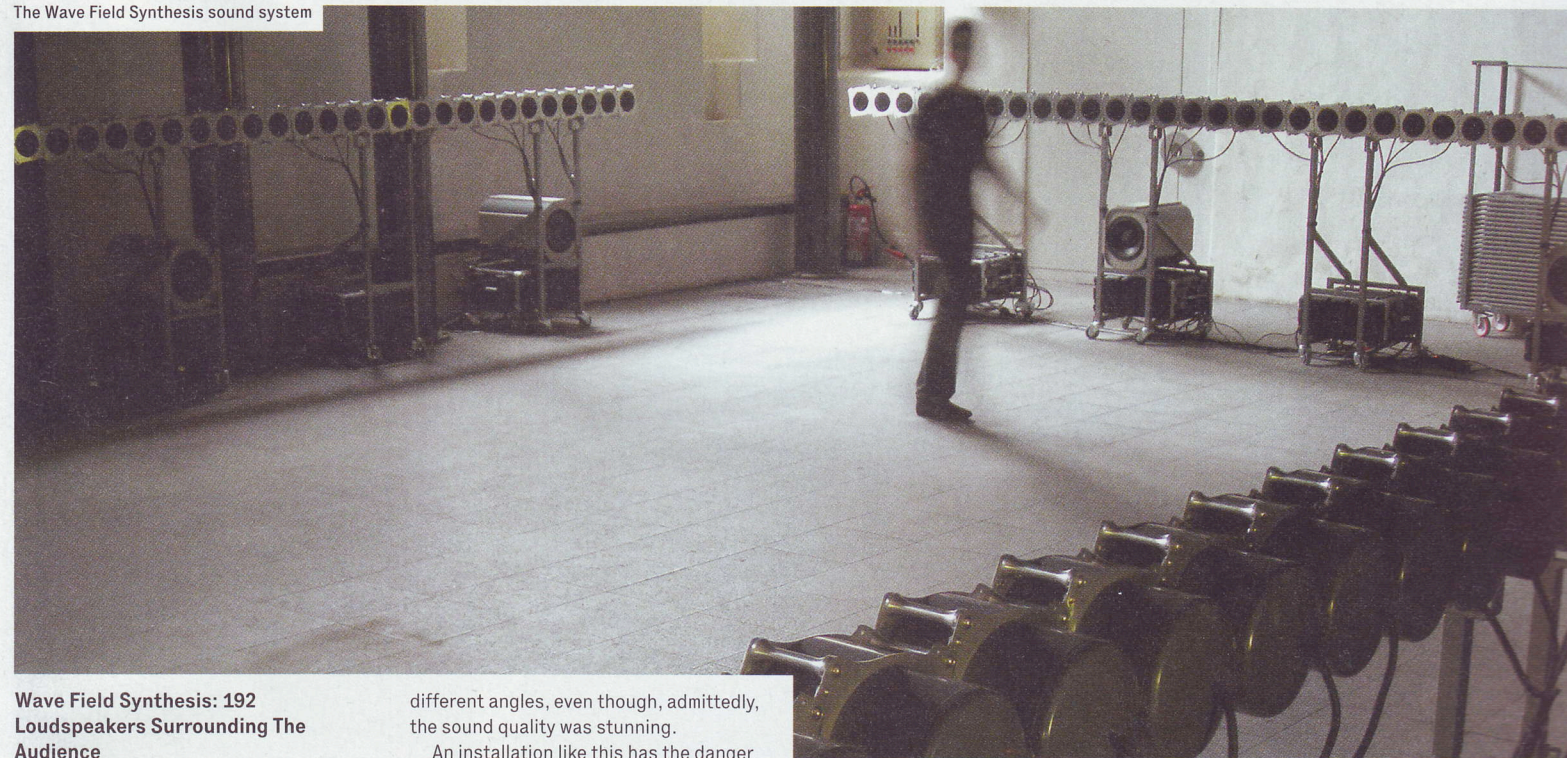


On Site

Exhibitions, performance art, installations, etc

The Wave Field Synthesis sound system



Wave Field Synthesis: 192 Loudspeakers Surrounding The Audience

Conservatorium, Amsterdam, The Netherlands
Edgard Varèse's mission was not to create music as a linear series of notes, but to create 'sound objects', like planets floating through space. The French composer experimented with spatial sound for his piece *Poème Electronique*, which premiered in 1958, seven years before his death. The Wave Field Synthesis (WFS) sound system achieves the physicality desired by Varèse. With 192 speakers, 12 subwoofers, 24 amplifiers and three computers, it creates 'holophonic sound'. The system is able to combine soundwaves in a way that allows precise positioning of sounds in a field of 10×10 metres.

WFS is different from stereo or surroundsound techniques, which operate on the principle of illusion; listeners have to stay within a relatively small area amid the speakers to enjoy the spatial effect. WFS is actually able to physically carry sounds, making it possible to approach them, walk around them and hear them move, like bugs flying through the air.

WFS was first realised two decades ago at the Technical University of Delft. Recently the Dutch foundation Game Of Life created the first mobile WFS installation. Composers are regularly invited to create music for the system. Since the 2006 premiere of the 192 Loudspeaker Experience, concerts were held at a dozen locations throughout The Netherlands and Belgium.

The great public interest in the concert at the Amsterdam conservatory during the Gaudeamus Music Week exposed a major problem: crammed into a 10×10 metre listening space, with 48 speakers lined up horizontally on each side, there was no room to move around and compare the sound from

different angles, even though, admittedly, the sound quality was stunning.

An installation like this has the danger of becoming a spectacle, especially since similar systems are being developed for commercial exploitation in amusement parks. To avoid this, the composers invited for this concert focused on the artistic and conceptual side of the system by investigating the perception of sound in space.

Kees Tazelaar sat behind a laptop in one corner of the rectangular performance space. He started out with stationary musical parts, consisting of clear, electronically generated notes. Throughout the piece, the parts started to move around the listening space, interacting with each other and morphing into chords and sequences.

With abstract sounds you inevitably start to associate. The phase effects in Yutaka Makino's piece conjured up airports and highways, while *Reflective Surfaces* by Casper Schipper was like a database of Old School sci-fi movie effects. In contrast with the other pieces, which consisted mostly of electronically generated sounds, Ji Youn Kang opened with sampled percussion instruments. By simply moving the sounds around and speeding them up the Korean composer changed their appearance; a drum roll transformed into a motorcycle and bells became a scraping pieces of metal.

The concert closed with a composition by Game Of Life founder Arthur Sauer, a combination of warbles, gurgles and vintage synthesizer chords. Sauer's piece showed what composers ought to do with the system in the future: experiment freely and playfully, because it will take some time to uncover its full potential.

Marinus de Ruiter

Looking At Music

Museum of Modern Art, New York, USA

Zen austerity and the glittering promise of pop form the alternating currents that run through this exhibition, a modest survey of cross-media art dating mainly from the 1960s. The focus is New York; the representative figures are Yoko Ono and John Lennon. Ono's *Film No 5* (1968) dominates the entrance: a close shot of Lennon as Marian icon, with womanly, rosy cheeks and glossy chestnut hair. His expression shifts in almost imperceptible increments over time – the image appears to hover just off the wall. How are we looking at music by looking at Lennon, via Ono? It's 1968, the year of "Hey Jude", visits to the Maharishi, and *Two Virgins*. Pop and experimentalism will cross wires in Lennon, in one of those rare but forceful charges that drives popular music forwards. But it is less as metaphor and more as materiality that music and visual art meet here, the filmic projection blurring and overspilling its boundaries just as sound moves through the air.

On the opposite wall, Nam June Paik and Otto Piene's *Untitled* (1968) undertakes a similar sensory task. A small, portable television set screens a diagonal slash of cathode ray that appears to faintly double itself when stared at: a diminuendo, or the undertones of a single, fading chord. Encrusted with grey plastic pearls, it gives off an air both fabulous and slightly mournful, a forgotten handbag in a drag queen's closet. Piene's *Untitled (Smoke Drawing)* (1959), a polka-dot of soot that suggests an ethereal musical score, is the

inverse of John Cage's *Music For Carillon # 4*, Page 3 (1961), an extract of a score that looks like a handful of dirt speckled onto the page. In the far corner, Laurie Anderson's *Self-Playing Violin* (1974) emits a continuous, elegiac loop and casts a tone of mourning over the whole room.

In the second room, extracts from Wallace Berman's *Semina* – first published in 1955 as a loose-leaf journal of art and Beat poetry – reinstate the repulsion/attraction poles that drew the American underground, in this case Californian, to pop. A glossy photomontage of AM/FM radios each 'broadcasts' a different image, but the channel-hopping abundance is undercut by an Idell T Romero poem: "It offers nothing/ and promises everything."

A handful of early music videos play on monitors: Bowie, Beefheart, The Residents. The latter's *The Third Reich 'N' Roll* (1975) is a pulp version of the rock-as-fascism thesis that has been taken up with grim seriousness by others: here, a group in a cramped cave, like a parody of The Beatles in Hamburg, bang maliciously on tins while dressed in Klan robes. The one piece of Beatles – the film clip to "Penny Lane" – draws a small crowd of baby-boomer museum visitors around the monitor as other exhibits are passed by. It's a salutary reminder that within mainstream discourse, the great flowering of popular music in the 1960s was long ago shorn of any experimental context. It will take more than this show to make a dent in the morbid cultural nostalgia for which what has already happened is better than what is to come.
Anwyn Crawford