Eyestrain

'When logos appear mysteriously on the screen, they seem to pass through our bodies on their way to our field of vision: when they swoop or tumble across the screen in elaborate trajectories, their controlled movements suggest not objects given momentum by some other force, but subjects with their own motive power. In this sense a logo can be thought of not only as the proper name of a station, but as a supernarrator that conveys us through various modes of discourse.'[1]

What is possible to experience visually using computer graphics substantially alters the place of the observer. The space of computer graphics seems to allow for a somatic understanding of spatial relations that for the most part do not originate with the body but are culturally inscribed through the psychic regimes.

The spaces described by 3D computer graphics tied to motion control (depth coupled with movement) are imaginary spaces. Spaces that are not inhabitable by us as real places, whose territorial imperatives have yet to be defined. These are spaces to which the codes of representation as we know them, are being applied. Hollywood, television, space programmes, the military - these are the largest users of 3D computer graphics techniques - smart bombs, star wars, flight simulations, TV logos and virtual reality rooms...

1. Morse, Margaret, ,'Television Graphics and the Body', *Television Reality*, University of Indiana Press, 1992

Most of us experience this space in our daily life is through watching television graphics, especially station logos, advertising breaks and lead-ins to prime-time

programmes. Watching these graphics the viewer flies through the symbolic universe of ABC, CBS, HBO, NBC, CNN. The movement provides a pleasure more satisfying than narrative closure, as meaning is constantly deferred, available but just beyond the frame. Film critic Margaret Morse notes that it is the way the logos shift the spectator between discursive levels that reveals one of television's deeper functions that is to 'create links and exchange values between otherwise incommensurable aspects of our culture's symbolic, economic and sexual, martimonial systems.'[2]

The animation of these letters gives them a literal presence which can be read, not as writing but as the trace of an absent subject. They take on the characteristics of an innate subjectivity, anthropomorphized like the fantasy creatures in fairytales, complete with allegorical meanings. There are parallels with both classical iconography and fairytales particularly in terms of the subject positions available to the viewer.

In classical iconography, the meaning of a form is revealed through the repetition of certain motifs onto which meaning is inscribed and to which it accrues. With TV logos, there is an insistence on repeated motifs expressed through continuous movement, such as a curve around a corner which reveals itself as a letter. Over time these moves take on certain meanings which change or proliferate according to their use within the structure of the advert. In one logo sequence the viewer flies down a street stuck to the side of something that seems to be vertical and which is too large to be seen in its entirety. As it curves around a corner it changes direction, shrinks and becomes horizontal, landing on a tilted plane just long enough for the viewer to catch a glimpse of the letters, then flying off in a different direction. As in classical cosmologies this space has no beginning or end, locating the viewer deep inside - not in one place, but in several at once, relying on the movement to literally suture the gaze across the moving planes. In the rational world, movement implies a causal relation, created by someone or something. This is one of the primary ways subjectivity is denoted among logos. If you were to freeze-frame many of the shots in the logo sequence I have described, you would see movement blur. The reason why it is impossible to read in its static form is that it is actually the movement that carries most of the primary meaning. That curve going around what appears to be a corner, but which retrospectively you realise is part of the actual station logo, carries the meaning. Without the movement it would mean something

2. ibid

different. As in classical iconography the meaning is ambiguous. Its literal meaning is familiar; the form is recognisable as a station logo. 'The logotype is the proper name, the character, and the 'corporate' body in one, a condensation of iconic and symbolic signs.'[3]

Speed is part of the primary meaning. Speed has numerous other associations: notions of progress, sex, excitement, excelling, letting go, winning. But above all speed thrills and thrills sell. Speed causes us to lose control, we give ourselves over to its exhilerating effects. It seems as though we are participating. Unlike video games where we fight to maintain mastery and control, in this universe of motion control to look is to be caught, not by an image but by something more powerful, which delivers you to where it wants you to go. Flight which is usually associated with liberation, becomes in the computer generated world, an agency of coercion, binding the viewer to the motion control movements.

As you read these moving logos an imaginary world opens up, not into the referential world of literary fiction, but the literal world of corporate iconography. Effects of perspective and scale combined with motion, pull the viewer inside the television. These effects were pioneered in movies such as *2001: A Space Odyssey* in the star-gate corridor and perfected in later space films such as *Star Wars* and *Star Trek*. Chase sequences composed of numerous motion control shots - computerized cameras capable of an infinite number of programmable moves; miniature models and live-action composited together on one final image track, bound the spectator to the story. In both films motion and perspectival shifts often seemed to be the principle attractions, as if it were these effects that the audience went to see over and over again. These sequences break all the rules of cinema such as crossing the 180 degree line, which would locate the camera off-screen or behind the screen in conventional 2D cinema turns but which in 3D simply extended the frame to further wrap the spectator in 260 or even 360 degrees of total, continuous, inhabitable space, extending the frame and making possible the illusion that it could expand infinitely. A plenitude without narrative closure.

In the model of vision proposed by modernism, the observer is both inside and outside the perspectival space - unaffected, external to the representation. This is the humanistic subject: universal, timeless, immutable, oblivious. However, critical discourses over the last 20 years have problematized this subject, interpolating her or him within the ever shifting terrains of social and psychic agencies. This is the

3. ibid

desiring subject, prey to the desires of consumption, occupying a space inscribed by ideology, taking their place in a history, a monolithic narrative that has been exposed as a fabrication. Like the older model of the observer, this subject is also represented as an immutable cypher unable to resist manipulation, powerless to consciously enter the scene of representation.

The development of the cinematic institution and its codes of representation, in particular its ability to deliver a believable, inhabitable representation of space, is often seen as the culmination of the trajectory of industrial and ideological development which centres on monocularly-based systems of perspective. Permeating all practices of the cinematic institution is a history of assumptions about the spectator's relation to representation that begins in the Renaissance with the camera obscura (or earlier Euclid) and progresses toward greater and greater degrees of realism or 'natural' vision while simultaneously ensuring that apparatuses of power mark the spectator in the appropriate place.

In considering the history of perspectival space it is important to remember two things: first that the idea of perspective existed before it could be manifested as real space; and second that perspective gave a form *to* and was a recognition *of* the place that subjectivity was to inhabit, a self-reflexive space that located the subject both for her/himself and for other subjects. Today, it could be compared to a methodology, in that it was a way to order the world in relation to the observer. But, as Victor Burgin asks, 'Could it be that it is the intimation of loss in the register of the visual which the Quattrocento defended itself against by fetishistically turning intuition into a system called 'perspective' - built not only upon a founding point of view, 'the point of view', but also the disappearance of all things in the vanishing point?'[4] In classical cosmologies, space was a plenum. In the medieval world, space (God's creation) was a fullness without a gap. Only with Quattrocento perspective does the observer confront an absence in the field of vision. But, it is an absence which is disavowed: the vanishing point is not an integral part of the space of representation; situated on the horizon, it perpetually pushes forward as the observer expands its horizons. But, the effect of monocular perspective is to maintain that space does have a centre and that centre is the observer.

An exception to this paradigm, which bears similarities to those models of vision being suggested by computer technologies is 17th century Dutch genre painting. In her study, 'The Art of Describing', Svetlana Alpers discusses the way in

4. Burgin, Victor, 'Abjection and Geometry', *Public* No.1, Public Access Collective, Toronto, 1988

which this art eschews narrative and textual reference, focusing instead on description and pictorial, visual surface. The world seems to extend beyond the frame of the picture and is not entirely contained within it. Moreover, it seems to be a world in which the place of the viewer is not marked. Summarizing the difference between Italian Renaissance perspective and Northern Baroque description, Alpers notes the following oppositions: 'attention to many small things versus a few large ones; light reflected off objects versus objects modeled by light and shadow; the surface of objects, their colours and textures dealt with, rather than their placement in a legible frame; an unframed image versus one that is clearly framed; one with no clearly situated viewer compared to one with such a viewer.'[5] In Dutch painting this difference produces a flat, almost two dimensional surface which fails to specify the place of the observer. The point of view remains unmarked, while spatial plan is based on a cartographic grid.

This description could well apply to the way in which computer graphics organises user interaction and manages menu displays, while providing numerous points of access for an observer who has been transformed into a user. Indeed, many of the oppositions that she sets out mimic the ways in which computer graphics has distinguished itself along the depth axis as opposed to the horizontal and vertical axes of the picture plane, scrolling along to reveal a continuous frame which can sometimes only be partially shown.

Somewhere deep in cyberspace in those places only computers can go, is MAX HEADROOM, a computer generated TV character. This digital being who comprises a 3 dimensional head and shoulders in a suit, embodies one of the first attempts to narrativise and aestheticise a computational, computer-generated space. MAX is one example of the technological developments which are transforming the space of representation and with it, dominant paradigms of vision and the nature of spectatorship.

'Media is ahead of aesthetics in that it has the capacity to define reality.'[6] Cultural historian Frederick Kittler envisions a time when all media are transmitted via the same network of optical fibre cables. These currently distinct media which today carry in their methods of reception and distribution a whole set of social relations, will become one; a single standardised medium.

Artificial Intelligence, (AI) is an area where previously discrete discourses are

5. Alpers, Svetlana, *The Art of Describing*, Cambridge University Press, 1981

6. Kittler, Frederick, 'Gramophone, Film Typewriter', *October* 41, Summer 1987

being re-contextualised. Philosophers working in the area of 'speech acts' and post-phenomenology emphasize the way human intelligence depends on context, its global character, its intentionality. These special properties ensure that human understanding can not be reproduced through computational means. However what makes some of their programmes work is not the reproduction of human mental processes, but their recreation of human social practices.

For example AI inventor Marvin Minsky represents the knowledge that computers hold as 'frames'; and these can be equated to stereotypes. Frames are a way to manage the complexity of ordinary social life. They allow knowledge to be stored and then reconstructed. Once the appropriate frame is identified, a situation can be compared with the frame and then evaluated through deduction. Frames delimit boundaries without attempting to recover a unified, or unifying subject. They provide a way to hold mutually contradictory view-points in the same space.

Roger Schank's CYRUS programme reveals how this model breaks with logical thinking even though it uses deduction. CYRUS is based on the professional and personal history of Cyrus Vance, Secretary of State under President Jimmy Carter, answering questions as if it were Cyrus Vance. In one instance, when asked whether Mrs. Vance had met Mrs. Begin, it guessed 'yes' by searching its memory for a social occasion when both men were travelling with their wives and physically in the same place; in this case a shared plane ride. Schank sees this programme as a precursor to data-bases of the future where the data-base reorganizes itself continuously as it comes to know what it knows. In this model symbolic information is not processed at all; instead knowledge is stored in an aggregate way as interconnecting yet competing elements, settling into a temporarily stable condition. This is a world of textuality gone wild where the computer stands on the same shifting ground as its human counterpart.

This is the shifting ground in which MAX HEADROOM is located. The story of MAX mirrors the realities of the CYRUS programme. Data about a nearly dead TV reporter, Edison Carter is accidentally fed into a mainframe computer; it attaches itself to a simulation model and actually grows. The time is 'the future' and television is the only growth industry.

Narrative codes and visual design solutions give a realistic and believable form to this represention of computer technology. MAX exists in the airwaves, the result of intermittent transmission. When MAX is not shown on screen he exists as electronic data. He is transmissional: forever in the act of becoming. He knows things humans don't know, yet he is not omnipotent. He experiences the interruptions

caused by power surges, high voltage and satellite relay delays. How this effects him is shown most vividly in his speech acts, the way he forms meaning constructions, the sense he constructs of the nonsense of a life-world set adrift. Sometimes MAX laughs the wild, uncontrollable, self-dissolving laugh of what in the 19th century would have been an hysteric. And like the hysteric he is uncontainable within the normal codes of representation.

MAX does however conform to former codes of monocularly based theories of representation/ vision, rather than sci-fi models such as Hans Moravec's 'robot bush'. This AI driven robot has branch-like fingers that can manipulate objects better than the human hand, and can perform thousands of tasks simultaneously. MAX has no real body and is based on algorithims (basic 'building blocks' of computer space) which present as much of him as can be known. In this sense he is a new formulation of that singular, static, unblinking, fixated eye that locates 'the point of view' for an observer. For it is the algorithims that define 3-D rationalised space or perspective on a 2-D plane. The basic device of the symmetrical visual pyramid or cone, intersected by a plane with one of the apexes receding or vanishing and the other located in the eye of the beholder, is exactly the same visual equation that brings you MAX, with one crucial difference: MAX's representation in no way defines the unreal space that is MAX. What you see is not MAX, but merely a simulation of a character, who is not real, but a simulation already; a simulated simulation.

Enter Virtual Reality. One of the selling points of VR space or cyberspace as it is known in sci-fi, is that it will at last reproduce a cinematic experience in which you can participate, where you can have an effect. This is not classical film theory with its model of spectatorship and its understanding of the scopic and invocatory drives. For here it is not just vision but all the senses that are used to actually *experience* a new world. This may sound like Baudrillard's simulacrum, but it is not a copy in relation to a real, once you are 'out there'; in fact it depends more on other senses than vision to create the sensation that you are actually experiencing this new world. The four other senses would have to be activated and wired into the computer to literally reproduce your sense of yourself in the VR environment.

To enter your virtual world, you are likely to start off at a station point hooked into a computer system. With the aid of wrap-around, TV camera goggles and a sensing glove which responds visually to your head, hand and eye movements within the virtual space, you enter a computer generated universe. Depending on how much computer memory you have you may elect to move through space continu-

ously as in the real world. You can jump around in different times and spaces, even creating them as you go along. The utopian model of the Virtual World is a computer capable of keeping up with your imagination. You wouldn't need the concepts of forward or backwards (in time or space) because you would already be there just by thinking. You would still be where you started, and you would already be there. You could certainly be in more than two places at once, although that would require the generation of multiple 'yous'.

But perhaps, you wouldn't want to be you. You could be something or someone else. It might be impossible to necessarily assign race, gender, class and other socially determined identities in a virtual world because in this world you will not have direct access to another person or entity as everything will be a simulation, to a greater or lesser degree.

Your only limit would be your imagination, your neurosis and your ability to pay for all the computer time you are using; and perhaps going somewhere would only be useful if it produced something tangible or pleasurable or exchangeable. A journalist recently celebrated new developments in Japan: ''virtual' kitchens have been designed for the Matsushita corporation; at a booth in a Tokyo shopping centre, housewives equipped with a headset and Dataglove were able to 'shop' in Cyberspace, matching 'virtual' refrigerators with their 'virtual' kitchens. Only the bill they received at the end was real.'[7]

What are the implications of hooking into another person's VR world? Would lived world civic solutions be operable here? How would social relations be negotiated in the VR planes? Does this computer technology represent Realpolitik thought control up dated, ideology in action? Will large corporations redefine the class system? This is after all a space which is infinitely generatable, transmittable and even storable, perfect for a commodity culture that is running out of capital.

The possibilities for expressing other realities, those histories and voices which have been suppressed, unrepresented or denied are also evident. Yet the history of the computer in the work place has further inscribed the class system. It has been a liberating tool for management but an oppressive one for the worker, able to measure and monitor every action of the worker at the work station. VR has the capacity to reproduce these relations. Will VR lead to an emancipatory practice, with real people, real space, our history - or will it lead somewhere else?

7. Simon Worrall, 'Anyone for Virtual Tennis?', *Sunday Times Magazine*, May 2, 1991