

Virtual Reality: Almost Here, Almost There, Nowhere Yet

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Two recent conferences, VR Oslo 94 at the Institute for Infomatics, August 1994, and Cybersphere at the Kulturhuset, Stockholm, October 1994, charted the growing enthusiasm for Cyberculture in Scandinavia.

The space behind the hype

VR Oslo 94 brought together a diverse range of speakers on the subject of virtual reality whose combined efforts added up to an image of a culture without a clear agenda, an industry without a product, a form often without content and almost without form: a giant bubble that either has to burst, or solidify into something more substantial and usable. Not that the conference lacked purpose, or good ideas, both were there in abundance, and overall, the two day event provided more than enough by way of stimulation and food for thought. The first real problem was that all too often, what was being discussed was either barely there, or entirely absent. Well, virtual, to be precise. So the conference fairly accurately reflected the kind of discussion around virtual reality that exists in a broader context, and it also clearly demonstrated some of the most fundamental problems, to which we will return later.

So, leaving aside the purely technical questions and the business forecasts, what cultural value could be said to emerge from this discussion? Will virtual reality turn out to be as important as its champions claim, or is it simply another step on the road toward as yet undreamt of communication technologies? When virtual reality is discussed, the term 'paradigm shift' is used a good deal, and the instance of the Gutenberg printing press is regularly cited as an example of a technology that has fundamentally altered our relation to the world. One could add to this the subsequent inventions of photography, the telephone, phonograph, cinema, automobile, aeroplane, television, and the digital computer. But virtual reality is not in itself a technology of the order of the automobile, the camera or the television. Perhaps it could be said that virtual reality is a *symptom* of something, but is not the thing itself. Virtual reality, cyberspace, or more prosaically, multimedia communication, represents a growing tendency, currently the most dynamic, within technological cultures. But to talk in terms reminiscent of the physicist's Holy Grail, a 'Grand Unification Theory' is a little ridiculous, and to forecast the evolution of a democratic global culture is simply irresponsible.

One of the fundamental difficulties with attempting to evaluate or even to discuss virtual reality is that it seems to want to be everything for everybody. A remote command system for industrial and military operations; an art form in its own right, but also a place in which art is made and experienced/interacted with; a visualisable form for the transglobal data network; a home for a new kind of human; a medium for the delivery of all kinds of information and education; an addictive and enveloping entertainment medium; an architecture that is language and a language that is a multi-dimensional architecture. The list could go on.

Building new worlds

In his keynote speech at VR Oslo 94, Joachim Sauter of Art+Com, the Berlin based research group, characterised the first few years of virtual reality development as the 'Hip Hop Hype' period. Sauter, whose group have made some of the very few credible examples of virtual reality/interactive media as art, went on to propose that the 'H H H' now be replaced by 'I I I' – Immersion, Interaction and Involvement – as the basic premises of research in virtual reality. Immersion represents the condition of being in or moving through a virtual world. Interaction allows the user to communicate with objects and other users and with the fabric of the world itself. Involvement implies not only an engagement at the level of user/consumer, but more importantly an involvement in shaping the language and culture of virtual reality. Citing the history of cinema as an example, in which the early films were simply recordings of theatrical events, Sauter posited that virtual reality has to move beyond simple mimesis to develop a language, a grammar, indeed even a *physics* of its own.

The beginnings of this 'new world' can be traced in the work of Marcus Novak, architect, theorist and programmer, working at the University of Austin, Texas, USA. At Cybersphere, Novak presented examples of his 'four dimensional liquid architecture' – prototypes of virtual worlds in which objects that may be sculptures, architectures or indeed, bodies, float, flow and constantly mutate, opening and closing to reveal or conceal further spaces and architectures. In 1992, Novak wrote:

The Space of Art: In imagining how information is to be 'spatialised' in cyberspace it is easy to be overwhelmed by the idea of 'entering' the computer in the first place, and to only consider relatively mundane depictions of space: perspectival space, graph space, the space of various projection systems. Humanity's library of depiction of space is far richer than that: synchronically and diachronically, across the globe and through time, artists have invented a wealth of spatial systems. What would it be like to be inside a cubist universe? a hieroglyphic universe? a universe of cave drawings or Magritte paintings? Just as alternative renditions of the same reality by different artists, each with a particular style, can bring to our attention otherwise

invisible aspects of that reality, so can different modes of cyberspace provide new ways of interpreting the world.¹

**Cyberbodies,
cybersex and
virtual identities**

Recently the sensational coverage of emerging cybersex systems and the rapid growth of CD-ROM based 'interactive' pornography have tended to get in the way of informed discussion of the issues around the body and its virtual other in virtual reality or cyberspace. The 8/1994 edition of *BEAT*, a Norwegian music magazine, under the title 'Var det godt for deg også' (How was it for you?) reports on a shared virtual reality sex simulator, devised by art student Ståle Stenslie at the Hochschule für Medienkunst, Cologne. The maker apparently intends to develop his system as a communication medium and performance art tool, but the seriousness of his intention is overshadowed by press descriptions that make the device sound like the Orgasmotron, as experienced (and devastated by) Jane Fonda in the 1967 science-fiction movie *Barbarella*.² Stenslie cites Freud as a legitimation of the fascination cybersex holds for the public and suggests that his sado-masochistic cyber-product may also have real therapeutic value. That is a matter we should leave to clinical psychologists. A more pressing concern is the *content* of so much currently available virtual reality which seems to be aimed, like a lot of rock and roll, at a 14-year old male, and it therefore reflects his interests, and not least his insecurities. So the line between sex and violence in virtual reality, as in rock video, is a thin one indeed, and far from being concerned with a transgressive erosion of socially approved sexual codes, this is a culture whose primary aim is to massage and enhance the identity of the heterosexual adolescent male.

The reason that this is a problem in approaching virtual reality/cyberspace within the context of image culture is that the potentially wide open terrain of visual language, of representation, within this arena is being circumscribed and pre-defined by an aesthetic vocabulary whose limitations are crippling. The only images available so far in the popular idiom for cyber-sexuality are leather-fetish sado-masochistic costumes with added electrodes, barely clad Penthouse Pets who obligingly 'pose interactively' for the user of a CD-ROM, or the polymorphous psychedelic fusions of bodies in *The Lawnmower Man* (1992).³ I am prepared to believe that I am not the only one who finds this not only profoundly limiting but also insulting. Human creativity could achieve so much more.

But it is not only MTV-inspired male fantasies which display this aesthetic shallowness. A specious form of New Age mysticism is the undoing of many high-tech art projects. Another speaker at Cybersphere was Brenda Laurel, respected researcher and author of the influential *Computers as Theater* (1991). Laurel presented her virtual reality environment 'Placeholders' – technically one of the more sophisticated virtual worlds to date, especially in its use of spatialised audio. However, this like many other similar projects, was severely limited by

content. Users, who met in one of three simulations of 'natural spaces' – a cave, a waterfall and a group of rock formations by a riverbank – were encouraged to adopt one of several identities offered to them in the virtual world. These included a crow, a snake and a fish. According to the documentation video we were shown, the simple act of 'taking on' one of these identities immediately plunged the participant into theatrical role-play redolent of 1960s 'free theatre' or elementary school drama: 'now children we're all going to be crows and we are going to fly'. The sites and the characters were apparently chosen because of their mythological significance to native peoples in the area around Banff, Alberta, Canada, where the experiment was conducted. But does this fact indicate a willingness to encompass cultural diversity, or is it simply cultural tourism? Some exotic content to animate a potentially sterile technological form? Had it been promoted as a children's game or an exhibit for a folklore museum, the project might be adequate, but it was most definitively posited as art for cyberspace, as a new form of art, furthermore, that would be socially engaging and non-hierarchical. As art, it could only be described, to borrow the 1970s term, as *Arte Povera*, and its aesthetic and linguistic limitations unfortunately functioned as a cold shower to dampen our enthusiasm for shared virtual worlds.

Critical theory in cyberspace

During the VR Oslo 94 conference, several speakers called for the development of a critical theory of virtual reality that could break with – or at least get beyond – the circulatory logic of post-modernism. However, most of the practical examples of virtual reality on offer – excluding the purely scientific or technical variations – walk straight into the post-modern critical trap by functioning as perfect illustrations of that same post-modern theory. These elaborate 'reconstructions' of mediaeval churches and monasteries, or the Chiricoesque arcades and urban piazzas of projects like *Virtual Polis*⁴ are precise illustrations of Baudrillard's simulation. It is barely necessary to go any further than that in discussing them, and so if the 'virtual reality community' wants a critical theory that goes beyond post-modernism, those who are creating its objects of criticism must take a long hard look at the aesthetic strategies and make the quantum leap that is probably necessary to escape the current confines. But it is not only the objects of criticism that have to establish their own agenda; the theoretical and critical positions posited in favour of cyberculture are all too often flawed and inconsequent. Champions of digital culture who berate the 'old world' values of the cultural establishment and the avant-garde alike, all too often end up adopting the same avant-gardist strategies: out with the old, in with the new; we are the guardians of the one true way; follow us and break with history, etc. etc. This depressingly familiar rhetoric does nothing to promote the cause of a cultural renewal which many involved in digital culture are hoping to realise. Theoretical positions at the Cybersphere conference ranged from Norbert Bolz's cool and concise re-appraisal of post-modern themes (speed, non-linearity, the

end of authorship) to Roy Ascott's overblown utopian vision of hard-wired cyberhumans communicating at light speed across cultural, geographical, historical, economic, philosophical and gender boundaries. Somewhere between these poles lay Amy Bruckman's modest and earnest advocacy of MUDs and MOOs⁵ as new forms of social space. Being text-based, these virtual communities have a supreme advantage over graphic virtual reality in that they do not circumscribe the imaginative faculties of those who enter them. Conversely, the user, by naming and describing, shapes her own environment, appearance and identity.

Virtual reality for the real world

There exist a few examples which suggest that the extravagant claims made on behalf of the potential of virtual reality are solidly founded. Text-based communities along the lines of the MUDs and MOOs mentioned above indicate one interesting and growing sector. However, there are examples of graphically generated virtual worlds and interactive media projects which have partially or entirely evaded the representational restrictions typical of most virtual reality. These restrictions include an attachment to Renaissance perspective, Euclidean geometry and the need to simulate terrestrial gravity. While there may be reasons why objects should appear to be solid, to possess weight and to be arranged in rectilinear perspectival space in virtual reality worlds developed for practical, technical purposes, there is no reason at all to follow these rules in a virtual space that exists as a cultural space or as a work of art. Marcus Novak, again, writing on the architecture of cyberspace, speaks of 'architecture nested within architecture'. Cyberspace itself is architecture, but it also contains architecture, but now without constraints to phenomenal size. Cities can exist within chambers, as chambers may exist within cities. Since cyberspace signifies the classical object yielding to space and relation, all 'landscape' is architecture, and the objects scattered upon the landscape are also architecture. Everything that was once closed unfolds into a place, and everything invites one to enter the worlds within worlds it contains.

Cyberspace is liquid. Liquid cyberspace, liquid architecture, liquid cities. Liquid architecture is more than kinetic architecture, robotic architecture, an architecture of fixed parts and variable links. Liquid architecture is an architecture that breathes, whose form is contingent on the interests of the beholder, it is an architecture that opens to welcome me and closes to defend me. Liquid architecture makes liquid cities, cities that change at the shift of a value, where visitors with different backgrounds see different landmarks, where neighbourhoods vary with ideas held in common, and evolve as the ideas mature or dissolve. (Novak in Benedikt, p. 249)

Cyberspace is therefore architecture, but it also contains architecture, which itself contains further architectures. Furthermore, nothing need be

solid or irrevocably fixed, no space need be totally confined. Like a button in a hypermedia program that allows the viewer to navigate branching structures, any object in a virtual world may be a gateway to another world, of which there may be any conceivable number in the virtual universe.

The eye of the beholder

In this context we can return to the work of Joachim Sauter and Art+Com. One of the most interesting projects presented (through documentation only) at the VR Oslo 94 conference was Sauter's interactive painting.⁶ The image is, of course, not a painting at all, but an electronic representation of a painting on a video monitor. At first sight, it would appear simply to be a still, glowing image, but as the viewer comes close and looks at it, the image begins to transform. It slowly becomes apparent to the viewer that as his eye moves across the surface of the picture, so it transforms accordingly. The act of looking becomes simultaneously the act of creation/recreation. The image appears to know that it is being looked at, and wishing to escape the all-consuming gaze, it destroys itself only to be reborn as the viewer withdraws. Of course, the image does not possess intelligence and does not know it is being looked at. Its behaviour is triggered by a computer which in turn is triggered by an eye-tracking system that is watching the watcher. Reflected light from the viewer's eyeball is analysed by the computer and this information is used to manipulate a section of the digital image according to a map that describes the relationship of gaze to subject.

Although this digital painting is not a virtual world in the usual immersive sense, it does make a number of radical and far-reaching propositions that could determine more effective ways for artists to exploit virtual reality technologies. The absence of any physical connection between the viewer and the image is the most fundamental break with standard practice. Head mounted displays are simply not a good idea at least in the forms that are currently available. Secondly, the image itself functions in a way radically different from the usual three-dimensional models that compose virtual worlds. In effect, the image is both content and interface, and although its behaviour is limited to a selective distortion of segments of the screen, it can also be taken as a proposition for a very different form of human-computer interface. The focused gaze might open doors, open books, play movies, move bodies, navigate spaces – in short, trigger any and every multimedia event that might be contained in this digital world. The rapid-eye movements of the dreamer might, in waking life, navigate a dream world, a poetic space, the 'Elsewhere' that Gaston Bachelard speaks of in *The Poetics of Space*.⁷ If we take together the liquid architecture of Novak, the social space of Amy Bruckman's MediaMOO, and the radical strategies implicit in Art+Com's interface designs, we begin to have some sense of the opening up of another aesthetic dimension. Not a new dimension, since it is a place that has existed in mythology, art

and literature, but a dimension to which we previously had access only through the word, the sculpted object or the painted image. Now we can anticipate the day when we can witness, in Lautreamont's words: 'The chance encounter on the operating table of a sewing machine and an umbrella.'⁸ Only in cyberspace they may be morphing into one another, breeding, communicating, telling stories. ⇐

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1. Marcus Novak in *Cyberspace: First Steps Liquid Architecture in Cyberspace*, ed. Michael Benedikt (London: MIT Press, 1992), p. 244.
 2. Directed by Roger Vadim, France/Italy, 1967.
 3. Directed by Brett Leonard, GB/USA, 1992.
 4. *Virtual Polis* is a distributed, online virtual world being developed at Carnegie Mellon University and the Norwegian Telecom VR research lab.
 5. MUDs (Multi User Dungeons) and MOOs (MUD Object Oriented) are online, text-based, virtual meeting places on the Internet.
 6. The Interactive Painting was first exhibited at Ars Electronica, Linz, Austria, in 1992.
 7. Gaston Bachelard, *The Poetics of Space* (New York, 1964).
 8. Isidore Ducasse (Comte de Lautreamont), *Les Chants de Maldoror*, tr. Paul Knight (Harmondsworth: Penguin, 1978.)