All bells are ears: about Silent Echoes. Notre-Dame by Bill Fontana
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On the south terrace of the fifth floor of the Centre Pompidou in Paris, American artist Bill Fontana makes audible bells that a fire has silenced: those of Notre-Dame. This installation of remarkable finesse moves the bells without almost touching them, capturing the silent vibrations that resonate in secret. The sound space he creates blends with the sounds of a city that we learn to listen to in a different way, from an impossible point of hearing, that of ten large metal ears.

One day, during an interview that gave rise to a famous book, John Cage showed Daniel Charles the ashtray that was placed, one imagines, on a nearby table:

“Look at this ashtray. It’s in a state of vibration. We’re sure of that, and the physicist can prove it to us. But we can’t hear those vibrations. When I went into the anechoic chamber I could hear myself. Well, now, instead of listening to myself, I want to listen to this ashtray. But I won’t strike it as I would a percussion instrument. I am going to listen to its inner life thanks to a suitable technology, which surely will not have been designed for that purpose.”*

Cage's discovery that everything continuously emitted sound, however faintly audible, represented the acme of what Douglas Kahn has called his “panaurality”**, which he says is characterised by these two concomitant propositions: *all sound* and *always sound*. In other words, everything always emits a sound and therefore everything can be heard. His 1952 anechoic chamber experiment was just one piece of the puzzle. He deduced that sound was always (silence does not exist). But for sound to be everywhere, everything had to vibrate, even the inert ashtray. Cage never carried out this project of listening to the inaudible vibrations of matter, but others undertook it after him.

In *Silent Echoes. Notre-Dame*, an installation that can be seen and heard on the south terrace of the Centre Pompidou, Bill Fontana—who was a student of John Cage's in New York in the 1960s (at the New School for Social Research)—projects onto thirty loudspeakers the vibrations of the ten bells of Notre-Dame Cathedral, whose two towers can be seen in the distance above the roofs of Saint-Merri church. Like Cage's ashtray, but certainly in a more harmonic way, the bells of Notre-Dame vibrate continuously, under the effect of the ambient sounds, the wind and the solid waves that pass through the cathedral. In order to be audible, these minute vibrations must be captured, and this requires a technical tool that did not exist in the 1970s: the seismic accelerometer. Used by engineers and seismologists to measure the speed of propagation of vibrations in a material, it is used here to capture those that pass through the cathedral's bells. Transmitted to a computer, they are processed, composed and spatialized in collaboration with Thomas Goepfer (computer music designer) on Max/MSP—a software program that was developed at Ircam, a partner in the project—and then projected onto the installation's loudspeakers.

What do one hear when one walks on the Centre's terrace? We are on the fifth floor, the floor of the Museum of Modern Art, above the Stravinsky fountain and the pedestrianized Rue Saint-Merri. The east side overlooks the busy Rue du Renard. The west side faces the square and its improvised concerts. All around this rectangle, thirty loudspeakers project the inaudible sounds of the bells. This is what you hear at first. Bell sounds without attack, resonances of different pitches that do not fill the space but, strangely, compose it. It is not immediately perceptible. You have to walk around a bit to realize this, listen to the way the resonances are distributed, how they move from one area of the terrace to another, how they become more and less numerous, more and less present, listen between the resonances to the sounds coming from the street, the fountain, the square. The installation draws a fluctuating, evolving space, which is superimposed on the place without erasing it, which composes with it as much as it composes itself. Bill Fontana does not just broadcast the sounds of the bells, he uses the thirty loudspeakers at his disposal to construct their new spatialization. The work is multi-layered: the bells are not all heard at the same time, we perceive four then eight then five then ten then seven (the tuning changes every 90 seconds), which gives the impression of a variable and constantly changing saturation of the sound space; the resonances move from one loudspeaker to another in a random manner but without any sound movement being able to be established; every other loudspeaker is affected by a 500 ms delay, which produces a variation in sound density and, in a barely perceptible way, something like a rhythm within the installation.

Listening to *Silent Echoes* means, without contradiction, listening to the city through it, but it also means listening to how it affects it, slipping into its interstices to recompose it. When you approach the east side, the sound of cars almost overlays the resonance. When you move away from it, the continuous roar of traffic is transformed into discreet and disparate bursts of voices, music, sirens. But that is not all. For we do not only listen to the resonances and behind them the sounds of the place, we also listen through them to the sounds that the bells capture and filter, those that, because they are at the right frequencies, make them ring in a tiny, inaudible, way. By listening to the bells, we also listen to what they hear, the place around them, another place that adds to the first, that duplicates it or echoes it. The impression is strange. Does this siren come from the street or from the bell, from here or there, do I hear it with my ears or through the vibrating metal of the instrument? The city is twice heard and rearranged, twice new.

One of the beauties of this work is that it operates live, barely delayed (one second): we hear the bells as they were vibrating a moment ago and through them the sounds of there displaced here, relocated on the southern terrace of the Centre. Knowing this, that these unrecognizable sounds are the actual resonances of the bells of Notre-Dame heard live, is essential to the installation. Its concept, to make inaudible vibrations audible and move them elsewhere, to respatialize them elsewhere, is inseparable from its percept—to hear bells here that are inaudible there—and affect—to listen to bells that no longer ring and will not ring again until the cathedral's renovation is complete. The fire that destroyed its spire and framework spared its towers and bells. They had to be silenced to realize that they had always been listening to Paris in secret.

This is not Bill Fontana's first installation in Paris. In 1994, on the occasion of the fiftieth anniversary of the Allied landing, he created *Sound Island*. Forty-eight loudspeakers on the façade of the Arc de Triomphe projected sounds captured live and slightly delayed on the beaches of Normandy. The sounds of the sea: waves, wind. Their frequency amplitude is such that they cover all the others, even those of the cars in the Place de l'Etoile, which the installation paradoxically rendered silent (what is known in acoustics as a “mask effect”). With *Sound Island*, Bill Fontana erased the place, almost as radically as Christo and Jeanne-Claude would do almost fifty years later by covering the Arc de Triomphe with woven fabric. By displacing the sounds of the sea, he also displaced the monument that made them heard. The paradoxical silence that occurred was only the consequence of a deeper rupture: that of audiovisual naturalness. Suddenly, we could no longer hear what we saw. Suddenly, the Arc de Triomphe was torn from its place, out of the ground. A double disjunction: that of the sounds separated from their source, that of the monument detached from its ordinary environment. In 1976, while recording soundscapes in Australia, Bill Fontana experienced a total solar eclipse that silenced all voices:

“This recording was seminal for my work because a total eclipse is always conceived of as being a visual experience, and such a compelling sonic result was indicative of how ignored the acoustic sensibility is in our normal experience of the world. From this moment on, my artistic mission consciously became the transformation and deconstruction of the visual with the aural.”

In *Silent Echoes*, Bill Fontana takes up the process but enriches it with a new gesture that changes its meaning: he no longer just moves sounds, he also moves ears—resonant objects that he transforms into ears for us. The difference is important. The visitor on the fifth floor south terrace of the Centre Pompidou hears the bells, but he also hears what they would hear if they could. Bill Fontana makes it possible for us to adopt this impossible point of hearing: listening to Paris from the towers of Notre-Dame, filtered through the unique acoustic profiles of the cathedral’s ten bells.

This installation is not the first time he has transformed resonant objects into capture devices. *Silent Echoes* is the title of a series he inaugurated in 2009 in Japan by capturing the silent vibrations of the bells of five Buddhist temples in Kyoto. In *Harmonic Bridge* in 2006, he brought the vibrations of London's Millennium Bridge into the Turbine Hall of the nearby Tate Modern. The earliest experiment dates from 1972. On the roof of a New York gallery, he placed glass bottles and bells with microphones recording the vibrations: *Sound Sculpture with Resonators*. The captured sounds were broadcast live with little delay into the gallery space.

Bill Fontana is no stranger to the field of sound ecology and the practice of field recording, from which he borrows some of the means, but the devices that he puts in place transform the issues at stake. Like these artists, he records and gives voice to sound ambiences, but what interests him is less their restitution as such than the displacement that this restitution operates, which can go as far as vertigo. Hearing the sounds of the Millennium Bridge in the Turbine Hall of the Tate Modern had this effect. They could have come from the place, an

old power station converted into a museum, but they came from the bridge and to become aware of them meant to remember the steps we had taken on it, the wind that made it tremble, the sky and the Thames, it was to be on the bridge again but in a completely different way: that of being in the intimacy of the tremors that pass through it, which by jolts filled the space, touched the bodies. Bill Fontana exacerbates the principle of recording in general: to record is to displace. But perhaps should we go one step further: listening is already a form of displacement, of which we have largely lost awareness. Through his installations, Bill Fontana makes listening what it is: a sensory system (two ears on either side of a head perched on a body moving in space) that makes sensitive what we cannot see or touch.

On 8 June 2018, Michael Gendreau, a Californian sound artist and acoustical engineer, gave a concert in Saint-Merry church. In reality, it was less a concert than a vibration of the place itself, which became, for an hour, the main instrument of the artist-musician. Suddenly, the church became a body among others, linked to the rest of the world by the countless waves that Michael Gendreau made audible or that he projected in order to make it vibrate, to find its resonant frequencies, to make a sonic and musical *pas de deux* with it. What Michael Gendreau undertook for an hour in the church of Saint-Merry, Bill Fontana does more discreetly but no less radically with Notre-Dame: he makes audible what goes through it and consequently that it is, as well, a part of the world.

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* *For the birds, John Cage in Conversation with Daniel Charles,* Marion Boyars, London: Boston, 1981, p. 220-221.
** “Thus, sound was no longer tied to events but existed as a continuous state as it resonated from each and every atom. […] Everything always made a sound, and everything could be heard; *all sound* and *always sound* paralleled *panaurality.*”, Douglas Kahn, *Noise, Water, Meat: A History of Sound in the Arts,* The MIT Press, Cambridge, 1999, p. 159.
*** Quoted in Brandon LaBelle, *Background Noise: Perspectives on Sound Art*, Continuum, New York, 2006, p. 233.