Organized Sound, Unbounded Space: Edgard Varèse, *Poème Électronique,* and the Wondrous Promise of Midcentury Soundscapes

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Swiss architect Le Corbusier's massive, largely unrealized cityscapes and megastructures from the early decades of the 20th century (*Ville Contemporaine*, *La Ville Radieuse*) have come to represent for some architectural critics all that is dehumanizing and devastating about modern urban spaces—one termed them "urbanistic science fiction [that] remains a black page in [Le Corbusier's] record" (222). Yet however one feels about Corbusier's work of the period, the SF tag makes sense, especially given the degree to which this early urbanism would go on to inspire some of SF's darkest environs found in the work of PK Dick, JG Ballard, and so on. In this talk, I want to consider a short-lived and far more utopian extension of these extrapolative spaces--Le Corbusier's Phillips Pavilion at the Brussels' Expo '58 World's Fair. Where his imagined cities of the '20s are at such a vast scale as to make the human perspective almost impossible to access, the pavilion emerges as a far more human space—designed to echo the stomach itself—and one that imagines and constructs the framework for a much different tomorrow.

A forerunner of multimedia installations, countercultural happenings, and countless electronic/experimental music performances, the Philips Pavilion's corporate sponsorship also makes it heir to a long and grandiose tradition of fair/exhibition architecture. Despite his generous remuneration for services rendered and his project's foundational reliance on (and largely unlimited access to) the Amsterdam-based corporation's latest technologies, Le Corbusier declared early on that he would "not make a façade for Philips, but an electronic poem" (9). Rather than advance any particular national or corporate agenda, the architect intended to create a "scenario" "wholly from relationships; light, plasticity, design, and music" (ibid) encased in a soaring array of nine hyperbolic-paraboloids that melded to create something like a sweeping steel tent half-collapsed or a tangle of main sails fueling some far-flung space clipper.

To realize the totality of *Poème Électronique*, Corbusier delegated much of the architectural labor to 34-year-old composer and architect Iannis Xenakis (though he would retain much of the authorial credit). Le Corbusier also hired (despite the Philips board's strenuous objections) French composer Edgard Varèse to assemble the soundscape at the heart (or stomach) of his electronic poem. If for no other reason, the predictably conservative Philips execs didn't want Varèse involved (their choice was the far less threatening Benjamin Britten and even, late in the process, commissioned a more palatable shadow score just in case Varèse's proved too inaccessible) because the

composer categorically resisted even labeling his output 'music,' preferring instead the phrase 'organized sound'.

In his letter to **Varèse** suggesting the project, LC wrote: "My idea is that music should have a part in this. In the darkness there will appear flashes of "black light," certain objects or atmospheres of violently different colors. The illumination (colored neons) will allow dynamic flashing drawings to be made and from time to time a realistic event, but occupying space with a striking presence. It is a scenario to be created wholly from relationships; light, plasticity, design, and music. … I hope that this will please you. It will be the first truly electronic work and with symphonic power." Understandably, **Varèse** was psyched—he said "the only thing in which I am interested is to give birth to 'the most extraordinary thing possible.'" (7)

With Corbusier's promise of absolute artistic freedom and generous budget to match, Varèse's final work situated in Xenakis/Le Corbusier's building spoke presciently of the auditory future of public and private space in the West as well as the central place of sound technology within it. Here I will briefly explore the construction, design, and execution of the Philips Pavilion's soundscape as an optimistic, wondrously extrapolative gesture that brought into sharp relief the musical, political, and cultural possibilities for— and anxieties about—the changes that would come to define the production and consumption of music in the twentieth-century.

Le Corbusier was steadfast in his insistence that Varèse would give voice to the architect's electronic poem in part because of the composer's unorthodox and demanding approach to composition. And at this time, Varèse was tremendously interested in bringing the new sonorities of electronic music to bear on his work. As background, electronic music during the midcentury was largely typified by two approaches: 1. The music concrete method developed in the 1940s by Pierre Schaeffer (and made famous by John Cage's *Williams Mix)* where the composer would record environmental sounds (trains, whistles, crowds, bombs, etc) to tape or wire and then, through much painstaking labor, edit these discrete sound clips (filtered, etc) into a larger work and 2. Using electronics (oscillators, filters, envelopes, amplifiers, etc) to generate entirely new sounds from circuitry and then sequencing those sounds via tape editing. An excellent early example of this is Louis and Bebe Barron's score for *Forbidden Planet (*the first that was entirely electronic), a work for which they were not given musical credits but rather "electronic tonalities*."* There's was not so much an aesthetic or philosophical concern as with Varèse, but a disagreement with the union over the nature of electronic music and the threat it posed to traditional musicians.

In his electronic work, Varèse moved between these approaches—in correspondence with Le Corbusier about an earlier, unsuccessful collaboration the composer wrote

"I recently invented the term "tape music." By this I intend that musical elements will be recorded one after the other one wire or tape, thereby functioning as a library of sounds. The broadcast director [then] edits these segments of tape music. . . In this particular case, I imagine… beautiful fragments of ancient liturgical music set against a background of modern music, disrupted by violent or impersonal bursts . . . of modern music" (170).

This was in 1954, shortly after Varèse got his first Ampex professional tape machine (the same one he used to assemble the electronic parts of *Deserts*), but he had also acknowledged the limitations of the tape method, stating in a widely-quoted 1939 USC lecture that "[p]ersonally, for my conceptions, I need an entirely new medium of expression: a sound producing machine (not a sound-reproducing one)" (176). His embrace of the early French electronic instrument the *Ondes Martenot* in his compositions is evidence of this. So going into his Philips commission, Varèse was employing both approaches—for central to his technique at this time was the notion that, as he would put it, "electronics is an additive, not a destructive, factor in the art and science of music" (177).

And it is the "art and science of music" that his work with the pavilion so presciently explored. Before this, Varèse has expressed frustration at the limitations of what he could accomplish. Speaking with the sound engineer who controlled the tape portions of *Deserts*, Varese asked the young man what he thought and he remarked that this was *musique concrete* put into traditional orchestra—the young man described himself as a 'purist' who thought that synthesizing your own timbre was the key to electronic music, not just recording existing sounds. Varèse agreed but noted that 'he didn't have the means.'

But the Philips commission provided for Varèse a modicum of the control that he was after given all the cutting edge tech they made available. Even just the presence of the term 'broadcast director' in his early proposal places an unusual emphasis on how this way of making music distributes musical agency across different channels than typical. It is similar for the tech, too--describing the technical possibilities available to Varèse in the pavilion, Xenakis described the elements under the composer's control beyond the timbre/sound source: 'a. the swarm of loudspeakers, b. the routes of sound, c. the lows alone or the mid range or the high pitches, d. special mixes, etc. I believe that until now no composer has ever had such electronic means at his disposal" (172).

This meant that Varèse had full three dimensional control of the pavillion's soundscape and, in addition to the broadcast director, we now also have real-time sound engineers responsible for dialing (literally, they used telephone dials) the 'routes of sound' across the walls of the building as well across the frequency spectrum (high frequency speakers were scattered across the high walls, the low frequency down near the floor, obscured by screens). Varèse's notebooks are full of visualizations of the paths the sound would take— a visual score made up scribbles and lines dashing along via peaks and valleys. But possibly even more novel was the fact that Varèse had complete control over the amount of 'space' the sound has—that is, how much artificial reverb or echo is added to the source sound to make it sound 'wet' (like shouting in an empty grain elevator) or dry (like clapping in a padded room).

One of the sound technicians working with Varèse noted that "the listeners were to have the illusion that various sound-sources were in motion around them, rising and falling, coming together and moving apart again, and moreover the space in which this took place was to seem at one instant to be narrow and 'dry' and at another to seem like a cathedral." (197). And this is a fascinating moment where it straddles musical

technologies—clearly Varèse is using the pavilion much the same way 15th century composers used specific church architectural features (and sometimes even specific churches) as 'effects' for their music. Varèse is building sound for the space and having the space define the sound, drawing attention to the central role sound plays in defining our relationship to the space around us. But he is also anticipating a moment where musicians and producers have this same sort of intense control over their sound source in both live and recorded environments, where the sound becomes organized and the possibilities for moving and manipulating it in real time becomes unbounded.

For the roughly 8 months that the pavilion was open to the public, it would sing out its song for 25,000 people a day, every 10 minutes. Crowds would queue up outside the building and enter single file into the towering space. After the sound of a Delft church bell (the loudest in Holland, they say) inaugurated Varèse's soundscape (quickly juxtaposed with an oscillator sweep), eight minutes of sound and image and color would flit and dash across the walls' surfaces, controlled by a human hidden in an enclosure in the pavilion with the light and sound controls. Varèse noted that he said he wanted the brief work to 'express tragedy—and inquisition" and Le Corbusier had described the music he imaged as a "presence surrounding a man reading.. whose ear catches noises from outside" (174).

What Varese ended up creating was a series of sounds in relief—brief and decontextualized, pushed just up against the edge of intelligibility—electronic sounds, a child's cry, Gregorian chant, animals, etc—all fading in and out against the backdrop of Le Corbusier's projections and color changes. The sounds are kinetic, blossoming and dying in 2 second bursts—there is almost a narrative feel to it, a telos just out of your grasp, difficult to make sense of the larger trajectory/pattern. You can almost understand what's going on, but then it fades and another something creeps up on you. The images against which the sounds sing chart their own evolutionary path through symbols and photos—masks, apes, bulls, skeletons, medieval church windows, mass graves, bombs, modern buildings, etc. As one critic noted a bit snarkily, "the pictures represent man's development from ape to Le Corbusier" (documentary interview).

But the larger feeling was one of a complete experience—the gesamkunstwerk. People said it felt as if they were being 'digested'—the sound swirling around and the images swimming across the high walls was a disturbing, unnerving experience for many. From the other end of trips festivals and Imax and pink Floyd laser light shows, the idea of a intense complete sensory experience is common. Hell, we're in Orlando after all. But to the two million people who went through the pavilion's innards that fall, it was likely unparalleled. As one critic put it: "here one no longer hears the sounds one finds oneself in the heart of the sound source. One does not listen to sound, one lives it" (210).

Given the site-specific nature of the music and the necessity of the 300 speakers and real-time sound manipulation, one can argue that the work itself has disappeared. It died with all those people who 'lived it' and, far earlier, with the pavilion itself, promptly demolished in January of '59. Of course, there are available recordings of *Poeme Eletronique* as well the 2 min transition music Xenakis composed for the moments when one crowd was leaving the pavilion and the other was entering---which would later be called *Concrete*

PH and was grounded in recordings of charcoal burning—but the experience itself in *toto* is lost to time.

American composer Virgil Thompson wrote that Varèse's composition "is for the larger part of its time miraculously delicate, a chamber piece of ravishing quietness, and though played on that most blatent of all sound sources, an ensemble of loudspeakers, a work of great delicacy. One wishes Varese could have lived to make more like it, for all the opposition of the Philips Company, which LC fought off for him and for all the complexities of almost microscopic wiring that it took two months for the engineers to bring into tune and timing. "

But what was left was a brief and bright example of just how thoroughly technology would change music in the coming decades—both for 'art-music' composers as well as pop music producers. In his review, Thompson expressed some ambivalence as to the question of authorship in this piece—where does it begin and end, do the technicians become part of the act of creation? Issues of musical agency are only going to get more thorny as the century develops. But maybe more to the point is a question one reviewer posed in '58 about what was going on inside the Philips tent, asking "Is this art, where so many volts are required?" (217).

Varèse died before the technology could catch up to his ideas and help answer this question—though RCA was developing a synthesizer as early 1947, it wasn't until the mid-60s that the modular synthesizer became commercially available. This is, for many, is part of the tragedy of Varèse —he could hear the sounds in his head, but had no reliable, easy way to realize them, to make them material. We're still living our way to the answer to that question about art and volts, but we are so much further along now— Varèse would have had no trouble bending sound out of all recognizable proportion with a minimum of technical ability these days. But through the constraints and demands of his moment, he gave us a brief, ephemeral, but powerful access to the future of music. So, in short, to better understand issues of authenticity and music and technology that underpin our contemporary moment, one could do worse than consider the Philips Pavilion as a "most extraordinary thing" that presented to millions of people in the fall of '58 a glimpse of wondrous and terrifying things to come.

Works Cited

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