

Today, interactivity and immersion are near-ubiquitous terms used to describe digital art forms. With the ever-increasing popularity of electronic gaming and the Internet, the wave of technology driving the apparent goal of completely removing of the interface appears to be inching closer and closer. However, this is not just a recent phenomenon. Nor is it necessarily a justifiable end-point. The interface plays an important role in any interaction with computer-based systems – whether visually-based or not – and can have a drastic effect on the way we use these systems. Whether the artist/programmer has chosen to make this decision for us or not, every interface “shapes our experience of that content” (Rokeby: 1998).

Two of the earliest electronic works which approached this subject were Myron Krueger's *VIDEOPLACE* (1974) and David Rokeby's *Very Nervous System* (1986-1990). In fact, Krueger's piece is considered the pioneering work of interactive art (Grau: undated). Each of these pieces attempts to remove the interface by immersing the body of the participant in a virtual space. Where Krueger's laboratory of technologies (projectors, cameras, sensors) served to connect remote participants via the screen, Rokeby aimed to remove the restraints of technology entirely, by using the body alone as an interface.

The trend to reject the commonplace “desktop metaphor in favor of dynamically generated spatial visualizations” (Grau: undated) is clearly displayed by the use of new technologies in gaming, such as the *Nintendo Wii* (Nintendo: 2006) and forthcoming *Microsoft Natal Project* (Microsoft: 2010). It is through the pioneering work of artists such as Krueger and Rokeby that these development decisions have now been made. Whilst *VIDEOPLACE* remains a singular work, the use of *Very Nervous System* in many environments has shown how deeply the use of the body as interface can effect humans.

As McLuhan pointed out in *Understanding Media* (1964), new technologies build upon and extend the abilities of the body. Rokeby confirms this notion by pointing out that the people who experienced his work most profoundly:

“...were all people who had been at war with their bodies at some time, through disease, or injury, or self-hatred.” (Cooper: 1995)

In fact, Rokeby goes on to recall accounts of a paralysed woman who can communicate through the use of his system and a blind woman who experienced the virtual space of his auditory work in an entirely physical manner. It's likely that each of them would find it altogether more difficult to interact with Rokeby's piece if it required a tangible interface.

Although Krueger and Rokeby appear to be taking away constraints on the user by removing the material interface, this does not mean the participant is without direction and control. Rokeby himself points out that when making programming decisions, the artist is inadvertently creating paths, or making actions for the user more accessible (Rokeby: 1998). It could be said that this is removing a degree of freedom from the participant, albeit subconsciously.

Interactivity relies on feedback loops. These loops occur at the interface, whether it is a screen, an object, or the body, it is "...the point of contact between humans and machines where exchange with oneself or with others takes place" (Grau: undated). In the examples given earlier, this exchange may be empowering for those with a bodily limitation. However, it may also distort one's sense of self in ways we cannot predict. Rokeby describes the feedback loop as a "fun-house mirror" (Rokeby: 1998), which can not only change the way we see ourselves, but spin out of control as the loop continues to feedback upon itself.

As we become tethered to advancing virtual spaces, such as computers, mobile phones, interactive television and video games, it is important to look at the effect these interfaces are having on the way humans communicate with each other and interact with their environment. Grau relates this to art when he states that "...the recipient's act of distancing, which is essential for enabling any critical reflection" (Grau: undated) is under threat. It is not difficult to see that this statement could be used to describe the effect that interaction and immersion can have on a far broader scale: once we're no longer able to remove ourselves from the interface, can we still objectively witness its effects on our interaction with other humans or the natural environment?

Rokeby states, "Subjectivity has been replaced by a synthetic viewpoint" (Rokeby: 1998). Rokeby explains this effect by way of the change in his own behaviour after spending extending periods working on and interacting with *Very Nervous System*:

"I feel implicated in every action around me. On the other hand, if I put on a CD, I quickly feel cheated that the music does not change with my actions." (Rokeby: 1998)

There are conflicting arguments as to whether or not the push to increase interactivity and immersion in the systems around us is a positive direction. On the one hand, a greater and more physical control over the technologies we use can lead to empowerment and discovery of ourselves. However, there is a real concern that the technologies driving these changes are also altering the way we see ourselves and each other, and

it is the people behind these interfaces that ultimately make the decisions as to how we interact with our environment.

Rokeby points out the importance of the artists and programmers behind interactive and immersive environments to respect the power they now have, for “Interaction is not a novelty to today's children; it's an integral part of the only reality they have known” (Rokeby: 1998).

References

- Adams, E (2004), 'Postmodernism and the Three Types of Immersion' *Gamasutra.com*
http://designersnotebook.com/Columns/063_Postmodernism/063_postmodernism.htm (accessed 10/09/09)
- Cooper, D (1995) 'Very Nervous System' *Wired*, Issue 3.03
<http://www.wired.com/wired/archive/3.03/rokeby.html> (accessed 17/10/09)
- Davies, C (2004), 'Virtual Space' *Space: In Science, Art and Society*, F Penz, G Radick and R Howell eds., Cambridge University Press, Cambridge.
- Grau, O (undated), 'Immersion and Interaction: From circular frescoes to interactive image spaces'
http://www.medienkunstnetz.de/themes/overview_of_media_art/immersion/1/ (accessed 19/10/09)
- Nechvatal, J (1999), 'Introduction to: Immersive Ideals / Critical Distances – A Study of the Affinity Between Artistic Ideologies Based in Virtual Reality and Previous Immersive Idioms'
<http://www.eyewithwings.net/nechvatal/ideals.htm> (accessed 10/09/09)
- Rokeby, D (1998), 'The Construction of Experience: Interface as Content'
<http://homepage.mac.com/davidrokeby/experience.html> (accessed 03/10/09)
- Varney, A (2006), 'Immersion Unexplained' *The Escapist*
http://www.escapistmagazine.com/articles/view/issues/issue_57/341-Immersion-Unexplained (accessed 17/09/09)