

THE VIRTUAL BODY, Catherine Richards, 1993

Artistic Concept

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Bio

THE VIRTUAL BODY, 1993

Catherine Richards

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Artistic Concept

This piece encapsulates many of my preoccupations with new technologies:

- the body as site for new technologies
- the body as a threshold to capture the body and couple with technology
- with this body/technology cyborg comes a destabilization of accepted notions and construction of subjectivity

Description

the interpenetration of the material and virtual: the absorption of technology into the material environment

Technical description

The *Virtual Body* is a nostalgic material object. At first sight the piece seems like a museum object of adorning worn fine materials. It re-creates the 19C idea of the beautiful with it the reassurance of the clear distinction between the spectator and the object. This spectator relationship is familiar. It is just this familiar relation that is challenged in new technologies. And once the spectator interacts with the piece this initial spectator/object relation is turned inside out.

Virtual Body is a quiet piece that is not overtly about technology, and yet not what it seems. In this *Virtual Body* appears to parallel the current absorption of new technology into our material environment where technology seemingly disappears by disguising itself. In 'ubiquitous computing' (Ubi - comp, Xerox PARC), for example, computing disappears into material objects. The object, in effect, becomes simply a carrier, a nostalgia for materiality.

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Notice from Antwerp exhibition

What do porous boundaries point towards? Certainly a kind of cyborg state, as Donna Haraway has so graphically discussed and certainly then, the fear of mutation, as Katherine Hayles has explored. Initially at least, there is the awareness and anxiety that our paradigms of the self no longer fit these experiences.

This is what this piece is about...the awareness of the shift from, as Jonathon Crary has investigated, the classical model of the self and senses to the transformed observer. (The classical model of vision, for example, was understood by geometric optics; an incorporeal relation between perceiver and object of perception; an external process undertaken by an individual with clear boundaries; and within a stable space. On the other hand, in the transformed observer, vision became a bodily process; understood through physiological

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The *Virtual Body* is a nostalgic material object. A first sight the piece seems like a museum object of alluring warm fine materials. It re creates the 19C idea of the beautiful and with it the reassurance of the clear distinction between the spectator and the object. This spectator relationship is familiar. It is just this familiar relation that is challenged in new technologies. And once the spectator interacts with the piece this initial spectator/object relation is turned inside out.

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In these conditions this piece is about the shift in our idea of self. We have moved from the clear distinction between the spectator and object to a self where the boundaries between the two are no longer clear. Shedding the comforting aspect of the 19C perspective of the body as a self contained organism, the body cannot now, in a sense, be distinguished from the information environment. Rather than the contained and independent self we have a body which is intimately readable, a universally coded information event. The degree, intimacy and subtlety of technology's observation of ourselves is necessary to blur the boundary and part of its seduction for the user, as Florian Rotzer has pointed out. I suggest that this intimate surveillance is what unites the seemingly disparate approaches of virtual reality (VR) and Ubi - comp. The envelopment of the user in VR is obvious and in Ubi - comp it is disguised.

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optics; and occurring in unstable terrain where the distinction between internal sensation and external source was irrevocably blurred).

This piece is about the moment when we feel the awkwardness of the classical paradigm of the self in these experiences. We often take for granted this seemingly natural self, but now we sense it as a construction. At the same time we do not yet have a different construction of the self which will make sense of these relations. At this moment we are caught in a telling point of transition. Perhaps the cyberspace cowboy is a fleeting farewell (Gibson et al). The willfully independent self, conquering the new frontier can only exist in the new information technological environments as a nostalgic, aesthetized fiction of a self which once may have been.

Interaction in new technologies is experiential often crossing physiological thresholds and body boundaries. This is one reason that the body illusion (proprioceptive illusion) is at the centre of this piece. The illusion is experiential. One cannot stand back from it. It typifies the merging of observer and object. It makes clear that the human physiology is part of the interface with the machine.

There is another reason that I use proprioceptive, or body illusions as part of the interactive environment. It is the means to modify the sense of body presence, in this case it creates the sense of motion, without motion, a feature Paul Virilio discusses extensively. The contradiction occurs as a sense of the body travelling with the awareness that the body is still.

Part of the technological dream is to simulate experience. To do so, will we not attempt a direct technological link with our sense of inhabiting our own material presence? Wouldn't the ultimate ubiquitous computing object be the computer embedded in flesh?

My work is about bringing these subtle shifts to the surface in seemingly innocent ways.

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Description

It is a short column, reminiscent of the column stereoscopes of the mid 1800's, when the new optical instruments were part scientific instrument, part aesthetic object and part perceptual media. *Virtual Bodies* occupies this ambiguous ground of instrument and object.

It stands on a platform in the middle of the room. As spectators enter they see that the top of the column, at eye level, is glowing. It is an almost vibrating miniature glass room. The walls are transparent. The coloured images on the walls glow with light from the floor within. Approaching they see that the images are of a Rococo room.

Steps to the platform beckon for a closer look. Standing next to the glass room spectators notice a brass peephole, in the top/ceiling. Peering inside they see, momentarily, the Rococo ceiling, but just as it appears, it seems to be interrupted by the floor image on the monitor and this floor image, in its turn, is again over taken by the ceiling. The space in the miniature room destabilizes.

On one side of the room, where a knob on an instrument would be, is a hole to put one's hand inside the room.....to enter. With this intervention by the spectator the third state begins. To an outside, the miniature room suddenly becomes opaque and loses all its transparency and detail. Meanwhile the peering spectator stares down at his hand spread across the room's floor. This floor moves away from him and his hand appears to be infinitely travelling away. It is taking his body with it... as if miniature space is folded into infinite space, as if stillness is folded into motion. The body loses all references: inside / outside; giant / miniature; spectator / object; part / whole. It becomes an instrumental site and part of the dispersion of events.

As the spectator withdraws the transparent miniature room reappears, glowing once again.

In the first installation for the museum, Eldorado, in Antwerp the piece stood in the Rococo room which is pictured in the glass, a simulation within a simulation. At the same time the Rococo room is used as a conceptual position in the piece itself.

The Rococo style is an illusionistic box designed to surround, overwhelm and trick the spectator just as in its own way many new technologies are committed to creating a simulated sensorium, enveloping all the senses.

The piece acknowledges the room's illusions, turning them into transparent images on the miniature walls. The room becomes a museum miniature and a miniature museum.

In the Rococo space the floor remains firm for the spectators while all the surrounding visual intoxication is oriented towards them. But in the Post Modern, virtual world the ground is no longer there, the floor destabilizes taking any sense of the separate self along with it. This piece explodes the room's one surface, the floor, which remained grounded in the Rococo room.

First the piece takes the Rococo room and makes it a object for the spectator....Then the piece turns these relations inside out taking up the spectator within this simulation. Instead of the spectator being the sovereign subject of the room's perspective, standing under an interior sky, a model of order,.... the spectator is dispersed, positionless yet everywhere.

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Technical Information

Materials

Video monitor, electronic circuits, sensors, computer, power supplies, mirror, hand blown glass, liquid crystal mylar, lexan, transparencies, glass, steel, brass, wood and walnut and cherry

Elements and Techniques

The floor of the miniature room is a monitor displaying a computer generated pattern. The glass walls are a sandwich of hand blown glass, liquid crystal mylar, transparencies and glass. The cabinet which houses the computer, circuit boards, power supplies, monitor is made of steel as well as cherry and walnut veneer. The openings are of lathed brass.

In the first non interactive phase the room glows with interior light, from the monitor and lights, illuminating the transparencies. A sensor detects when the spectator looks in the peekhole: the walls of the room become less transparent and the effect of the image of the ceiling and floor is generated. When the spectator places their hand inside the room another sensor triggers the movement of the pattern on the monitor which creates the illusion with the spectator.

Technical description

The piece is box-shaped about 1150 mm (3' 9") high and at most 600 mm (2') on each side. The lower section of the box, 800 mm (2' 7"), has sloped sides and is finished in cherry and walnut wood veneer. Above this section is a steel metal frame which holds four panels. Each panel consists of a 4 layers of material: hand blown glass, Lexan, a Liquid Crystal glass (LC GLASS), a positive film transparency, and another later of Lexan. One of the narrow panels has a hole bored through all layers. LC Glass changes state from translucent to transparent with the application of an 85 volt AC signal. The hole is lined with a machined brass fitting. The transparencies are positive slides of the four walls of the room which housed the piece during its first exhibition. Above the metal frame is a wooden top. In the middle of the wooden top is a hole fitted with a brass eye piece. The following figure shows a cutaway view of the piece, identifying the key elements of its construction.

The top houses a set of lamps (both low voltage incandescent and 120 volt fluorescent type) arranged to project light downward. Below the lights is a piece of translucent plexiglass which diffuses the light projected by the lamps. On the underside of the plexiglass is a transparency of the ceiling of the room. A hole in the plexiglass and transparency allow a spectator to view the interior of the box through the eyepiece. The top of the work also houses two infrared distance measuring sensors. One of these sensors, mounted near the eye piece and pointing upward, measures the presence of a spectator's head above the eye piece. The second sensor, positioned above the hole in one of the narrower panels. This sensor measures the presence of a hand in the hole. Although the both sensors measure distance to objects, in this project, a threshold circuit determines the presence of an object closer than .5 meters to the eyepiece sensor and closer than 20 cm to the hand detecting sensor.

The chamber described by the glass panels, and the plexiglass panel in the lid has as its floor a piece of half mirrored glass (mirrored side facing upward). Underneath the glass is the screen of a 19" (482 mm) video monitor for an Amiga 600 computer, housed along with sensing and actuating electronics below the monitor. The computer generates and controls the effects of a simulated floor for the room on the video display. The control electronics convert the analog sensor signals two switched signals that control the lights and LC GLASS material. These signals are also applied to the mouse port of the computer. The computer program and the electronics form a state machine that performs the following functions, based on the state of the sensors.

When neither sensor detects the presence of a subject, the LC GLASS material is set to transparent, both the incandescent and Fluorescent lights are on. The side panels of the piece glow in the dim light of the display area. In this state the computer generates a constant high luminance image of the floor of the room. The image scrolls slightly, under software control to reduce wear on the phosphors of the display. To an approaching spectator, this presents an alluring image.

When the spectator places their head over the piece only or the spectator places their arm in the hole, the fluorescent lamps are turned off, the incandescent lights are held on, the LC GLASS material is turned off (translucent), and the floor pattern slowly scrolls. At the same time the luminescence of the pattern on the display is stepped by the control program through 16 levels of luminance holding momentarily at both the full luminance and no luminance. When looking through the eyepiece, this combination of lighting and computer states causes the following effect. The image of the floor moves and varies in brightness while alternating with a reflection of the ceiling.

In the final state, if the subject views through the eye piece and places their hand through the hole onto the mirrored glass, both the incandescent and fluorescent lights are extinguished and the computer increases the scrolling rate with the image at full luminance.

The illusion which occurs is an extensive modification to the experimental work in the paper: by Marie -Francoise Tardy - Gervet, Jean - Claude Gilhodes and Jean - Pierre Roll, "Forearm vs Whole - Body Sensations of Self Motion: Some Results on the role of the Sensorimotor Context ", *Perceptual and Motor Skills*, 67, 351-358, 1988.

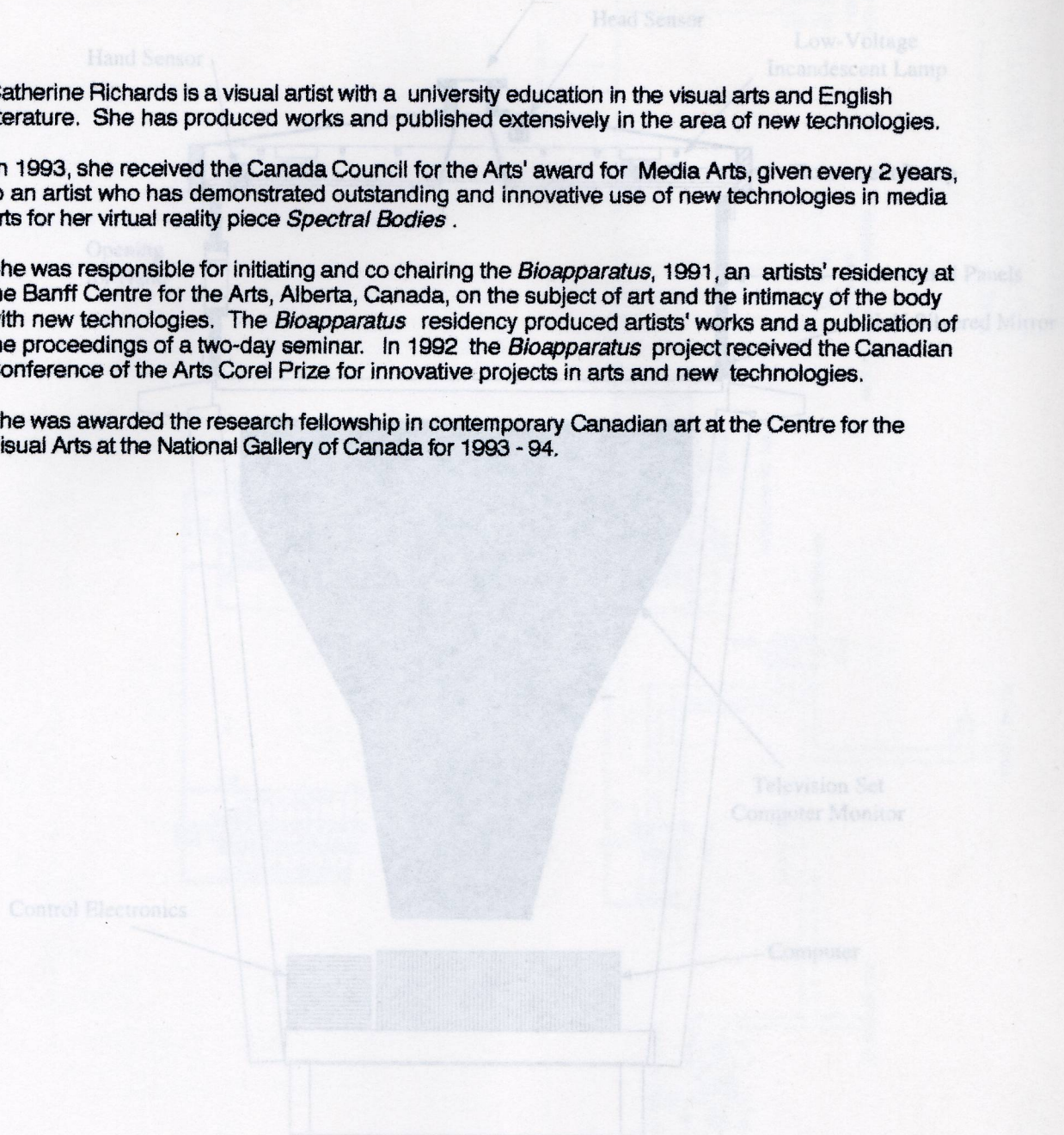
The cut away schematic, wiring diagrams and interface is included in the documentation.

Catherine Richards is a visual artist with a university education in the visual arts and English literature. She has produced works and published extensively in the area of new technologies.

In 1993, she received the Canada Council for the Arts' award for Media Arts, given every 2 years, to an artist who has demonstrated outstanding and innovative use of new technologies in media arts for her virtual reality piece *Spectral Bodies*.

She was responsible for initiating and co chairing the *Bioapparatus*, 1991, an artists' residency at the Banff Centre for the Arts, Alberta, Canada, on the subject of art and the intimacy of the body with new technologies. The *Bioapparatus* residency produced artists' works and a publication of the proceedings of a two-day seminar. In 1992 the *Bioapparatus* project received the Canadian Conference of the Arts Corel Prize for innovative projects in arts and new technologies.

She was awarded the research fellowship in contemporary Canadian art at the Centre for the Visual Arts at the National Gallery of Canada for 1993 - 94.



Cut away schematic diagram illustrating the technical components of "Virtual Bodies".