

Liquid Cities Michel Rudolfi



Photos: P. Perrin

Liquid Cities is a series of sound installations in which swimming-pools are transformed into three-dimensional, fluid and interactive spaces. The participants moving in the medium of weightlessness explore a transparent city which exists only via the sounds they make.

Each *Liquid City* is named after the swimming-pool used for the particular occasion. In this case it is the Parkbad in Linz

The visitors to *Liquid Cities* swim or dive in the water and in doing so directly receive the underwater sounds via their bodies [sounds transmitted via the skeleton]. They control their acoustic environment by moving in the three dimensions of the pool, which is made interactive by cameras following the movements from a distance and digital synthesisers.

The technology is transparent, the naked body controls.

The harmonious exchange thus generated, which can only be perceived under water, is not the only acoustic component of the installation. On the floor of the pool one can constantly discern the noises of the "citizens" of the Parkbad, generated through the constant electronic processing of the names of all participants who have registered via the Internet and thus acoustically populate the pool.

The web site for registration offers participants the opportunity, from mid-July onwards, of choosing the zone in the pool where they wish to be acoustically present [the Parkbad comprises five sound areas].

From 2nd September [the opening of the Parkbad Liquid City] the www page will transmit live the underwater echoes generated by all participants in the acoustic landscape. The acoustically perceivable movements of the guests swimming in the Parkbad, and the polyphony of the citizens of cyberspace, have so to speak taken up residence in the pool.

Liquid Cities is a retrieval, effected via the Internet, of a period of real time which is projected into an actual three-dimensional space. The installation gives the physical participants the experiences of waiting time, future time, saved time and memory of time past. The whole is thus a time of reflection, which stands in contrast to the ideology of interactivity in real time.

There and elsewhere [Internet]

Sending a message via the Internet [E-mail] means abstracting from geography [sender's and receiver's address are virtual] and a message which is not read in materialised form [such messages are seldom printed-out], and it also means writing in a non-personified form [one single font world-wide].

One of the outstanding features of electronic mail however is that the message is always there [available at any time on all computers throughout the world] and at the same time elsewhere [it was written on some computer in the world, with no location stated]. This blurring of the concept of time and this loss of real space result in a nation of "phantoms" conducting monologues day and night in an electronic vacuum.

Ultimately the internaut has not only put away his chronometer and compass for good — in the silent space he has also become deaf. "Fora", which in the days before Internet were still public discussions conducted in a loud and emotional manner, are now the silent running of texts on screens.

But this criticism must be seen in perspective — because the Internet also offers a refuge from a world of political disintegration, a world of patronage, pollution and overpopulation. This "real" world, which is in danger of choking on an overdose of hyper-realism, is in no way better ...

The volume of time

Liquid Cities will therefore not propose to the internaut that he should land in the real world, but set up for him an intermediate territory in which he will find an imaginary physicality and a newly-organised time. The participants take on the status of "citizens of the Parkbad" by using a www page to transmit their name and a text via E-mail. Their entries will be registered from July 1996 on, and saved up to the realisation of the installation. From 2nd to 5th September their texts will be activated via voice synthesis in Linz and transmitted under water in the zone of their choice in the Parkbad pool [there are five projection zones designated as "sound areas"].

The voices of the citizens are then mixed with the other acoustic phenomena, which are electronically generated by the visitors swimming in the pool at the same time. By means of a retro-coupling the sounds generated by the citizens and visitors can be transmitted back live to the World Wide Web. For the first time in cyberspace — in a real acoustic — something like a crowd of people can be heard.

This installation is called a "city" on the one hand to arouse a feeling of solidarity and on the other to let the nomads settle down for a few days at least. Here a nostalgic idea is pursued which comes from the old world and stands in contrast to the ideology of the time-space compression of real time. Time in the Liquid City is full of predicted factors, saved data, and the present results of actions which took place in the past.

Liquid Cities are intended to give reality to real time, or "to make time palpable" [Paul Virilio].

Fuzzy Frontiers

Because they are fluid, *Liquid Cities* do not exhibit the territorial features of real cities. Bridges are superfluous, streets are not possible, and there are no children playing in the courtyards. They are phantom cities with crooked geometry, constructed of molecules and intricate vibrations, in which a paradoxical population wanders about. The internet dwellers are invisible, but they can be heard. The real visitors, though they can be seen, are inaudible.

In this mysterious city the physical parameters are blurred, and yet radically perceptible to the senses. Sound travels at a speed of 1,450 metres per second [four times as fast as through the atmosphere], the ambient temperature is 33°C and the swimmers receive the sound directly via their skeleton in a frequency range of between 400 and 9,000 Hertz.

Schedule

The Parkbad Liquid City will be installed on 3rd September 1996 and dismantled on 6th September. It can be visited during the day and on certain nights. Potential citizens can register from 21st July on via the home-page of Ars Electronica.

Technical data

* The music is broadcast under water from 22 sound converters [underwater loudspeakers], disseminating the sounds generated by those physically present and the Internet participants.

* Sound reaches an average speed of 1,450 m/s under water, i.e. it is four times faster than in the atmosphere. It is only audible when one is submerged in the fluid medium. The external ears no longer function; only the internal nervous system is activated by the resonance of the

skeleton. Hearing is radically altered, and numerous paradoxical psycho-acoustic sensations occur [loss of spatial awareness, spectral colorations etc.].

* The multi-media interfaces

The picture becomes sounds: Two digital cameras pick up the movements of the participants [visitors] and translate them into the MIDI music code. The interface conceived by Luc Martinez [Innersys] analyses the movements of each single participant via a luminosity sensor which picks up and follows the colours of the participants' bathing-caps. Each participant has a different chromatic identity, and thus plays an independent part in the overall MIDI score.

The sounds become a picture again:

The interface conceived by Eric Wenger [MIDI Kaleido] makes it possible to pick up the MIDI codes resulting from the visitors' movements and thus control a software for graphic animation in real time. This visualisation is in particular retransmitted as feedback to the WWW page.

The *Liquid Cities* project is the result of 17 years' research work in the field of electro-acoustic underwater music. Over 70 concerts have been given in swimming-pools and in the sea, and the Linz project is the first time a permanent installation has been attempted.

Concept

Michel Redolfi

Interactive approach and coordination

Luc Martinez

Software for synthesis and visualisation

Eric Wenger

Production

Centre International de Recherche Musicale [CIRM], Nice

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