

of change, to generalize his confidence. As time went by, human images and finally human beings might be added. At this point, the patient could venture from his responsive womb, returning to it as often as needed.

CONCLUSION

The responsive environment has been presented as the basis for a new aesthetic medium based on real-time interaction between men and machines. In the long range it augurs a new realm of human experience, artificial realities which seek not to simulate the physical world but to define arbitrary, abstract and otherwise impossible relationships between action and result. In addition, it has been suggested that the concepts and tools of the responsive environments can be fruitfully applied in a number of fields.

What perhaps has been obscured is that these concepts are the result of a personal need to understand and express the essence of the computer in humanistic terms. An earlier project to teach people how to use the computer was abandoned in favor of exhibits which taught people about the computer by letting them experience it. METAPLAY, PSYCHIC SPACE and VIDEOPLACE were designed to communicate an affirmative vision of technology to the lay public. This level of education is important, for our culture cannot continue if a large proportion of our population is hostile to the tools that define it.

We are incredibly attuned to the idea that the sole purpose of our technology is to solve problems. It also creates concepts and philosophy. We must more fully explore these aspects of our inventions, because the next generation of technology will speak to us, understand us, and perceive our behavior. It will enter every home and office and intercede between us and much of the information and experience we receive. The design of such intimate technology is an aesthetic issue as much as an engineering one. We must recognize this if we are to understand and choose what we become as a result of what we have made.

PETER WEIBEL Project and Film Concept (1967-68) (1996)

- I think about film projections through walls, to project on a nightly stroll horror and panic into the house of citizens, to facilitate prisoners' masturbation
- I have thought about a film in cinemascope which shows from the beginning, in natural size, how a spider reproduces, begins to spin her web, and lasts until the cobweb covers the entire screen
- I think about films as radiations, waves, corpuscles
- I think about films which can film my thoughts, so they become more illustrative to myself
- I think about projections on the ocean floor, to again be able to enjoy a landscape
- I think about chemically prepared screens which swell and explode from beams of light and warmth: a line with the beam over the screen, and a steaming scar remains

* Peter Weibel, excerpt from "Projekt und Konzeptfilme" (1967-68), in *Protokolle: Zeitschrift für Literatur und Kunst*, ed. Otto Breicha with the Kulturamt der Stadt Wien (Vienna: Jugend und Volk, 1982): 72. Translation by Matthias Visser.

- I think about hundreds of spectators whose eyebrows I shave with laserbeams, with the laserknife
- I think about the projections of beams, which destroy or hyperactivate the braincells (brain-center nerves) of spectators: the mute stagger outside, in linguistic confusion salivating, the word love becomes incomprehensible, constant shifting and sighing
- I think about holographic projections: feasts of celebrities at which everyone is an intruder, an interchange of landscapes (Vienna Woods for Eskimos and Taiga in Vienna)
- I think about magnetic communication so I can produce my body in every desired shape: a round ball while running down a hill, a string in front of locked doors, flat like a thousand in an emergency
- I think about an exactly calculated generation of ultrasound able to create an artificial earthquake: between every row gaps a crack of 10 cm
- I think about really funny, but not real films
- I think often of porno-films glasses with an incorporated radio, tv or . . .

JEFFREY SHAW The Legible City (1988-90)

The viewer uses a bicycle to simulate travelling in a virtual three dimensional urban space. The city's architecture is represented by solid letters and words that can be read while bicycling. Between reality and representation, between the city and its simulation, there is the psychogeography of the vicarious experience. . . .

The spectator is able to use a bicycle to simulate travelling in a virtual representation of a city. This city is constituted by solid three dimensional letters that form words and sentences along the sides of the streets. These words and sentences are placed so that they conform to the physical plan and scale of actual cities (Manhattan, Amsterdam), following their particular organisation of streets, intersections, parks, canals, etc. Thus in this work the city's original architecture of buildings is completely replaced by a new architecture of text.

Bicycling through this city of words is consequently a journey of reading. Choosing direction, choosing where to turn, is a choice of texts and their juxtaposition, and the identity of this city emerges in the conjunction of meanings these words generate as they emerge along the bicyclist's path.

The bicyclist is completely free to move anywhere in this three dimensional database—not just along the streets but also across and between and through the buildings of letters.

The image of this city is video projected onto a large video screen in front of the bicycle which is fixed to the floor in a darkened room. The image itself is computer generated in real time in response to data transmitted from the bicycle. The bicyclist controls his/her speed and direction of movement by pedalling faster or slower and by turning the steering handle. The result is a quite accurate simulation of the normal experience of bicycling. Just

* Jeffrey Shaw, excerpts from "The Legible City" (1988-90), in *The Legible City: An Interactive Installation by Jeffrey Shaw in Cooperation with Dirk Groeneveld and Gideon May* (Amsterdam: Colophon, 1990), n.p.