

from Max Neuhaus: Times Square, Time Piece Beacon,  
ed. Lynne Cooke & Karen Kelly with Barbara Schröder  
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## Max Neuhaus: Sound into Space

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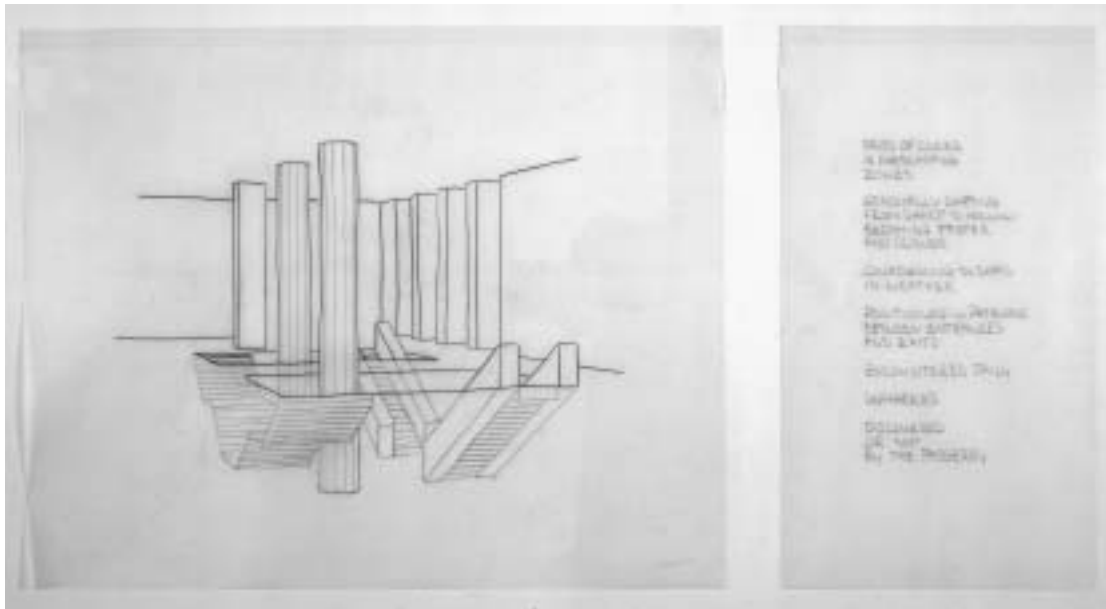


Max Neuhaus installing *Times Square*, 1977

One of the ironies of Max Neuhaus's sound installation *Times Square* (1977) is its siting in what must be one of the the loudest places in the world. On a weekend afternoon, the traffic island where the piece is located teems teems with noise: taxi horns blare, tourists throng, traffic roars by, sirens blast, all kinds of announcers hawk their wares, and a steel band plays a block away. It is chaos, din. But, underneath this cacophony, another quieter sound emerges: a rich, ringing drone, like a deep, industrial hum. It is strangely unplaceable. As you walk over the steel grate, the sound fluctuates slightly, in loudness and tone. "Like the after-ring of a loud bell,"<sup>1</sup> it seems as though it has always been here, as though it will always be here: the sound of the city itself, a reverberation created from inside its very infrastructure, resonating underneath the roads and buildings and subway tunnels, the relics of centuries of urban life and machinery.

Using electronic sound generators, building up the sound by ear over a long period, Neuhaus constructed the tones to be "plausible," to seem as if they could be produced naturally by the subway ventilation shaft from which they emanate. The resonance of the underground vault and its tunnels transforms and modulates the drone-like tones: Standing aboveground, upon the grate, you hear "what the sound does to the chamber." And strangely, as you walk off the island, you can't really tell when you've gone out of range. The low, ringing hum triggers your sensitivity to these types of sounds and you begin to hear it everywhere: this ring, this hum, the low rumbling sound of the city.

Neuhaus has recalled that in 1974, when he first came upon the traffic island, Times Square was a no-man's land, and a homeless guy was living on the grate in a cardboard box. Yet, as Neuhaus has insisted, the piece works differently under different sound and social conditions, just as a piece of sculpture changes in different light. Returning to the site on a quiet and snowy winter night, when the massive square is



Max Neuhaus's circumscription drawing for *Walkthrough* (1973), 1993. Pencil on paper, 23 1/2 x 29 1/2 inches; 23 1/2 x 13 3/8 inches (60 x 75 cm; 60 x 34 cm).

nearly deserted, you perhaps find it, easier to take in the low, throbbing purr. In activating an inherently changing and chaotic urban site, Neuhaus's *Times Square* is designed to absorb such fluctuations.

It is no accident that *Times Square* was Neuhaus's first permanent piece, the project through which he fully conceived the idea of a lasting installation: a sound that was paradoxically not an "event," a temporal phenomenon, but a "place": as if from this inconspicuous, inconsequential traffic island, you could listen in to the hum of the city. Neuhaus had made several temporary installations before, including *Walkthrough* (1973–77), which placed a series of overlapping clicking sounds in the subway entrance in the portico of the Metropolitan Transit Authority building at Jay Street in Brooklyn. In his effort to connect the work to its environment and to trigger an ongoing, active process, Neuhaus programmed the sounds to respond slightly to variations in temperature and humidity; physical shifts caused the speed of the clicks to change, altering how they interacted at different points in the large space. The work lasted for almost four years before it was destroyed by the building's custodian. However fraught, the project helped move Neuhaus toward what would become the *Times Square* piece, the work that would crystallize a set of ideas about sound as a way to define a space.

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After walking away from a career as a percussionist of experimental music in the late 1960s, Neuhaus's work has traced out a number of options for working with sound. These represent both the extension and the transformation of what we might see as the legacy of the composer John Cage. Beginning in the late 1930s, Cage reconceived music as "organized sound" in a series of works for unorthodox percussion and electromechanical instruments. By the 1950s, Cage came to embrace what he termed "indeterminacy," renouncing the authority of the composer to create discrete works, in favor of the real-time generation of music through series of highly abstract graphic notations. Yet the work that most resonates with Neuhaus's project is Cage's legendary 1952 "silent" piece, "4'33", which directs a performer to remain silent for three chance-determined time brackets. In its debut performance, the pianist David Tudor famously marked each of the three "movements" with a physical gesture, silently opening and closing the keyboard lid, as he sat at the instrument for the duration of the piece. Performed live in a formal concert setting, the composition invites the audience to hear ambient sound as music and throws the responsibility for the experience onto the perceptual capacities of its listeners. The work aims therefore, to activate listening, to be sure, but also to trigger an attentiveness to space, to the site of the performance, and to the conventions and protocols that define the concert experience.

For postwar experimental music, "4'33" represented a culmination but also a kind of endpoint, a provocation beyond which one could not go and still be creating "music."<sup>2</sup> As a result, few composers or musicians have taken its implications seriously, because doing so would require questioning the very boundaries of their field. Yet by using sound as a way to investigate a site in a series of works since the late 1960s, Neuhaus was able to embrace the deepest implications of Cage's work—and of postwar experimental music more generally—and push them into genuinely new and rich territories, moving in effect into the territory of visual art to help found a practice of what has been termed "sound art" or "sound installation." In recent years, these terms have become quite vexed, as a flurry of exhibitions has turned them into catchalls for all manner of work with an auditory component. However, site-based work with sound grew out of two distinct trajectories: the investigation of site in



John Cage, text score for "4'33", 1952

Postminimalist visual art since the late 1960s, and the spatialization of music, a practice that has deep roots in the Western concert tradition but that reached a certain critical urgency in the immediate post–World War II era, as new technologies of electronic sound generation, sound mixing, loudspeakers, and amplification made it increasingly possible to control the distribution and modulation of sound in space.

By 1951, the French *musique concrète* composer Pierre Schaeffer and his engineer Jacques Poullin had built a device Schaeffer called the *pupitre d'espace* (roughly, “space console” or “space desk”), which consisted of four electromagnetic induction coils that allowed the operator to gesturally manipulate and diffuse the spatial distribution of sounds. Schaeffer later established the Group de Recherches Musicales, a collective whose experimental designs eventually produced the Acousmonium, an “orchestra” of loudspeakers developed in 1974 by Francois Bayle. The device positions the composer as “a lonely conductor of an orchestra of loudspeakers, spatialising the sound from a control panel in the auditorium.”<sup>3</sup> Installed in situations from formal concert halls to outdoor settings, the Acousmonium contains two mixing consoles and up to one hundred loudspeakers of different sizes distributed throughout a space, allowing a composer to control the sonic projection and directionality of a work. In Bayle’s words, “It puts you inside the sound. It’s like the interior of a sound universe.”<sup>4</sup>

“Spatialization” is understood in this context as the distribution of sound within a listening environment—a concert hall, gallery, or home. It describes “the means by which loudspeakers are used to articulate or create a spatial musical experience for listeners in playback or performance,” including specific technical formats (stereophonic, quadraphonic, etc.), and “the placement and movement of sounds in space in any number of listening situations.”<sup>5</sup> The term appears in an online glossary compiled by the Ears: ElectroAcoustic Resource Site under the larger category of “Performance Practice and Presentation,” and, in its French post–*musique concrète* manifestations, the spatialization of sound is indeed understood as a means to enhance the listening experience as it occurs in a concert setting. Such devices have a compensatory quality, designed to enliven concerts of electroacoustic music and restore a more robust spatial dimension to prerecorded sound materials that, by their nature, are severed from their source. This understanding of spatialized sound as a device to structure or augment the concert experience of music also underlies works like Karlheinz Stockhausen’s 1956 *Gesang der Jünglinge* (*Song of the Children*), which is often credited as one the first works to incorporate spatialization as a compositional element, as



Pierre Henry, *pupitre d'espace*, a device utilizing induction coils, built by Jacques Poullin in 1951 at Pierre Schaeffer’s suggestion.

its five loudspeakers direct and move the sound around the space.<sup>6</sup>

Such a concert-based project, it should be clear, could not be more different from the post-Cagean and Postminimalist activation of space that animates Neuhaus’s work. Yet when composers and musicians refer to the “spatialization of sound,” often what they are talking about is, at heart, an enhanced, multidirectional or immersive concert experience—whether or not it takes place in a traditional concert venue. The most celebrated example of this tendency is the 1958 Philips Pavilion, which was designed by the architect Le Corbusier and his then-assistant Iannis Xenakis for the presentation of two pieces of prerecorded music, Edgard Varèse’s eight-minute composition *Poème Électronique* and Xenakis’s short *Concrèt PH*, at the Brussels World Fair.<sup>7</sup> Le Corbusier conceived of the temporary exhibition as a total work of art, joining sound, images, light, and architectural container into an overpowering immersive spectacle. While Xenakis composed the pavilion’s mathematically generated parabolic form, which gave the building its striking look, it was Philips engineers who designed its sonic guts: the building’s sound system comprised over three hundred loudspeakers that diffused the music throughout the space along “routes” of sound, employing stereophonic effects and reverberation to give the score direction and depth. A series of black-and-white still images were projected onto the building’s curved interior walls, and a visual stream of projected stencils and colors accompanied the music to produce chance juxtapositions and superimpositions within the eight-minute matrix of the work.<sup>8</sup>

The Philips Pavilion was commissioned by the Dutch audio firm to publicize its newly developed technologies in stereophony and sound engineering. Despite this technologically advanced infrastructure, Le Corbusier’s conception was ultimately aesthetically conservative, a grand fusion of collage aesthetics and humanistic images that surrounded visitors in a high-tech, late-Romantic theatrical spectacle that the architect imagined as a “celestial space.” As Marc Treib notes, “The Philips Pavilion presented a collage liturgy for twentieth-century humankind, dependent on electricity instead of daylight and on virtual perspectives in place of terrestrial views.”<sup>9</sup>

For Varèse, the exhibition provided a late-in-life chance to realize long-held ambitions for spatially orchestrating colliding sound masses. In a 1936 talk, he had outlined his vision of a new musical apparatus that would project compositions into three-



Le Corbusier, in collaboration with Edgar Varèse and Iannis Xenakis, interior of Philips Pavilion, 1958. Research Library, The Getty Research Institute, Los Angeles (2002.R.41)

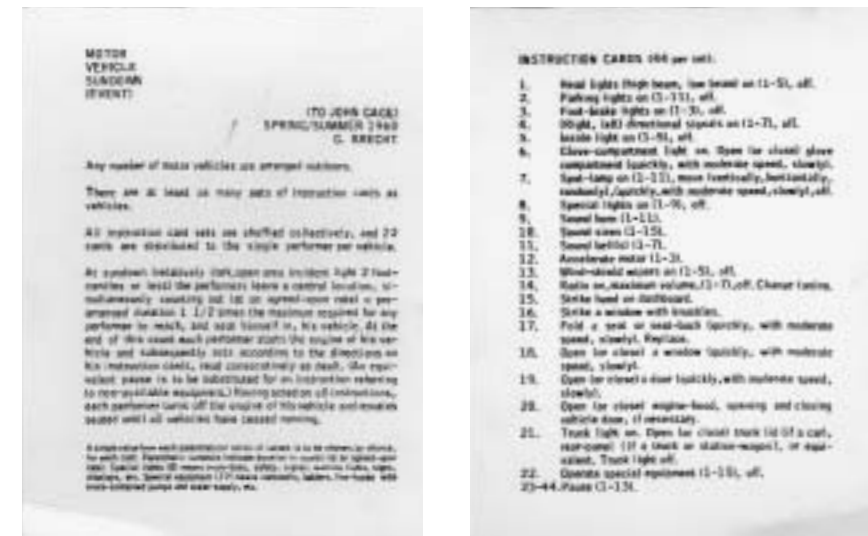


dimensional space: “When new instruments will allow me to write music as I conceive it, the movement of sound-masses, of shifting planes, will be clearly perceived in my work, taking the place of linear counterpoint. . . . Today, with the technical means that exist and are easily adaptable, the differentiation of the various sound masses and different planes as well as these beams of sound, could be made discernable to the listener by means of certain acoustical arrangements.”<sup>10</sup> Ultimately Varèse’s project continues and intensifies the role of the composer: “I am sure that the time will come when the composer, after he has graphically realized the score, will see his score automatically put on a machine that will faithfully transmit the musical content to the listener.”<sup>11</sup> This French modernist trajectory arguably reaches its logical outcome in the virtuosic technologies of sound projection, such as that of Bayle’s Acousmonium, but its concert-based model is fundamentally opposed to the post-Cagean and Postminimalist site-oriented project that emerged out of the intersection of experimental music and the visual arts in the 1950s and 1960s.

By the time of Cage’s legendary 1958–59 Experimental Composition class at the New School in New York City, artists trained as painters and sculptors were turning to sound to expand and disrupt an increasingly environmental visual art experience. Happenings artists, such as Jim Dine, Allan Kaprow, and Claes Oldenburg, incorporated sound effects into their works, using voice and noise as expressive elements in a larger construction. Despite this introduction of sound into a visual art context, these artists were not yet producing “sound art,” or isolating the physical or expressive properties of sound as a potentially spatial material.

A fascinating precursor to the practice of “sound installation” comes from the work of the Japanese artist Atsuko Tanaka, who presented her installation *Bell* at the First Gutai Exhibition in Tokyo in 1955. Like many Gutai artists, Tanaka sought to extend the gestural automatism and expressionism of Surrealist and Informel practices into three-dimensional spaces that would breach the boundaries between art and life. Tanaka installed twenty electric bells throughout the exhibition space, connecting them to a switch and providing a card that cued visitors to press a button.<sup>12</sup> Tanaka describes the “acoustic composition” as follows: “The work consists of twenty electric bells connected by forty metres of cords that run all over the exhibition space. The bells will be turned on in sequence, regulated automatically by a motor, to ring one by one, the closest ones ringing loud and the farthest ones heard only faintly. It was my intention to create an acoustic composition with the differing loudness of bell sounds.”<sup>13</sup>

The sequence of clanging bells mapped the exhibition hall temporally and spatially, using physical properties of sound to define the space. Like the New York-based Happenings artists, Tanaka saw her work as a bodily, temporal, and three-dimension-



George Brecht, *Motor Vehicle Sundown (Event)*, 1960

al extension of painting, a practice that engaged the participation and perceptual capacities of its viewer-listener. The groundbreaking actions and exhibitions of the Gutai group, published in international magazines, inspired not only visual artists like Kaprow but also experimental dancers like Simone Forti, who recalled the striking effect of photographs of Gutai performances on her own practice as it emerged out of workshops with the choreographer Anna Halprin in northern California in the late 1950s. The Gutai emphasis on “one thing,” Forti has recalled, helped her isolate a protominimal action out of a larger stream—a simple action or gesture that she then crossed with a Duchampian focus on the conventionality of the art experience: “When you question a convention, you isolate it, and become aware of it, and then that becomes your topic.”<sup>14</sup>

During the period 1959 to 1962, downtown New York was the scene of a genuinely interdisciplinary art world that propelled visual artists, dancers, poets, and composers to explore new durational and time-based forms. For Fluxus artists, such as George Brecht, Dick Higgins, Alison Knowles, and Yoko Ono, the perceptual frame and text-based score of *4'33* provided a potent model for rethinking visual art as a kind of event structure. Brecht, in particular, devised an ongoing series of what he called “event scores” that reframed performed actions, assembled objects, and simple everyday occurrences as linguistic notated “events.” In the *Motor Vehicle Sundown (Event)*, of spring/summer 1960 (dedicated to Cage), detailed instruction cards direct partici-

pants to assemble automobiles at sundown at a central location. After starting their engines, each “performer” initiates randomly ordered series of actions: turning headlights and brake lights off and on, sounding siren and horn, accelerating motor, opening and closing doors, windows and hood, turning the radio on and changing its tuning, all to produce a visual and sonic cacophony.

The piece can be seen as both a precursor of, and a contrast to, Neuhaus’s 1967–68 work *Drive-in Music*, first produced for the Albright-Knox Gallery in Buffalo. Considering this version as a prototype, Neuhaus described the piece as a potentially permanent work: “Drive In Music is a sound environment for people in automobiles. It consists of setting up areas of sound, which can only be heard thru an AM radio, along a mile of street or roadway. The piece is set up permanently or semi-permanently and is available twenty-four hours a day to anyone driving along that road.”<sup>15</sup> As visitors navigated the space, with their radios tuned to a prescribed frequency, they passed through different combinations of sounds created by the system of low-power transmitters mounted along the roadway.<sup>16</sup> Neuhaus noted that “in the prototype version, the sound generators themselves were weather sensitive, i.e. they were composed with electronic circuitry which was sensitive to changes in temperature, humidity, and light, so that the sounds themselves were constantly changing with minute changes in the atmospheric environment.”<sup>17</sup>

Although both works involve participatory explorations of sound (and vision) using automobiles, the differences between Brecht’s 1960 “event” and Neuhaus’s 1967 “environment” are striking: Brecht’s piece is a performance, organized by a loose time structure; its chance juxtapositions and superimpositions occur in time as participants perform different actions according to the cards they are dealt. Neuhaus, however, envisioned his work as a physical installation of radio signals that individual participants realize in a temporal form as they navigate through overlapping areas of broadcast.<sup>18</sup> Both represent radical extensions of Cage’s imperative to explore everyday and urban ambient sounds as material for art, yet while Brecht produces, in effect, an anarchic outdoor orchestra of performed automobile sounds, Neuhaus works with the electronic sound technology built into the car—the humble AM radio—to construct a sonically animated space.

To differentiate Neuhaus’s project from even the most adventurous electroacoustic sound practices that came out of the Cage nexus, it is useful to juxtapose it with David Tudor’s sustained work with electronic sound. By the early 1960s, Tudor’s brilliant



John Cage, *Variations V*, 1965, showing Cage at electronics table with David Tudor and Gordon Mumma (foreground), Carolyn Brown, Merce Cunningham, and Barbara Dilley (background)

performances of piano music increasingly involved amplification and electronics. To perform Cage’s 1961 *Variations II*, Tudor sought to transform the unorthodox graphic score—a collection of eleven tokens, drawn on sheets of transparent plastic, whose points indicate sound events and whose lines establish the parameters of frequency, duration, timbre, amplitude, and morphology. As musicologist James Pritchett insists, for Cage, “the openness of the graphic space was a way of exploring the total space of sounds. . . . The notation of *Variations II*, because it allows any configuration of dots and lines, can describe any sound.”<sup>19</sup>

Tudor’s interpretation of *Variations II* helped to trigger his own compositional voice and opened the door to his increasingly influential work as a “composer” of instruments, as a designer of elaborate sound-generating devices and electroacoustic mechanisms. In the 1960s and 1970s, Tudor developed many of these projects, including various versions of the work *Rainforest*, in his work for the Merce Cunningham Dance Company (working since *Rainforest IV* with the group *Composers Inside Electronics*).<sup>20</sup> Tudor’s decision to perform Cage’s score using an amplified piano outfitted with contact microphones produced, in effect, “a unified electronic instrument with its own characteristics”<sup>21</sup>—a technical setup generating a number of feedback loops whose behavior and performance then took on a life of their own. Unlike Cage’s sound world of discrete “sounds in themselves,” in Tudor’s version of *Variations II*, sounds “merge, overlap and run into one another in waves of feedback and reverb,” largely independent of the composer’s control or the design of the score.<sup>22</sup>

Despite Tudor’s rigorous attention to the resonant qualities of found objects and electroacoustic devices, he consistently conceives of these as instruments, not spaces or sites. Tudor never really moved from exploring the object as a resonating body to treating the room itself as an instrument. As Neuhaus recalled, Tudor always insisted on performing: the assemblages of objects and circuits that would result in Tudor’s *Rainforest* projects and installations were, in effect, instruments: “He was always building these things in the pit with Cunningham, activating them . . . *Rainforest* was an exposure, a way to bring it out of the darkness of the pit.”<sup>23</sup>

Ironically, the work Tudor retrospectively considered his first independent composition, the 1964 installation *Fluorescent Sound*, contains the seeds of a more explicitly site-based practice. To produce a sound accompaniment for a performance of Robert Rauschenberg’s dance *Elgin Tie* at the Moderna Museet in Stockholm, Tudor devised a score for the museum’s fluorescent light switches, which he proceeded to perform on the switch panel. In a 1988 interview, he recalled, “One day I was in the room when someone was turning on the fluorescent lights and they didn’t know which to turn on and all of a sudden there was the most beautiful music. I thought, ‘OK, I’ll

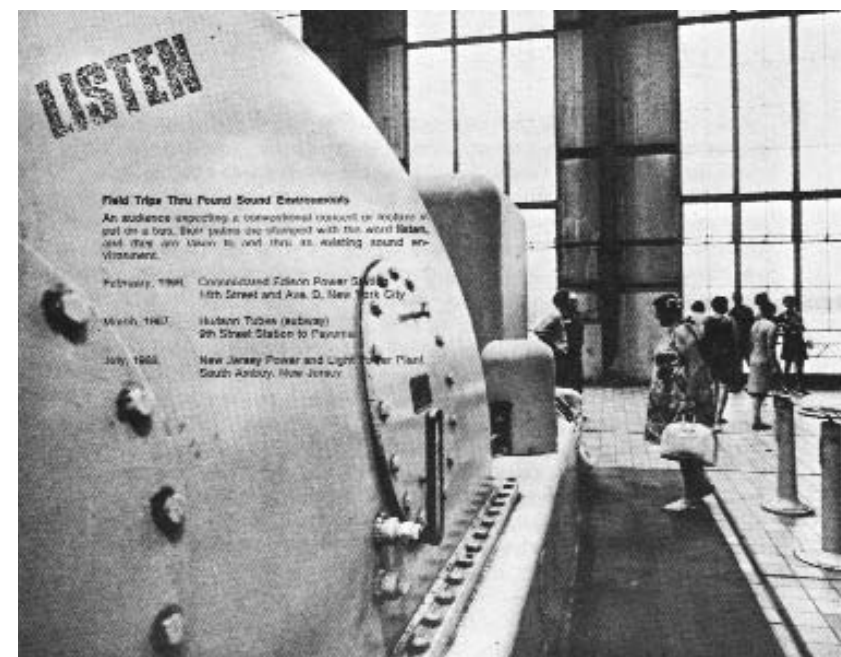
put some contact microphones up there from the bulbs to see if the sound can be made really audible.”<sup>24</sup> In his work using contact mics, Tudor in a sense extends the model of Cage’s composition *Cartridge Music* (1960), which employed old-fashioned phonograph cartridges to amplify the “small sounds” produced by any number of objects: “in practice,” Tudor explained, “it was found convenient to attach the cartridges to pieces of furniture (tables, ladders, moveable carts, chairs, etc.) to which are attached contact microphones.”<sup>25</sup> Different performers each prepared their own parts, orchestrating interactions and contradictions between actions that helped to make *Cartridge Music* “one of the first successful theatrical pieces of live electronic music.”<sup>26</sup>

Neither Tudor nor Cage would take up the latent spatial or environmental potential for amplifying sounds produced by everyday objects. This trajectory is evident, however, in the work of La Monte Young, whose 1958–60 compositions for sustained drones and assaultively loud frictive sounds—for example, *Poem for Chairs, Tables, Benches etc (and other sound sources)* (1960)—implicitly used sound to activate spaces like lofts, where many performances were held.<sup>27</sup> By 1964, Young was envisioning his subsequent *Dream House* installations, which would use electronic instruments to generate perfectly proportioned frequency ratios for drawn-out periods. In a 1964 grant proposal to the Ingraham Marshall Foundation, Young outlined the project:

It is true that in the plans for my *Dream Houses* I have desired a kind of spiritual retreat, a dwelling in which many musicians and students could live and execute a musical work which would last as long a time as there were enough performers interested in keeping the form alive. . . . Now the immediate advantage of machines/music boxes which can produce this music over a long period of time becomes more evident. The instruments which may operate on electricity or other types of energy cannot only be transported from one location to another, concert halls, museums, theatres, but they may be utilized to provide *Eternal Music* in the home, the office, on ocean liners and airplanes. It is important that it be understood that these instruments will not merely serve the simple function of reproduction found in a magnetic tape or disc recording, but that the design and concentration will be such that these highly intricate and delicate machines may be programmed by the composer or by a programmer from the composer’s score to actually create new compositions and new realizations of compositions.<sup>28</sup>



La Monte Young, Marian Zazeela, and The Just Alap Raga Ensemble performing *Raga Sundara*, *ektal vilampit khayal* in *Raga Yaman Kalyan* in a setting of *Imagic Light*, June 27, 2008. *Dream House: Seven + Eight Years of Sound and Light*, 275 Church Street, New York City, showing Charles Curtis, Jon Catler, Da’ud Constant, La Monte Young, Jung Hee Choi, Marian Zazeela, and Naren Budhkar (left to right).



Max Neuhaus, *Listen* poster (1966) with photo by Peter Moore

Young’s description of the *Dream House* as a kind of “spiritual retreat” makes it clear that the focused experience of sound it entails is detached from everyday urban experience. The perceptual focusing and seclusion he describes conceptually lie closer to the light installations of Robert Irwin than, say, the explicitly site-based projects of Richard Serra or Gordon Matta-Clark. Electronics provide a technical means to achieve durations beyond the capacities of human performers. As the *Dream House* project developed, Young would employ standing waves to construct a sound topography. By choosing frequencies that “fit” in a room, a composer or engineer can in effect physically shape sound waves, so that their reflections and interactions create series of nodes and antinodes. As listeners move through the space, they encounter different pockets of sound, giving them the impression they are “tuning” or “playing” the space with their own bodies and movements.<sup>29</sup> In a sense, Young’s ongoing *Dream House* and Neuhaus’s *Times Square* represent the polarities of post-Cagean uses of spatialized sound. As Young’s early proposal suggests, his conception is closer to the French tradition of controlled diffusion of what is still a composed work. As Neuhaus once remarked, Young’s *Dream House* is still music: in it, an installation is just “a very long piece of music.”<sup>30</sup>



In contrast, Neuhaus's goal was not just to get outside the concert hall but to produce works that were no longer music: "Since the only category we had for artists who dealt with sound was musician, composer . . . I had to stop being that."<sup>31</sup> The first step was the series of sound walks he began in 1966 titled *Listen*. A listing on the concert program invited listeners outside the hall, where the word "listen" was stamped on their hands before they were taken on a tour of local urban soundscapes. In the first performance, Neuhaus recounts, he led a group of friends down 14<sup>th</sup> Street toward the East River: "At that point the street bisects a power plant and, as I had noticed previously, one can hear some spectacularly massive rumbling. We continued, crossing the highway and walking, alongside the sound of its tire wash, down the river a few blocks, re-crossing over a pedestrian bridge, passing through the Puerto Rican street life of the lower east side to my studio where I performed some percussion pieces for them."<sup>32</sup>



Photo by Peter Moore showing Max Neuhaus during *Public Supply* broadcast at WBAI studios, New York City, October 8, 1966

The sound walks inverted the modernist paradigm—from Luigi Russolo to Varèse to Cage—of bringing noise and everyday sounds into the concert setting.<sup>33</sup> Such works of noise music failed, in Neuhaus's view, because audience members seemed more impressed by the scandal effect than the sounds themselves: "few were able to carry the experience over to a new perspective on the sounds of their daily lives. I became interested in going a step further. Why limit listening to the concert hall? Instead of bringing these sounds into the hall, why not simply take the audience outside?"<sup>34</sup> To investigate the aural properties of existing spaces, Neuhaus drew on his skills as a percussionist working with timbre, resonance, and timing: he would "sound out" a site, analyzing its patterns of resonance and ambient sound, and devise sonorities accordingly. As Neuhaus notes, since a concert hall is "a white space for sound," like the white box of the gallery, by definition "any sound outside the concert hall was site specific."<sup>35</sup>

In addition, Neuhaus systematically explored new sound-producing devices and systems—from his *Max Feed* (1966), a feedback-producing gadget, to his extraordi-



Max Neuhaus, *Round*, November 19–21, 1976, sponsored by Creative Time, U.S. Customs House, New York City

nary series of *Public Supply* and *Radio Net* concerts (1966–77), which used call-in telephones on live radio (initially, New York's WBAI station) to produce a real-time continuous flow. Neuhaus saw the *Public Supply* pieces as extensions of his practice as a performer: "I was interested in the challenge of making a live work for unknown materials, enlisting the aid of anyone who wanted to telephone into this station as the producers of that material."<sup>36</sup> Neuhaus's role was one of designing the system, then switching and mixing while on air.

At a time when critics of “site-specific” and “public” art continue to belabor relatively anodyne object-based sculptural models, Neuhaus’s early broadcast works have received relatively little attention from art historians, even though they are part of a movement toward publication-based and broadcast forms that intervened in public space in challenging and unpredictable ways. While Neuhaus frequently compared his work to the sculptures of Richard Serra, his approach shares certain tendencies with Lawrence Weiner’s work. Although Weiner’s linguistically notated “statements” are discrete pieces, their placement in public and private settings insinuate them into the fabric of everyday urban life in a subtle and usually nonconfrontational manner that recalls Neuhaus’s deliberate unobtrusiveness.<sup>37</sup>

Like Cage’s famous exploration of the anechoic chamber and work with amplified “small sounds,” many of Neuhaus’s pieces straddle the boundaries of what is audible, liminal conditions of audibility and perception that various Fluxus projects also explored.<sup>38</sup> Within the music tradition, a historical precedent for this deliberate unobtrusiveness is Erik Satie’s *Furniture Music* (1917), proto-ambient compositions that were designed to be played, for example, in the lobby, not the concert hall, as background music. Similarly, the extreme temporal extension of Satie’s *Vexations* (circa 1893) —a short piece of piano music appended with the direction that it should be played 840 times in a very slow tempo—heralded the possibility of very long pieces of music whose durational experience would introduce a sitelike dimension. When performed for the first time in 1963 at the Pocket Theatre in New York, by a group of pianists organized by Cage and Tudor, the concert lasted over twenty-five hours, suggesting a scale at which even performed sound becomes less an event and more a situation or even a place.<sup>39</sup> Though no doubt informed by these experiments, Neuhaus’s project crucially diverges as it endeavors not only to make the sound permanent but also to resituate this durational experience to public, mostly outdoor spaces—locations that, by nature, are unbounded and, for the most part, visually unmarked. While some of his sound installations have been placed in gallery or museum interiors, Neuhaus prefers liminal spaces—for instance, a stairwell of Chicago’s Museum of Contemporary Art was the home of a now-destroyed untitled sound piece from 1979. Although you can find *Times Square* by going to the correct traffic island—a unremarkable little triangle on Broadway between 45<sup>th</sup> and 46<sup>th</sup> streets in Manhattan—its sound completely bleeds into the surrounding aural landscape and vice versa. In keeping with this unmarked condition, Neuhaus located works like *Times Square* in anonymous places. There is no placard or marker: you find it for yourself, by ear.

Paradoxically, although sound was a common element in the intermedia, assemblage, and Neodada practices of the early 1960s, aural phenomena largely drops from

the lexicon of 1960s Minimalist sculpture, despite that movement’s emphasis on the physical and phenomenological encounter with the viewer. A crucial exception can be found in some of Bruce Nauman’s early works, which use sound as a central structuring mechanism; produced in the period 1967–70, they are roughly contemporaneous with Neuhaus’s early sound installations. Nauman’s influential *Studio Films* of 1967–68 are also sound pieces, and his 1968 exhibition *Six Sound Problems for Konrad Fischer* comprised six short sound pieces on tape loops designed for the gallery space.<sup>40</sup> Neuhaus tended to differentiate his project from works by Nauman, Vito Acconci and other artists who used prerecorded sound and the voice. Though it’s true that some of Nauman’s works, such as *Get Out of My Mind*, *Get Out of This Room*, presented in 1969 at Nicholas Wilder Gallery, rely on prerecorded voice, other installations, such as the *Sound Breaking Wall* (1969) and *Diagonal Wall (Acoustic Wall)* (1970), used dampened sound to create a spatial and bodily situation; and Nauman’s *Touch and Sound Walls* (1969) used microphones and time delay to explore the spatial properties of sound in a manner analogous to his better-known video corridors. While Neuhaus has a tendency to define site-based work in a way that precludes the use of prerecorded sound, Alvin Lucier’s celebrated work *I Am Sitting in a Room* (1969) would precisely combine these two structures, as the accumulation of room tone and audio distortion gradually dismantles the continually rerecorded spoken text. Instead, what perhaps differentiates Neuhaus’s use of sound from that of artists like Acconci and Nauman is the latter’s interest in building a psychological space. Even in works that do not use language, Nauman deployed operations like sound delay, silence, and out-of-sync or out-of-phase sound to trigger disconcerting emotional or psychological states or associations in the viewer. Likewise, his sound-dampening walls and video corridors generate complex emotional and even cognitive responses because they attempt to mimic or mirror interior states of mind. This sense of psychic displacement is largely absent from Neuhaus’s works, which can be seen as almost classically Minimalist in their emphasis on a present-tense confrontation with the physical and material properties of the work.

Yet the fact that Neuhaus uses sound as an autonomous material will always complicate this encounter. In the *Moment* works, the sudden absence of a sound that has been almost imperceptibly building up over time leaves listeners with a wrenching sense of loss and emptiness. The very experience of sound topographies is almost inherently uncanny. As Neuhaus notes, part of the difficulty of site-based work with sound, and with any delineation of a sound space, is that the properties of sound run counter to containment: sound dissipates, disperses evenly with distance. By its nature, sound produces perceptual effects in its listeners that seem to exceed physical



presence: *Times Square*'s ringing reverberates long after one has left the pedestrian island and gone out of earshot of the piece. Perhaps because most of us are far less skilled at listening, and at sorting out confusing and conflicting auditory cues, the boundary between the subject and object in hearing seems more fluid than in vision. It is the spatial and perceptual instability of sound that makes it such a rich territory for Neuhaus.

Notes:

1. Unless otherwise indicated, quotes from Max Neuhaus come from my extended interview with him, conducted in Santa Monica and Pasadena, on January 26, 2005.
2. As Douglas Kahn cogently argues, by “shifting the production of music from the site of utterance to that of audition,” 4’33” “opened music up into an emancipatory endgame” that paradoxically performed its own gesture of silencing. (Douglas Kahn, *Noise, Water, Meat: A History of Sound in the Arts* [Cambridge, Mass.: MIT Press, 1999], pp. 158, 164.)
3. Goran Vejvod and Rob Young, “My Concrete Life: Pierre Schaeffer,” *The Wire*, no. 258 (August 2005), p. 48.
4. “The Acousmonium,” <http://emfinstitute.emf.org/exhibits/acousmonium.html> (accessed March 31, 2005).
5. “Spatialisation,” Ears: ElectroAcoustic Resource Site, [http://www.ears.dmu.ac.uk/rubrique.php?id\\_rubrique=240](http://www.ears.dmu.ac.uk/rubrique.php?id_rubrique=240) (accessed March 31, 2005).
6. Many other examples or precedents for such spatialized composition could be cited, such as the physically dispersed orchestras by American composer Charles Ives and Cage’s 1952 tape composition *Williams Mix*, which was designed to be played by eight loudspeakers distributed around a room.
7. While Edgard Varèse’s score combined electronically generated tones and altered piano chords and voices, Iannis Xenakis’s short interstitial music—designed for the period during which the audience was filing in and out—was composed at the Group de Recherches Musicales studios in Paris using electronically processed sounds of amplified burning charcoal.
8. See Marc Treib, *Space Calculated in Seconds* (Princeton University Press, 1996).
9. *Ibid.*, p. 3.
10. Varèse, “The Liberation of Sound” (1936), in *Contemporary Composers on Contemporary Music*, ed. Elliott Schwartz and Barney Childs (New York: Da Capo Press, 1998) p. 197.

11. *Ibid.*, p. 198.
12. Ming Tiampo, “Electrifying Painting,” in *Electrifying Art: Atsuko Tanaka 1954–1968* (Vancouver: Belkia Art Gallery and Grey Art Gallery, New York, 2004). See also *Scream Against the Sky: Japanese Art After 1945*, ed. Alexandra Monroe (New York: Harry N. Abrams, 1994); and Shin’ichiro Osaki, “Action in Post-war Japan,” in Paul Schimmel, *Out of Actions: Between Performance and the Object 1949–1979* (Los Angeles: Museum of Contemporary Art, 1998).
13. Atsuko Tanaka, in a 1955 press interview, cited in Tiampo, *Electrifying Art*, p. 68.
14. Simone Forti, interviewed by the author, Los Angeles, October 26, 2000.
15. Max Neuhaus, “Drive In Music,” undated typescript.
16. As Neuhaus notes, “The composite sound the listener hears at any one moment is a product of his distance, at that moment, from each of the transmitters in the general area.” (Neuhaus, in conversation with the author, January 26, 2005.)
17. Neuhaus, “Drive In Music.” This effort to incorporate atmospheric conditions prefigures Neuhaus’s use of such elements in *Walkthrough*, and it is perhaps evident of a struggle to incorporate process-based structures into his site-based works.
18. As Neuhaus retrospectively observed: “The Passage works are situated in spaces where the physical movement of the listener through the space to reach a destination is inherent. They imply an active role on the part of listeners, who set a static sound structure into motion for themselves by passing through it. My first work with an aural topography, *Drive In Music* in 1967, falls within this vector.” (Max Neuhaus, “Passage,” <http://www.max-neuhaus.info/soundworks/vectors/passage/>.)
19. James Pritchett, “David Tudor as Composer/Performer in Cage’s *Variations II*,” *Leonardo Music Journal*, no. 14 (2004) pp. 11–12.
20. *Rainforest* was the name Tudor gave to a series of large-scale performed installations of hybrid

loudspeaker objects. The first version was commissioned for a 1968 Merce Cunningham dance concert, but the project has deeper roots in Cage's 1960 *Cartridge Music* and Tudor's 1966 work *Bandoneon*, created for the 9 Evenings of Theatre and Engineering, a series of performances at the New York Armory in October 1966, organized by Experiments in Art and Technology (EAT). For more information, see John Driscoll and Matt Rogalsky, "David Tudor's *Rainforest*: An Evolving Exploration of Resonance," *Leonardo Music Journal*, no. 14 (2004), pp. 25–30.

<sup>21</sup> Pritchett, p. 14.

<sup>22</sup> *Ibid.*, p. 15.

<sup>23</sup> Neuhaus, January 26, 2005.

<sup>24</sup> David Tudor, "I smile when the sound is singing through the space," interview by Teddy Hultberg, Düsseldorf, May 17–18, 1988, <http://www.emf.org/tudor/Articles/hultberg.html> (accessed January 15, 2001).

<sup>25</sup> David Tudor, description of *Cartridge Music* (circa 1988), draft of liner notes for the CD *John Cage, Vol. 4: Music for Merce Cunningham* (Mode 24), David Tudor papers, Getty Research Institute.

<sup>26</sup> *Ibid.* As Kahn notes, *Cartridge Music* represents part of a larger shift in Cage's work toward "silence [and] small and barely audible sounds" that required amplification to be heard. Reading Cage's famous experience in an anechoic chamber as a defining event, Kahn proposes that thereafter he "would increasingly employ technology as a discursive means for musical listening and not just for practical musical production" (Kahn, p. 192). As a result, "Percussion was replaced by amplification as the means to listen to objects" (p. 197).

<sup>27</sup> Composed in January 1960, *Poem* consists of detailed verbal instructions to performers to drag or scrape heavy pieces of furniture across a floor; random numbers determine the duration of the piece, the number of events, and their entry and exit points. The work was performed by Tudor several times in 1960 and 1961.

<sup>28</sup> La Monte Young, *Dream House* proposal to the Ingraham Marshall Foundation, 1964; David Tudor Papers, Getty Research Institute. See also the description of *Dream House* in La Monte Young and Marian Zazeela, *Selected Writings* (Munich: Heiner Friedrich, 1969). See also the ubu classics edition reissued in 2004 online at [ubu.com](http://ubu.com).

<sup>29</sup> As Kahn reminds us, many artists and musicians of the time were interested in the physicality of loud sounds—understood "as the establishment of a palpably saturated acoustic space, as the experience of the intensity of vibrations on the whole body as well as within it" (Kahn, p. 227). Seen in these terms, the ways that amplified sounds envelop and immerse their listeners in a manufactured sonic environment has inherent spatial effects: "With enough amplification any performance space could be turned into a resonant chamber, much like a body of a very large instrument in which humans are played" (p. 233).

<sup>30</sup> Neuhaus, January 26, 2005.

<sup>31</sup> Neuhaus, lecture, Art Center College of Design, January 26, 2005.

<sup>32</sup> Neuhaus, "Listen" (undated statement), in *Sound by Artists*, ed. Dan Lander and Micah Lexier (Toronto: Art Metropole, 1990), p. 63.

<sup>33</sup> Of course, by the time his collection *Silence* was published (Wesleyan University Press, 1961), Cage himself had shifted his understanding of *4'33*" as a formal composition performed in a concert setting to an experience of activated listening that could be performed anywhere.

<sup>34</sup> Neuhaus, "Listen," p. 63.

<sup>35</sup> This explicitly site-based orientation thus differentiates Neuhaus's project from, for instance, the work of Tony Conrad, Young, and other members of the Theatre of Eternal Music, a group who played loud sounds for extended durations to activate listening in the creation of sound—as Conrad retrospectively proclaims, the "route out of the modernist crisis was to move away from composing to LISTENING" (liner notes, *Four Violins Table of the Elements* CD #17, 1996). As Kahn notes,

"Apart from the Theatre of Eternal music, a number of artists and composers in the early 1960s combined sustained sound and repeated sounds with loudness and amplification to hear features of sound masked in a momentary or singular incidence of the sound. The phasing involved in a sound might reveal itself only when that sound is sustained for a long time, as might the way a sound interacts with the acoustic properties of a particular site" (Kahn, pp. 231–32).

<sup>36</sup> Neuhaus, interview by William Duckworth (1982), reprinted in *Max Neuhaus: Sound Works*, vol. 1, *Inscription* (Osfielden-Ruit, Germany: Cantz Verlag, 1994), p. 45.

<sup>37</sup> See my essay, "In the Stream of Life," in *Lawrence Weiner: Until It Is* (Columbus: Wexner Center for the Arts, 2002).

<sup>38</sup> For a detailed history of these projects, see Douglas Kahn, "The Latest: Fluxus and Music," in Elizabeth Armstrong and Joan Rothfuss, *In the Spirit of Fluxus* (Minneapolis: Walker Art Center, 1993), pp. 100–20.

<sup>39</sup> Although it would be tempting to read the durational model of the 1963 concert as arising from, for instance, Young's systematic exploration of long sounds, archival records show that Cage was attempting to produce Satie's piece soon after he received a copy of the manuscript in 1948.

<sup>40</sup> In a quite different manner, the programmed light-sound environments of the Pulsa group, done in the period 1967–72, emerged partly out of a visual-art context and partly in relation to experimental music and performance. Beginning at sunset each day, the *Programmed Environment* at the boat pool at the Boston Public Gardens in October 1968 used underwater strobe lights and poly-planar speakers placed at water level to distribute sound and light waves around the site. For more information, see Lucy R. Lippard, "Pulsa," *Arts Canada* tk, vol. tk (December 1968), and Patrick Clancy, "Tape Transcription (3-25-92)," <http://www.vasulka.org/archive/Interviews/53Clancy.pdf>.