

## **Virtual Reality and the Perfection of Consciousness**

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**Abstract.** Transhumanist philosophies such as Max More's Principles of Extropy call for continual self-transformation. This quest necessarily includes the enhancement of subjective qualities including intelligence, creativity, wisdom, self-awareness, positive attitude and emotional balance – in essence, perfection of our subjective consciousness and interaction with the environment. In addition to enhancing one's quality of life, the evolution of consciousness on a mass scale is a vital component to an evolved social order. Enhancing the subjective experience, however, requires management of our inner state of affairs – the realm of memes, emotions, perceptions and recollections – subtle structures not precisely accessed by the blunt instruments of bioengineering or nanotechnology. The study of subjective consciousness is often dismissed as “soft science,” with attempts to improve quality of consciousness relegated to psychology, self-help prophets, religion, humanism, education and the arts. While “hard science” has traditionally steered clear of the subjective realm, consciousness studies have received increased attention in recent years, fueled by advancements in time-resolved brain mapping such as functional magnetic resonance imaging. It is argued here that the subjective experience is actually highly accessible to science and in fact may be pragmatically treated as a realm of phenomenology in its own right, with the senses – particularly the eyes and ears – acting as a broadband interface into the subjective realm. In this light, virtual reality and media technologies become the primary tools for technologically mediated consciousness enhancement. Examples of consciousness-elevating technologies will be presented, including digital pharmaceuticals, advanced biofeedback techniques, virtual reality games and healing modalities, advanced educational techniques and the intentional use of digital media to invoke desirable moods on platforms ranging from television to large-scale immersive theaters.

### **Ed Lantz**

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Ed Lantz is a media and entertainment engineer, inventor, scientist, artist and entrepreneur. He is internationally recognized as a pioneer and leading authority in large-format digital cinema and immersive experiences for mass audiences, and continues to nurture the development of the “fulldome” medium which is now surpassing IMAX's installed theater base with large-format interactive computer graphics-based projections replacing film. Other areas of expertise include cable television, themed entertainment, photonics, virtual reality, events production, 3D animation and special effects for large-format film and video. Entrepreneurial activities include advanced digital mass media and e-commerce systems, interactive television, immersive video and film production, interactive place-based entertainment, real-time video/music



performance, independent films with socially conscious themes, fine art visual music, and wellness applications exploiting the psychophysical effects of interactive digital media.

Mr. Lantz has a background in hardware and software engineering, quantum physics and electromagnetics. He spent 7 years leading photonic signal processing R&D at Harris Corp. in Melbourne, Florida. He was lured away from aerospace engineering in 1990 by the Astronaut Memorial Planetarium and Observatory in Cocoa, Florida where he led the development of the first polychromatic acousto-optic modulator (PCAOM) for laser graphics, an advanced DSP-based celestial motion control system, and design of Florida's largest domed theater utilizing next-generation video graphics. In 1996 Lantz joined Spitz, Inc. (now merged with Evans & Sutherland) where he built a team that developed new products which transformed old-style planetariums into immersive visualization environments.

Mr. Lantz is now President & CEO of Harmony Channel, a broadband television network delivering mood-elevating digital media that has been described as "MTV for the Soul." He also operates Visual Bandwidth, Inc., an immersive cinema and fulldome video advisory network, and recently joined Vortex Immersion Media as CTO to bring virtual reality experiences to the Las Vegas nightclub environment.

Mr. Lantz has published and presented numerous papers on VR and entertainment technologies, and is a regular contributor to ACM SIGGRAPH papers, panels and courses. He founded the International Planetarium Society's Fulldome Video Committee and the first Fulldome Standards Summit held in Valencia, Spain in 2004, co-organized the first Immersive Cinema Workshop in Espinho, Portugal in 2005, and moderated the NASA Explorer Institutes focus group on fulldome video held at Chabot Space and Science Center in Oakland, CA. He received an MS in Electrical Engineering from Tennessee Tech University (1984), serves on the boards of the Center for Visual Music and the Center for Conscious Creativity, and holds two US Patents on immersive video-based theater technology.