Chapter XIV

The Cultural Aesthetic of Virtual Reality: Simulation or Transparency?

Ron Purser
San Francisco State University, USA

INTRODUCTION

The cultural significance of Virtual Reality (VR) extends far beyond the fact that it is an innovative technological device. Indeed, VR technology is embedded in, and a byproduct of, a much larger social, cultural, and scientific milieu. Changes in technological devices have paralleled the shifts in the way human cultures have ordered and represented their worlds. Historically, the emergence of new technologies often provides the base for profound changes in the structure of the self, as well as radical alterations in the collective field of perception. Donald Lowe, (1982) in his study, The History of Bourgeois Perception, argues that perception is shaped by a collective interplay of factors. Communication media, one of the main factors in Lowe’s theory, acts to frame and filter the way we perceive the world. Basing much of his theory on the work of Walter Ong (1988), Lowe traces shifts in culture that correspond to changes in media: from orality to chirography in the Middle Ages; from chirography to typography in the Renaissance; from typograpy to photography in bourgeois society; and from photography to cinema and television in the modern world.

We now stand at the brink of another profound cultural shift, moving from mass communication to interactive digital media—what Paul Levy (1998) refers to as a process of virtualization. The question that will be answered in the next few decades is whether VR will be actualized as an enabling technology for human betterment, or whether it will simply be another consumerist distraction, throwing culture deeper into a nihilistic void. This question, and the way that it will be answered, depends on the choice of cultural aesthetic, as well as the epistemological assumptions that end up informing the development, distribution and use of VR technology. This chapter explores and interrogates the potential destiny of VR technology in terms of its potential benefits to society, as well its possible abuses. I begin by first providing a brief overview on the mechanics of VR technology. I then situate VR technology within a larger cultural context of postmodern society by examining the sensibility of the hyperreal simulation, and how such notions that are operative in VR worlds differ markedly from conventional notions of the representation. The latter half of
the chapter sets out to explore two possible future scenarios or trajectories of VR technology; what I refer to later as “VR1” versus “VR2”. Finally, I conclude by offering some speculative suggestions on the potential role of VR technology as a new form of cultural expression and its implications for the transformation of human consciousness.

**A BRIEF PRIMER ON VIRTUAL REALITY**

Virtual reality is both a technology and an experience. Heim (1998, p.7) defines virtual reality technology as consisting of three interrelated components: immersion, interactivity, and information intensity. Immersion is the feeling or effect the user has of being situated in a qualitatively different space, which is achieved through devices that isolate the human senses. Interactivity is the feeling that responses made by the users are effected in real-time, providing the capability for “teleaction.” Information intensity refers to the degree to which the VR experience provides a sense of telepresence and vividness. Telepresence occurs when there is a sufficient degree of feedback between the users’ perceptions and the VR environment. Like other computer configurations, VR technology consists of hardware, software and peripheral/interface devices. Hardware usually requires very high speed computing capability along with large storage systems. Most of the innovative software that has been developed is purely experimental, much of it done in either collaboration with media artists or programmers specializing in VR programming and 3-D graphics. What are most unique to VR technology are the input-output interface devices, which serve to create the immersion effect. Users typically wear light-weight head-mounted displays, often referred to as the “falcon hood.” Other installations—often referred to as the CAVE—use projection wall panels that display real-time 3-D graphics, with sophisticated tracking devices to monitor and detect the position of the user’s movements. Both systems also utilize surround sound techniques that envelop the user. It is interesting to note that a key feature of VR systems is the visual tracking system. With the falcon hood device, the movement of the head is fed as input into the computer while the visual output appears on the small display monitors covering the eyes. In addition, some VR systems also include data gloves for tracking hand gestures. Others even include whole data suits that track the movements of the whole body.

The apparatus of VR technology as described above tracks the sensory and kinaesthetic movements of the sensory-motor body into signals that are processed and instantaneously reproduced as visual and auditory displays. The virtuality that is reproduced is a consequence of the interface devices which, in the case of the falcon hood, completely blocks out the actual world. The user in effect wears a pair of “eyephones,” so that his or her attention is completely captivated by the images appearing on the visual display. A user wearing a data-glove may reach out to pick a virtual flower; there is a constant and real-time feedback between the user’s hand movements and changes in the 3-D graphics display. Sophisticated VR technology has the capability of transporting the user into a qualitatively different space and time, an artificial world of experience.

**VIRTUALIZATION**

The Virtual Reality experience is unique. According to Morse (1998, p.24), virtuality is “a dematerialized, and for that reason, ontologically uncertain mode of presence.” Our cultural response to VR technology, I believe, is not predetermined or inevitable. Virtualization, in principle, has the potentiality of having either a culturally enriching or degrading effect. Paul Levy (1998, p.26) defines virtualization as a dynamic that leads to a
Related Content

The Effect of Choice and Announcement Duration on the Estimation of Telephone Hold Time
[www.igi-global.com/article/effect-choice-announcement-duration-estimation/2930?camid=4v1a](www.igi-global.com/article/effect-choice-announcement-duration-estimation/2930?camid=4v1a)

Human Factors Required for Building NLP Systems
[www.igi-global.com/chapter/human-factors-required-building-nlp/47352?camid=4v1a](www.igi-global.com/chapter/human-factors-required-building-nlp/47352?camid=4v1a)

Hybrid Learning: Perspectives of Higher Education Faculty
[www.igi-global.com/article/hybrid-learning/148652?camid=4v1a](www.igi-global.com/article/hybrid-learning/148652?camid=4v1a)
Surfacing Occupational Threats to IT-Enabled Change: A Neglected Role for Organization Development?


www.igi-global.com/chapter/surfacing-occupational-threats-enabled-change/24735?camid=4v1a