NOUVELLE D'ANTICIPATION · IN ENGLISH

Reconfiguring the Landscape, 2121

A short history of impulse architecture, written for the panel *Reconfiguring the Landscape: the Allure of Sonic Space*

OCCASION	DATE	ROLE
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Today we celebrate the hundredth anniversary of the first "Reconfiguring the Landscape" seminar.

It is an understatement to say that a lot has been done since the first attempts to build imaginary spaces from the recordings of Grandes Serres de Pantin, by a team of three composers / researchers, back in 2021.

This first seminar pioneered and incepted the idea that sound creation and spatial creation had to be intertwined.

We know the story behind it. A few years later, the EAC Team of IRCAM had finally discovered how to reconstitute a real 3D space from a network of impulse responses; this is a method used to take a snapshot, like a sonic fingerprint of a given space, by the recording of short sound attacks to excite the sound space, and thus to archive the acoustics of a place. To be more precise, an automated analysis of multi-channel impulse response data finally allowed to obtain data that could be understood by an architect's office and used to construct actual buildings. It was then a huge step forward since it was possible to reconstruct acoustics on loudspeaker systems (so-called: active acoustics).

The buildings were initially generated virtually, and featured the correct acoustic characteristics. Only a few steps remained to develop a new branch of architecture: impulse architecture, which thus developed from the possibility of reconstructing spaces from the impulse responses in which they had been recorded.

Maybe the most famous example of impulse architecture is *Venice VR* and *Venice II*, made by Factum Arte in 2050 (Factum Arte is a firm founded in 2001, dedicated to the digital conservation of patrimonial objects and their reproduction), which offered the US audience a tour of the most beautiful acoustics of the flooded city in Italy, with a series of 17th-century music concerts.

Of course, this technology has opened up vast expressive possibilities, like folding the characteristics of a musical instrument into those of the acoustics of a building.

We all know that one of the pioneer works of the archisonic creation movement was presented in Berlin in 2038: it's the famous *Curvature* series by Andie Conr, a musical/architectural work where the sound of giant cymbals has provided the model for a ringing and resonant building. (Interestingly, this work is always cited as a sonic development of Richard Serra's massive folded metal pieces.)

Long before all this, it began in the 1990s, when Gérard Grisey and Eric Daubresse imagined to represent the resonance of phantom instruments using resonance models: a simplified version of what musicians today commonly call instrumental radiation. (for a viola piece; the viola was a kind of violin).

More recent achievements include Leonor Peralta's *Labyrinth* (2062), based on the spatial unfolding of piano cluster resonances, or (perhaps better known) The Michelle Obama Memorial Building, by EE architects (2067), whose architecture and internal acoustics mirrored the characteristics of the vocal formant of the President's voice: a genuine "mouth palace"!

Abdouraman Katuma's *Mixed Spaces*, in 2071, was a building with several interpenetrating spaces, an architectural and sonic gesture designed after the model of the interpenetration of the sound waves of two instruments: the African kora and the Chinese zheng.

A new branch of impulse architecture, chaotic impulse architecture (Chlmp) had even developed as a result of tests carried out using the resonance of chaotic, synthetic or random resonances, which resulted in baroque constructions that were sometimes impossible to deploy in a real space. In 2084, Maya Meier designed *Cathedral*, a series of biodegradable religious constructions for the Dubai Creative Music Festival.

And for the future?

It is reassuring to note that, despite the omnipresence of virtual environments since the 2030s, musicians have always remained fascinated by the relationship that the diffusion of a sound has with its actual space; to put it another way, by the life of a real sound in a real space. We are probably heading to a new kind of relationship between sound and space with Dynamic Architecture, and the emergence of living and moving, DNA-controlled building materials. The future will tell.