE HEART OF THE MIDDLE OF THE GARDEN OF DELIGHTS (1986)* the images changed as the spectator walked towards the projection screen. These changes were triggered by infra red sensors that were placed along the walkway in the museum.

In this work the dialectic between the representational image and its digital structure was articulated as a sequence of changes between two images. One was a quotation from Oshima's film *The Empire of the Senses* and the other a quotation from Bosch's *The Garden of Delights*. The sequence shows a progressive digital



abstraction of the Oshima image, its progressive reduction from a high to a low resolution pattern of colours. From within this abstract raster the Bosch image gradually emerged until it became fully revealed. Thus the journey into the low level detail of one image, revealed the high level representation of another.

The virtual image space created in this work was made to coexist inside the actual space of the exhibition room. This room was divided into seven zones - areas already defined by the Gothic vaulting of the museum. Each image change was a consequence of the viewer moving from one zone to another, past the infra-red sensors. The journey from one image to the next was thus also the journey through the whole exhibition space - and the images came to virtually exist along the path that the viewer walked there.

For many years I have been doing research into virtual imaging mechanisms. For instance *VIEWPOINT* shown at the Paris Biennale in 1975, and *FUTURE?* shown in Amsterdam in 1976 which had a stereographic viewing device that directly anticipates the head mounted displays of today. In the latter work, wire-frame geometric forms were virtually located all around the room, and could be seen by the spectator as he/she rotated and tilted the optical viewing mechanism.

A later embodiment of this strategy of virtual location of synthetic images in the real space is my interactive video disc sculpture *INVENTER LA TERRE*, commissioned in 1987 for the Museum of Science and Industry at La Villette in Paris. Here a strip of images has become a circular panorama that surrounds the viewer. By means of an optical system inside the viewing periscope, this panorama appears to float out in the actual space of the museum.

By rotating the periscope the viewer can move his window of view (left or right) around the circular panorama, and then by pressing a button, can choose one of six different places to visit in that panorama. These six places are each described by 3 to 4 minute video travelogues which are interactively accessed from video discs.

A recent work of mine which has become well known is *THE LEGIBLE CITY*, shown first in 1989 at the Bonnefanten Museum in Maastricht. Its three dimensional database represents a virtual space that is approximately 2.5 kilometres square, and where the viewer can travel using a bicycle.

In the first version of this work, the ground plan was based on an area of Manhattan south of Central Park. Instead of buildings lining the avenues and streets, my associate Dirk Groeneveld wrote a number of stories, and the letters and words of his text constitutes the whole visual architecture of this new Manhattan. In this way the city has been transformed into a kind of three dimensional book. Bicycling there is an activity of reading, where each bicyclist, by choosing their own path in the city, makes a unique and personal reconstruction of the text.

In the more recent Amsterdam and Karlsruhe versions of *THE LEGIBLE CITY*, the size of each letter matches the size of the building at that location which it replaces. Thus the textually transformed virtual city still maintains its original formal identity – its architectural proportions are re-embodied in the proportions of the lettering, and anyone familiar with Amsterdam and Karlsruhe may recognise where they are when bicycling there.

While *THE LEGIBLE CITY* is an exemplary example of the possibility of the digital image to generate a three dimensional virtual space inside of which the viewer can travel, my most recent work, *THE VIRTUAL MUSEUM*, creates an aligned conjunction of this virtual space with the actual space where the work is located. This installation was shown for the first time at the 1991 Frankfurt Art Fair, and evokes the possibility of a museum architecture that is as provisional as the culture it embodies. The viewer interactively controls the work from a chair on a rotating platform where the image screen and computer equipment is all located. Moving forwards or backwards in the chair causes forwards and backwards movement in the virtual space on the screen. Left/right rotation of the chair causes rotation of both the platform and the image space. Thus there is a paradoxical conjunction of both real and simulated movements.

The contents of three of the four rooms refer to traditional art forms – painting, sculpture, and cinema. The fourth room refers specifically to the identity of the new computer generated spaces – all the surfaces of this room are articulated just by grace of the movement of three primary coloured objects, a red, green and blue "A 2 Z".

The activity off both art and science has always been the interpretation and recreation of reality. It is an exercise of the

human imagination, creating virtual realities which embody tentative structures of meaning. The world appears to us in the light of these fictions that we project onto its surface. Whereas Eastern culture has always understood the primacy of this projection, Western culture has made an idolatry out of the virtual reality it has invented, calling it an 'objective' reality that is separate from the mind that projects it.

Paradoxically the new computer generated 'virtual reality' technologies are rooted in this Cartesian dualism. Our materialist culture had to create a technology that could conjure fiction with a materialistic 'realism' that simulates the characteristics of that 'objective' reality which we so exclusively want to believe in.

Art has always struggled with/against this illusion of an objective reality. I believe that the simulational efficacy of the new technologies offers the artist an important new medium with which to further this discourse. Computer generated virtual realities are a persuasive new space of fiction, whose apparent 'realism' can be a gateway into a 'meta-realism' that evokes the deeper immaterial dimensions of our experience.

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Recent projects described in this paper were all implemented on Silicon Graphics computers, with custom application software written by Gideon May.