

# IMMERSION

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# Content

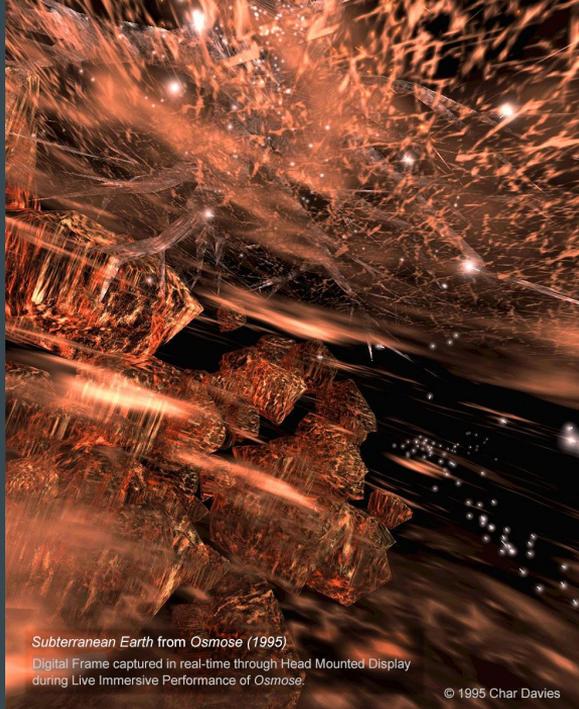
1. Char Davies
  2. Osmose
  3. “The Ultimate Display”, Ivan Sutherland
  4. “Virtual Environments”, Scott Fisher
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# Artist

Char Davies (1954)

- A Canadian contemporary artist
  - Create immersive virtual reality (VR) artworks
  - A world leader in the field of VR
  - A pioneer of bio-feedback VR
  - A founding director of Softimage, first vice-president and director of visual research(1987-1997)
  - A founder of Immersence(1998)
  - A painter
  - A scuba diver
-



*Subterranean Earth* from *Osmose* (1995)  
Digital Frame captured in real-time through Head Mounted Display  
during Live Immersive Performance of *Osmose*.

© 1995 Char Davies

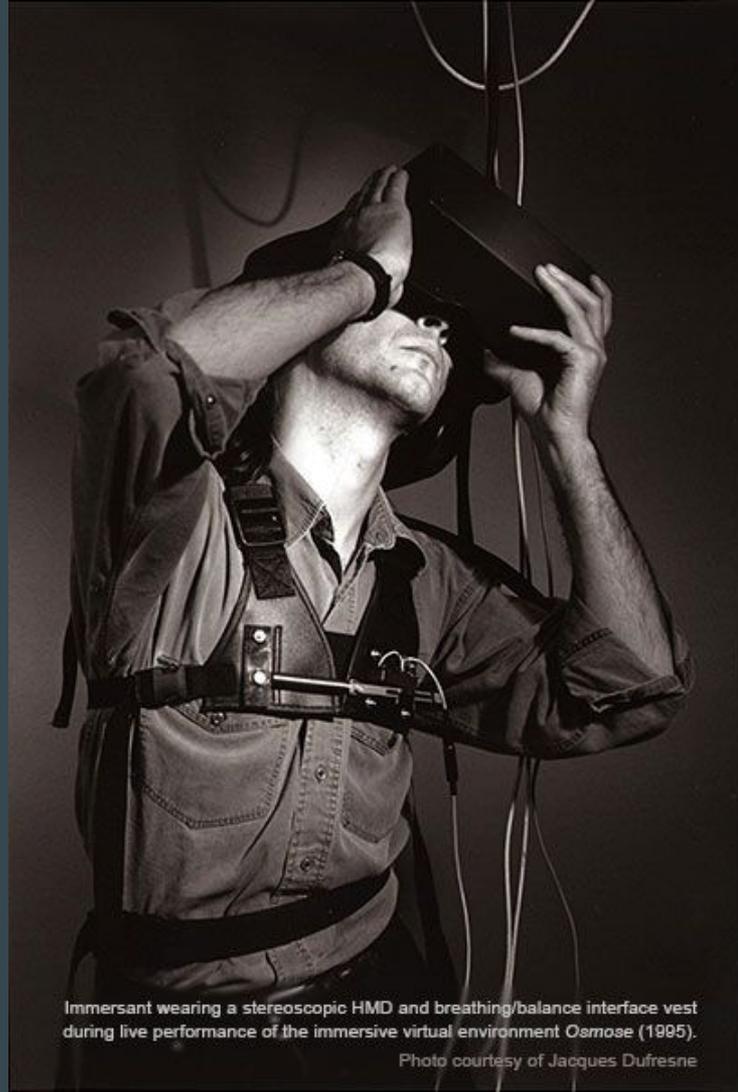
# Artwork

Osmose (1994-1995)

- An immersive interactive virtual reality environment
- Stereoscopic 3D computer graphics and interactive 3D sound
- A landmark in the history of virtual reality and new media art

# The suit

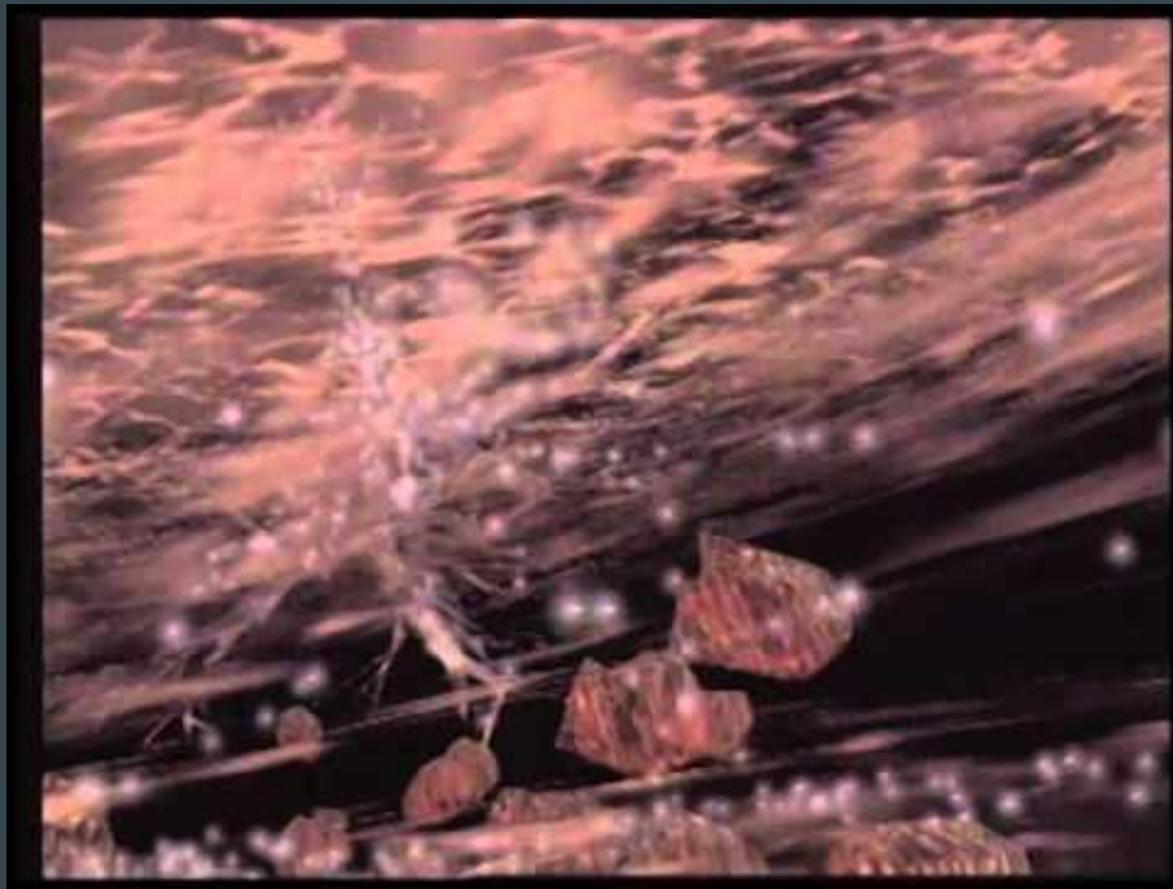
- Wearing a head-mounted display and a motion-tracking vest (3 sensors)
- Using breath and balance as the primary means of navigating
- Body as a source for gestural commands in human-computer interaction



Immersant wearing a stereoscopic HMD and breathing/balance interface vest during live performance of the immersive virtual environment *Osmose* (1995).

Photo courtesy of Jacques Dufresne

video.



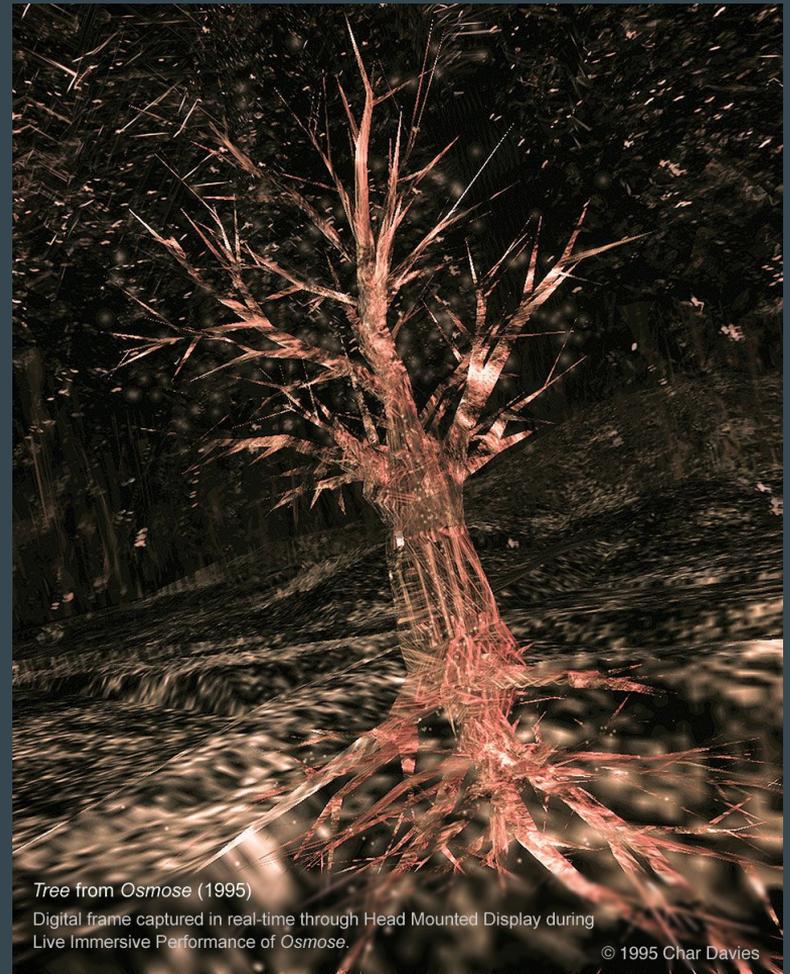
# The space

- There are 12 world-spaces in Osmose, most based on metaphorical aspects of nature as well as text and code
- Osmose is a semi-abstract space consisting of translucent textures and flowing particles

*Subterranean Earth from Osmose (1995)*

Digital Frame captured in real-time through Head Mounted Display during Live Immersive Performance of *Osmose*.

© 1995 Char Davies



# The immersants

- Felt floating and diving
- Calm their minds
- Dissolve boundaries
- Scuba diving practice of Buoyancy Control
- 15 mins immersion
- Achieve state-of-being



*Osmose Immersant*  
Image from the Video Installation of *Osmose* (1995)

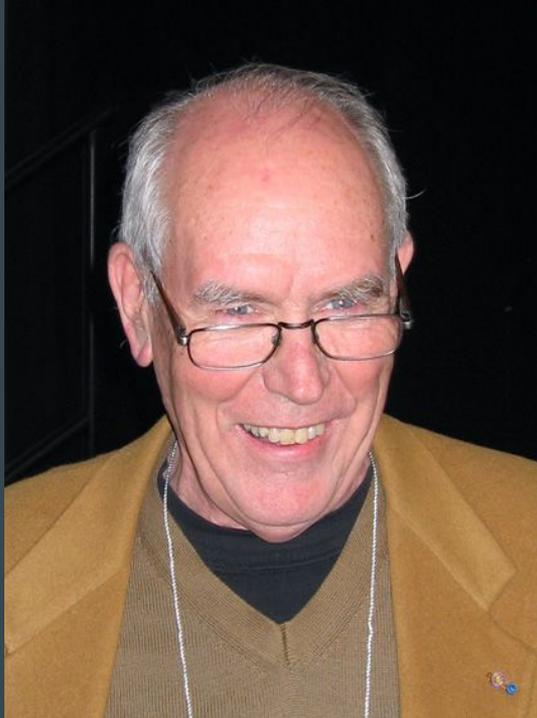
# The installation and audience



# Reading 1

- Ivan Sutherland, “The Ultimate Display” 1965, Wired Magazine





# Ivan Sutherland

1938

- An American electrical engineer and computer scientist
  - The inventor of Sketchpad(1962)
  - Receiver of the A.M. Turing Award(1988)
  - The “Father of computer graphics”
  - Member of the National Academy of Engineering
  - Member of the National Academy of Sciences
  - Receiver of the Kyoto Prize in Advanced Technology(2012)
  - Creator of the first-ever HMD attached to a computer system(1968)
-

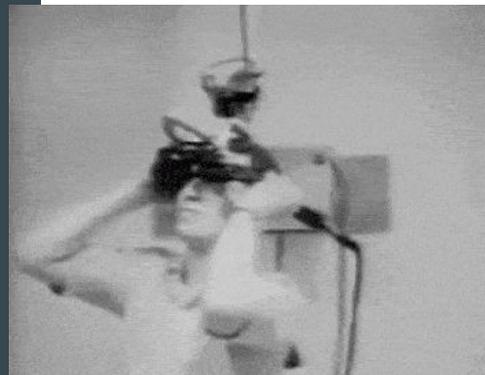
# Quote

*" ... A display connected to a digital computer gives us a chance to gain familiarity with concepts not realizable in the physical world. It is a looking glass into a mathematical wonderland. "*

*Ivan Sutherland, "The Ultimate Display"  
1965, Wired Magazine*



Sword of Damocles (1968)



# VR

(Virtual Reality)

- Place the viewers in another world entirely by occluding their vision (Osmose)

# AR

(Augmented Reality)

- The visible physical world overlaid with a layer of digital content (Pokemon go)
-

# Conventional VR

- Controlling or doing things in the virtual space
- As real as possible



# Osmose

- Floating with hands-free
- Semi-representational/Semi-abstract

# Quote

*“ ... There is no reason why the objects displayed by a computer have to follow the ordinary rules of physical reality with which we are familiar... ”*

*“ ...The ultimate display would, of course, be a room within which the computer can control the existence of matter...With appropriate programming such a display could literally be the Wonderland into which Alice walked.”*

*Ivan Sutherland, “ The Ultimate Display” 1965, Wired Magazine*

# Reading 2

- Scott Fisher, “Virtual Environments” 1989, *Multimedia: From Wagner to Virtual Reality*

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# Scott Fisher

1951

- Founding Director of the Virtual Environment Workstation Project (VIEW) at NASA's Ames Research Center.
  - Invented concept of VR glove and goggles
  - Invented dataglove, head-coupled displays and 3D audio
-

# Quote

*“ Matching visual display technology as closely as possible to human cognitive and sensory capabilities in order to better represent 'direct experience' has been a major objective in the arts, research, and industry for decades...*

*The main objective is to liberate the user to move around in a virtual environment, the availability of multiple points of view places an object in context and thereby animates it's meaning..*

*they are free to choose their own path through available information rather than remain restricted to passively watching a 'guided-tour'. ”*

*Scott Fisher, “ Virtual Environments” 1989, Multimedia: From Wagner to Virtual Reality*

# VR developments

In his essay, we learn about the changing attitudes and goals of immersive technology.



# Relation to Osmose

"telepresence," a technology that would allow remotely situated operators to receive enough sensory feedback to feel like they are really at a remote location and are able to do different kinds of tasks

In osmose, Char Davies and her team wanted to explore the idea of being in an image, instead of just passively facing an image. She created an environment that surrounded and enveloped the immersants, designing an all-around panoramic experience.

Recent developments

4d cinema amusement park

omnimax

# Conclusion

*“ By changing space, by leaving the space of one's usual sensibilities, one enters into communication with a space that is psychically innovating. ... For we do not change place, we change our nature. ”*

*Gaston Bachelard, The Poetics of Space*

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