2 Sound installation art: from spatial poetics to politics, aesthetics to ethics

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In a perceptive essay on Robin Minard, a Canadian artist who creates sound installations for public spaces such as subway corridors, the musicologist Helga de la Motte-Haber suggests that the development of sound installation art 'marks the 20th century'. She writes (1999: 41):

> With [the] new availability of [electro-acoustic] sound material an art form congealed that overstepped traditional boundaries. The development of this art form marks the 20th century. Visual artists no longer had a monopoly on structuring space, just as musicians were no longer the only ones concerned with the aspect of temporal change. New forms of art arose that lay claim to simultaneous existence in space and time. Located beyond the realms of the traditional art world, installations created a new consciousness of our perception of reality. Here, the public was also granted a new authority.

The emergence of sound installation art in the second half of the twentieth century reflects fundamental shifts within multiple arenas: conceptions of space and space–time; the ascendancy of site within the aural imagination; the extension of music and sonic arts into expanded sculptural and architectural models; and the role of the public in relation to aesthetic experience. Perhaps owing to its liminal position between more established disciplines, however, sound installation art remains under-recognised within historical accounts of twentieth-century art and music, even as it marks this history through such shifts, extensions and ruptures.[1]

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[1] Studies by Nyman 1974, Lander and Lexier 1990, Kahn and Whitehead 1992, Augaitis and Lander 1994, Wishart 1996 (1985), Kahn 1999, Schulz 2002a, Drobnick 2004, LaBelle 2004; 2006; 2010, Licht 2007, Kim-Cohen 2009 and Voegelin 2010 have made significant contributions to the historical and theoretical understanding of sound art. Much of the current literature on this subject remains focused on composition, recording, transmission and performance practices, however, with installation practices receiving less attention by historians and critics. Writings by artists, exhibition catalogues and artist monographs are an important resource, and make up the bulk of the literature on sound installation art.

This chapter begins by tracing a genealogy of early sound installation art, examining its precursors in 1950s electro-acoustic spatial music composition, and its inception within emerging interdisciplinary models in the 1960s and 1970s. Here, examples are chosen that highlight evolving concepts of space and spatiality and propose new modes of audience interaction. This previews a discussion of two contemporary artists whose sound installations and site-specific sound works place new pressures on constructs such as 'space', 'site' and 'public'. The first of these, the Finnish sound artist Heidi Fast, creates works that employ the public voice in enacting new modes of community within shared urban environments. My second example, Rebecca Belmore, engages what Lucy R. Lippard (1997: 19) has described as 'an activist art practice that raises consciousness about land, history, culture, and place [and serves] as a catalyst for social change'. Belmore's 1991 sound installation *Ayumee-aawach Oomama-mowan: Speaking to Their Mother* raises critical questions about the potential of site-specific sound to reorder dominant political narratives and re-situate political discourse within marginalised spaces.

Sound installation art, what Brandon LaBelle (2004: 7) has described as work in which 'sound [is positioned] in relation to a spatial situation, whether that be found or constructed, actualised or imagined', has undoubtedly recovered and reoriented the sonic–spatial imagination. What is in doubt is whether or not this imagination is critically located or able to engage with a public in meaningful ways. My claim is that it can, when it is founded upon conceptions of space that take into account not only physical geographies, but social and political geographies as well. When space is understood not in abstract or absolute terms, but as socially and politically constituted, a spatial sound practice can emerge not only as a poetics, but as a politics, not only as an aesthetics, but as an ethics. Such a critical spatial sonic practice does not merely 'happen in' space, but is poised radically to transform the very terms of its constitution.

Music projected into space

Audiences at a sound-and-light spectacle at the 1958 Brussels World Fair, where the predominant theme was nuclear disarmament, were overcome by the feeling that they were being bombarded by sound. Electronic whines, human shrieks, moans and sirens assaulted them from every point inside a fantastical building whose walls were lined with hundreds of loudspeakers. Edgard Varèse, the composer of this unearthly music, claimed that for the

first time in his life, he could 'literally hear [his] music projected into space!' (Strawn 1978: 141). Someone in the audience described the experience as a 'modern nightmare' (Trieb 1996: 217).

Poème électronique, the name given to this eight-minute-long electro-acoustic assault, was the musical component of a multimedia work conceived by the architect Le Corbusier for the Philips Corporation. This work combined architecture, film, hanging sculptures, automated lighting schemes and spatial music in telling a 'story of all humankind' that depicted the evolution of human societies from prehistoric to modern times. The music was recorded onto multi-track tape and diffused via an eleven-channel sound system to an estimated three to four hundred loudspeakers along nine 'sound routes' (see Trieb 1996). For Varèse, this work represented the culmination of a lifelong pursuit to add a 'fourth dimension' to music: the spatial projection of sound. He saw this spatial dimension as liberating Western music from its stationary perspectives, and envisioned its coming-into-being in singularly grandiose terms: as a 'journey into space' (Varèse 2004 (1936): 18).

The journey, however wondrous, was not without its detractors. One critic suggested that *Poème électronique* was sending 'lethal beams of sound' to unassuming fairgoers (Cabrera 1994: 80). Another wrote: 'the intense spine-tingling reverberations overwhelm you as the sound impinges on you from all directions at once, only to numb you in turn with extremely high shrieking, whistling eerie echoes' (Gernsbeck 1958: 47). The transcendent potential of the immersive listening experience figured in this work, however, was not completely lost. A third critic wrote of *Poème électronique* that 'one no longer hears the sounds, one finds oneself literally in the heart of the sound source. One does not listen to the sound, one lives it' (Ouellette 1968: 201–2).

Despite its mixed reception, *Poème électronique* was perhaps the most ambitious of post-war spatial music projects, which included the efforts of composers working within burgeoning *musique concrète*, Elektronische Musik and experimental electronic music traditions. Watershed moments in this early history include Pierre Schaeffer and Pierre Henri's *Symphonie pour un homme seul* (1950), which made use of the *pupitre d'espace* in routing monophonic *objets sonores* between five loudspeakers positioned around and above listeners;[2] Karlheinz Stockhausen's *Gesang der Jünglinge*

[2] Pierre Schaeffer's assistant Jacques Poullin developed the *pupitre d'espace* (also called *potentiometre d'espace*) to route sound from five-track tape to five loudspeakers. Four tracks were assigned predetermined routes, while that belonging to the fifth track was improvised by a performer who manipulated the device live in concert.

(1955–6), which serialised the spatial parameters of a five-channel tape piece using serial operations to determine the location and movement of sounds (Fishman-Johnson 1993–4: 16–17);[3] and the works of composers associated with the Music for Magnetic Tape Project – John Cage, Earle Brown, Morton Feldman, David Tudor and Christian Wolff – who between 1952 and 1954 experimented with octophonic tape composition. For Cage, space represented another frontier in musical indeterminacy. He wrote, '[Sounds] enter the time–space centred within themselves, unimpeded by service to any abstraction, their 360 degrees of circumference free for an infinite play of interpenetrations' (Cage 1961: 59).

In conjunction with developing new sound spatialisation technologies, the Western musical avant-garde thus developed a new vocabulary of space in relation to musical forms and processes during the post-war period. This poetics was firmly grounded within Euclidean and Cartesian models of space, concerned with such elements as: the location of sound objects within three-dimensional space; the movement of sounds along sound routes or *trajectoires sonores*; the segmentation of (absolute) space for the purposes of serialisation; and the idea of time–space as an empty container wherein sounds can develop.

Here, the listening public was not necessarily imagined in active or productive terms, but more typically as receivers of spatial music, in line with conventional models of concert listening. However, the use of space as a compositional parameter drew attention to the fact that every listener has a unique experience of a given work depending on his or her position in the auditorium, and that a work cannot be fully appreciated outside of the particular, contingent situations of hearing. This awareness compelled compositional methodologies that accounted for many individual listeners instead of a single 'body' of listeners. The composer Henry Brant alluded to this in a 1955 article for the *American Composers Alliance Bulletin*:

> Spatial music must be conceived in accordance with the premise that there is no one optimum position in the hall for each listener … Spatial music must be written in such a way that the composer is able to accept whatever he hears as a listener, regardless of his position in the hall. (Brant 1955 cited in Brant 1967: 224)

Such an approach was contrary to dominant practices and discourses in electronic and computer music of the 1970s and 1980s, which considered

[3] According to Fishman-Johnson, Stockhausen 'devised a detailed spatial plan, which plotted out from what side of the hall the sound would come, how many loudspeakers would play at once, how sound would rotate, and if sound would travel or stay still' (Fishman-Johnson 1993–4: 16–17).

the concert hall as a single 'aggregate' space of experience (in the Euclidean sense of space). Similarly, although notions of public participation or audience interaction were not yet common in Western art music of the 1950s, for some composers the spatial distribution of sounds as a key compositional device could require them to account for the multiplicity of listening perspectives. This was an important step towards locating the value of a musical work not only within the abstracted medium of the score, but in the actual, experiential dimensions of listening.

Fluxed forms

The experimental thrust of the 1960s provided fertile ground for extended spatial imaginings within music; it coincided with the extension of music into intermedial forms that invited new relationships with audiences, especially the repositioning of audiences as co-creators of music. Cage's course on Experimental Composition at the New School for Social Research in 1958–1959 brought together future Fluxus luminaries – George Brecht, Dick Higgins, Allan Kaprow, Toshi Ichiyanagi and others – who proposed audience-interactive works that typically embraced an anti-elitist, everyday aesthetic. Minimalist Event scores transmitted instructions that could be realised by non-trained performers using commonplace materials, and often included audience participation in their scope:[4]

Concerto for Audience by Audience

The audience is invited to come to the stage, take instruments that are provided to them, sit on the orchestra seats and play for 3 minutes. If the audience does not respond to the invitation, instruments should be distributed to them. (Ben Vautier, 1965)

Fluxus Instant Theater

Rescore Fluxus events for performance by the audience. A conductor may conduct the audience-performers. (Ken Friedman, 1966)

In breaking down composer–performer–audience hierarchies Fluxus works also brought external, 'unwanted' sounds into the rarefied spaces of the concert hall. The instructions for Richard Maxfield's *Mechanical Fluxconcert*, for example, indicated that microphones should be placed 'in the street, outside windows or hidden among audience and sounds are amplified to

[4] These Event scores are reprinted in Friedman 1990.

the audience via public address system'. Thus, the sounds of the everyday environment, including sounds made by an 'everyday public', spilled into the auditorium, while commonplace activities with everyday objects carried out by non-specialist performers replaced specialised techniques, instruments and musicians as the tools for musical production.

Artists associated with Fluxus also spearheaded the conceptual turn of art and music in the 1960s, which ushered in extended concepts of space and spatiality. Yoko Ono's *Tape Piece II: Room Piece* from 1963, for example, stands a universe apart from tape music of the previous decade. Its score reads:

Tape Piece II
Room Piece
Take the sound of the room breathing.
1. at dawn
2. in the morning
3. in the afternoon
4. in the evening
5. before dawn
Bottle the smell of the room of that particular hour as well.

Here, Ono imagines a room as a living, 'breathing' element, the subject and source of the musical work rather than merely its context or setting. She asks the performer to listen to the room, not in order to ascertain its acoustic properties, but to hear (and capture) its breath, to document its existence as it unfolds over the course of a day. *Tape Piece II: Room Piece* proposes that space is not a static, absolute or empty construction, but that it evolves and has a 'voice' that also changes over time; the focus in this 'tape piece' shifts from the evolution of sounds inside a space to the evolution of the space itself.

The composer La Monte Young, who was associated with Fluxus in its early stages and who curated concerts of experimental music at Ono's loft during this period, similarly conceived of the *Dream House* (1962–ongoing) as having the potential to become a 'living organism with a life and tradition of its own' (Young and Zazeela 2000 (1968)). In its earliest incarnations the *Dream House* was a space wherein musicians (notably the Theatre of Eternal Music) could play continuously for extended periods of time. In its current manifestation it is presented as 'a time installation measured by a setting of continuous frequencies in sound and light' (see Young and Zazeela 2010). This environment is made up, in part, of magenta-coloured lights and hanging mobiles by the artist Marian Zazeela, as well as a dense,

synthesised drone composed of multiple sets of frequency intervals (all sine waves). According to one reviewer (Farneth 1996):

> Each sine wave vibrates in different parts of the room, so that the chord you hear changes as you move through the room. I like to sit on the floor in modified lotus position, tilting my head slowly back and forth, from side to side, to create my own melodies and sound textures. The visitor with an acute ear can actually 'play' the room like an instrument: explore the sound close to the wall, close to the floor, in the corners, or just standing still. Or lie on the floor and allow the sound to float you to heaven, slide you into hell, or transport you wherever you want to go.

Although the aural components of *Dream House* never vary, every turn inside the room results in a profoundly dislocating shift in the listener's perception of sound and space owing to the action of the room upon an otherwise 'static' sound. Again, the room is not an afterthought but a critical element of the composition, the source and place of the 'life' of the work.

Sound is sculpture

The influence of Fluxus upon emerging traditions of Performance Art and Conceptual Art is well known (see Lippard 1973; Friedman 1998; Higgins 2002); its footprints can also be found in the work of 1970s Bay Area artists whose work challenged traditional dichotomies between performance and sculpture. From December 1979 to February 1980 the San Francisco Museum of Modern Art hosted one of the first major exhibitions in the United States in which works with sound were prominently displayed or, rather, documented. *Space/Time/Sound: Conceptual Art in the San Francisco Bay Area, the 1970s* collected the work of twenty-one prominent Bay Area artists, tying together a number of practices under the common banner of conceptualism: site-specific installation, sculpture, performance and events. This was a daunting task, considering that most of these works no longer existed by the time of the exhibit's unveiling.

In her introduction to the exhibit catalogue, the curator Suzanne Foley (1981: 1) wrote that the SF MOMA 'had decided to include works of a temporal and ephemeral nature, [considering them to be] worthy of recognition'. Paradoxically, many of the works that Foley felt warranted this disclaimer had developed within sculpture traditions, although they closely resembled Fluxus performance. Some sculptures were particularly ephemeral, consisting of actions so incidental or brief that they would hardly warrant being framed as art under typical circumstances, much less as sculpture. In

Tom Marioni's 1969 *One Second Sculpture*, for example, the artist released a tightly wound piece of measuring tape into the air. The tape made a sound as it unfolded and landed on the ground in a straight line.

Other temporal sculptures lasted much longer, actions turned into ritual through their continuous repetition or extended duration. In his 1972 *Action for a Tower Room*, Marioni's frequent collaborator Terry Fox played the tamboura for six hours a day on three consecutive days, 'filling the space of a small, square, stone room at the top of a tower reached by winding stairs with a continuous, circular sound' (see Fox 1972). Fox claimed that the 'spatial sound' produced through his actions influenced the movement of a candle flame and made vibrations in still water.

When Foley gathered such works for *Space/Time/Sound*, her role shifted somewhat from curator to archivist since most of these works could only be shown through their residual documentation. A common criticism levelled at the exhibit was that there was 'no art there'. Charles Shore's review of the exhibit for the *Oakland Tribune*, for example, took issue with 'art which happens and then disappears. Except for its documentation' (Shore 1980: G32).

The most pertinent historical link between these Bay Area artists and Fluxus is perhaps Joseph Beuys, who participated in the proto-Fluxus concert *Neo Dada in Der Musik* in Dusseldorf in 1962, and who subsequently abandoned more traditional forms of sculpture in favour of ritualistic performances, *Aktionen*, many of which took shape as sound works. In a 1963 performance at the Galerie Parnass in Wuppertal, Beuys 'played the piano all over – not just the keys – with many pairs of old shoes until it disintegrated'. He claimed that his intention 'was neither destructive nor nihilistic. "Heal like with like" – *similia similibus curantur* – in the homeopathic sense. The main intention was to indicate a new beginning, an enlarged understanding of every traditional form of art' (Beuys 1990).

In 1967 Beuys co-founded the German Student Party, which was renamed Fluxus Zone West the following year. Like Cage, Beuys attracted an international group of students and artists to Dusseldorf, where he taught sculpture at the Kunstakademie. Fox learned of Beuys's activities through Fluxus publications and travelled to Dusseldorf in 1970. In David Ross's account (1992: 10), 'much of Beuys's work, like Fox's, had to do with energy transfer through the artist's ritual interaction with materials. Fox learned from Beuys that the residue of a ritual action could retain the aura of the event'. Upon Fox's arrival in Dusseldorf, the two artists collaborated on an impromptu work, *Isolation Unit* (4 October 1970), in a storage room at the Kunstakademie. As Fox (1982: 30) tells it, they worked 'simultaneously,

although independently, but frequently came together, particularly in relation to sound'. Over the course of six hours, the two used acoustic energy to 'connect' found objects:

> Beuys, clothed in a hat and felt suit, wandered around the room with a dead mouse in his hand. Later he spun the mouse on the spool of a tape recorder and used a silver spoon to eat a passion fruit, whose seeds he dropped with a bright, resounding tone into a silver bowl between his feet. Along with an electric light bulb, a candle, and a cross … Fox had two metal pipes of different lengths, which he banged against the floor and against each other, producing bell-like, pulsing sounds. He also knocked the pipes against the four panes of a dismantled window unit; by observing the resulting resonances, he found acoustically dead spots in the glass. Then, one after the other, he smashed the panes. Now he could reach through the window, grasp the candle behind it, and place it in the middle of the room. He tried to influence an open candle flame with the sound waves from the pipes. (Osterwold 1998: 17)

Through his interactions with Beuys, Fox came to understand his actions as 'plastic works that, extended in the temporal dimension, sculpturally form a situation and charge a space with energy and emotion in such a way that the visitors perceive its qualities as changed' (Osterwold 1998: 17). In Fox's performances, sounds are not considered musical but sculptural: tools with which to connect objects and transform spaces. Fox proposed that 'sound is sculpture', and stressed that his performances were geared towards discovering 'the limitless sculptural possibilities of sound' (Osterwold 1998: 18–19).

Sounds placed in space

The disciplinary transgressions proposed by Fluxus artists and conceptual artists working within expanded models of sculpture and performance were critical to the emergence of sound installation art, an intermedial art form that began to develop between music, sculpture, architecture and other disciplines from the late 1960s.

In 1967 an American percussionist named Max Neuhaus installed a series of radio transistors along the side of a non-descript road in Buffalo, New York. People who drove on this road found themselves privy to a rich combination of sine tones that emanated from their car radios for no apparent reason. The amplitude, frequency and duration of these tones changed according to weather conditions, the time of day and other environmental factors. In describing this work, which he called *Drive-in Music*, Neuhaus coined the term 'sound installation', distinguishing the genre from music

by indicating that in sound installations, sounds are 'placed in space rather than in time' (des Jardins 1994: 130).

Neuhaus's sound installations partly grew out of his experiences as a professional musician specialising in contemporary music:

> As a percussionist I had been directly involved in the gradual insertion of everyday sound into the concert hall, from [Luigi] Russolo through Varèse and finally to Cage who brought live street sounds directly into the hall. I saw these activities as a way of giving aesthetic credence to these sounds – something I was all for – but I began to question the effectiveness of the method. Most members of the audience seemed more impressed with the scandal than the sounds, and few were able to carry the experience over to a new perspective on the sounds of their daily lives.

In attempting to merge the newly adopted concert aesthetic of 'real-world' sounds with listeners' everyday experiences of these sounds, Neuhaus carried out a series of public listening walks between 1966 and 1976, which he called *LISTEN*. Audiences would arrive at a designated location, and Neuhaus would stamp the word 'LISTEN' on their hands and lead them outdoors to explore their everyday aural environments. Neuhaus explains that his interest in these walks was to 'refocus attention on sounds that we live with every day. I felt that perhaps the way to do this was not to bring the sounds in but to take the people out' (Neuhaus and Loock 1990).

Through these listening exercises Neuhaus hoped permanently to alter listeners' relationships to their everyday environments, by introducing them to a focused mode of listening that they could integrate into their daily lives. Neuhaus characterises his mode of listening during these walks as being so 'intense' that it transformed other listeners' own habits of hearing; he also imagined that this act of focused listening would result in hearing 'sound' rather than 'noise' and, concomitantly, transform a meaningless 'space' into a meaningful 'place'.

Neuhaus's listening walks emerged in parallel with, and are in some ways reminiscent of, similar practices associated with soundscape studies as proposed by R. Murray Schafer and others in the context of the World Soundscape Project. However, Neuhaus's concerns were primarily aesthetic, while the WSP emerged out of ecological concerns to do with documenting aural environments, raising awareness about noise pollution and preserving acoustic ecologies; the WSP concerns only later developed into a compositional practice (Schafer 1994 (1977)).

Neuhaus's sound installations grew out of his 'everyday listening' projects, which he extended into more permanent forms by installing sound works in everyday environments, often as anonymous interventions in public

spaces. In his best known work, *Times Square* (1977–92; 2002–ongoing), synthesisers housed in a chamber beneath a subway grater on a traffic island in Manhattan's Times Square produce a continuously evolving, multi-frequency drone.[5] There is nothing to announce the work; instead, Neuhaus hopes that listeners will accidentally discover it, and through their discovery find a new point of connection to a potentially impersonal cityscape.

Neuhaus explains that his first sound installations were created for a public at large: 'They were about taking myself out of the confined public of contemporary music and moving to a broader public, [I had] a deep belief that I could deal in a complex way with people in their everyday lives' (Neuhaus and Loock 1990: 58–9). Neuhaus thus reimagines the listening public as 'anyone who happens to listen' rather than those who seek out (and gain access to) specialised listening experiences. This has aesthetic consequences for Neuhaus, who must conceivably create meaningful listening experiences for an audience that is not limited to an elite or pre-selected group with predictable or aligned expectations; it also has consequences in terms of public engagement, since listeners must be attuned to their aural environments in order to notice or appreciate the work.

Listening bodies, social spaces

Since the late 1960s sound installation artists have increasingly incorporated listeners into the scope of a work. Some have even created works in which the listening body becomes the 'site' of a sound installation or sculpture. In Laurie Anderson's *Handphone Table* (1978), for example, sound is conducted through a listener's elbows, transmitting a barely audible recording directly into the body. Artists such as Maryanne Amacher and Bernhard Leitner have similarly created sound installations that position the body as a resonant space, inviting a 'full-bodied hearing' that challenges neutral or disembodied modes of listening (see McCartney 2004). Some of Amacher's installations produce what she calls a 'third-ear music', in which 'ears act as instruments and emit sounds as well as receive them' (Amacher 1999):

> [My audiences] discover music streaming out from their head, popping out of their ears, growing inside of them and growing out of them, meeting and converging

[5] See www.diacenter.org/sites/main/55 (last accessed 18 August 2012).

with the tones in the room … Tones dance in the immediate space of their body, around them like a sonic wrap, cascade inside ears, and out to space in front of their eyes, mixing and converging with the sound in the room.

The Austrian architect and sound artist Bernhard Leitner imagines that the 'boundaries of sound spaces can [go] through the body' and that 'space can extend into the body' (Schulz 2002b: 82). Leitner began investigations into 'body-space' and 'sound-space' relationships in the late 1960s, conceiving of their merger as an 'acoustic-haptic' space:

In October 1968, I laid down the base for my Sound-Space work: Sound itself was to be understood as building material, as architectural, sculptural, form-producing material – like stone, plaster, wood. The invention of spaces with sound, formerly inconceivable as a readily available material, was the central artistic motive. Sound and its movement define space. A new type of acoustic-haptic space. (Leitner, as cited in Ouzounian 2008: 187)

In Leitner's 1976 *Sound Chair* a listener rests on a reclining chair fashioned with speakers that project sound to different points along the body; de la Motte-Haber has commented of this work that 'space seems to be a movement that emanates from your own body, or flows through it' (de la Motte-Haber 1998). Leitner's 2003 CD *Kopfraüme (Headscapes)* presents sound sculptures (heard through headphones) that appear to form inside the space of the listener's head, as though that space was an empty geometrical volume. For Leitner, 'entirely new concepts of space open up through extended hearing, through bodily hearing' (Schulz 2002b: 82), a comment that illustrates the idea that spatialities and modes of perception are inextricably tied. In the case of body-based sound installations, not only are new modes of listening and new spatialities imagined, but the location of the work also shifts to the individual listener herself, since these works cannot function outside a listener's particular engagement with them.

This model of body-as-site is an important step towards critical models that account for the listening body as a productive element of space, where space is understood not only as a physical quantity but also as a production that includes the body and social action within its scope. Until the 1970s the term 'space' was used almost exclusively in order to describe Cartesian and Euclidean space. With *La production de l'espace* (1991 (1974)), the French Marxist philosopher Henri Lefebvre helped to launch a notion of space as a social construction. He wrote (1991 (1974): 2):

Not so many years ago, the word 'space' had a strictly geometrical meaning: the idea it evoked was simply that of an empty area. In scholarly use it was generally

accompanied by some such epithet as Euclidean, isotropic, or infinite, and the general feeling was that the concept of space was ultimately a mathematical one. To speak of 'social space', therefore, would have sounded strange.

Lefebvre outlined a 'conceptual triad' underlying the production of space: *spatial practice*, 'which embraces production and reproduction, and the particular locations and spatial sets characteristic of each social formation'; *representations of space*, 'tied to relations of production and to the "order" which those relations impose'; and *representational space*, 'embodying complex symbolisms, sometimes coded, sometimes not, linked to the clandestine or underground side of social life, as also to art' (Lefebvre 1991 (1974): 33). Lefebvre famously encouraged clandestine spatial practices such as squatting and illegal immigration, practices that support the 'right to space' of all people regardless of social status. Perhaps most critically, Lefebvre's writing embraced the idea that spatial practices can be constructed and deconstructed, reflected upon and resisted through social action, and that artistic practices could also operate within this model.

Critical spatial practices

Many contemporary discourses on 'spatial sound', including those common in computer music, continue to privilege Euclidean and Cartesian conceptions of space and are focused upon the technical aspects of locating sound within three-dimensional space. However, a number of sound installation artists have challenged this model, inviting audiences to consider Lefebvre's proposition that space is a social product and not an absolute or hegemonic quantity that exists outside of material reality or lived experience.

In developing critical spatial practices, sound artists have imagined new interactions with their publics, creating works for specific audiences who have particular relationships with, or interests in, the places in which these works reside. Such works are not only site-specific in terms of their physical or geographical location; they are also specific to the publics who engage and interact with them, and are intended for a 'localised public' whose social composition is as central to the work as any other compositional element.

The Finnish artist Heidi Fast, for example, has created several 'social sound sculptures' for communities in different parts of Helsinki.[6] In *A Nightsong Action* (2006) she invited the residents of apartment buildings surrounding Hesperia Park, a sprawling urban park, to join her in a 'vocal course'

[6] An in-depth reading of the work of Heidi Fast appears in Ouzounian 2009.

through the park. Her hand-delivered letters of invitation instructed residents to meet her at a specified time and place and walk with her through the park while making vocal sounds, in order to 'diversify human voice in our common, public urban space' (Fast 2006):

> I will walk along Hesperia Park and sing a long and even tone. Answer me with your own voice, from your window or balcony (or your neighbour's) when you hear my voice, or come down to the street and sing with me! Sing with your voice until you no longer hear the others, or continue for as long as you wish.
>
> The point of *A Nightsong Action* is not to strive for the clarity or beauty of the voice. You can (and should, if you wish) join it with very hoarse or clear singing, with whispers or shouts that 'become' from your throat.

Approximately a dozen people participated in the walk, while others joined in with vocalisations from their apartment windows or simply watched. For Fast this work did not have any 'special meaning or function … it was an un-function in a way'; she recalls that participants were at times self-conscious in that the action 'did not involve singing collective songs, but just making [meaningless sounds]'.[7] The work's 'un-functionality' was part of its critical perspective, in that it offered a radical view of how collective song might emerge within a public forum. The sounds of *A Nightsong Action* were not the patriotic songs that are typically heard in public gatherings, songs that serve to further a dominant conception of national identity. Instead, they were non-linguistic sounds that were not necessarily coherent and could not be reduced to a single model of collective identity.

In another work from 2006, *Song of the Dwellings*, Fast invited the residents of an apartment building to vocalise with her while walking up and down the building's central staircase. About thirty people participated, including residents who opened the doors to their apartments during the event. In a way that recalls Neuhaus's *LISTEN* project, *Song of the Dwellings* invited audiences to form new relationships to familiar places through a renewed connection to sound. Fast's work extends Neuhaus's proposition by asking participants not only to listen to their everyday environments, but also to create sounds in and through them, an act that draws attention to the 'voices' of the places the participants inhabit and to their roles in constructing these voices (and by extension, places). Fast considers her work to be 'political', although in a way that entails only 'small displacements'. The use of sound is critical in this context:

[7] Interview with the author, unpublished, 2008.

> The voice – or sound in general – is not divisible into parts that can be controlled or quantified. Sound is not easily delimited. This is political, even though it may not be visible. My essential goal is to establish small islets that deal with multiplying the power in us, or in a nonhuman world. That is, to resist the violent praxis in society through intensities other than strong or powerful resistances: to ruffle and round the edges between interior and exterior, to open up the in-between. (Fast 2007)

The Anishnabe Canadian artist Rebecca Belmore has similarly used sound and voice in articulating a critical spatial practice, one that presents alternative modes of social and political exchange within public forums. Much of Belmore's work, including her 1991 sound installation *Ayumee-aawach Oomama-mowan: Speaking to Their Mother*, holds particular weight for the Native Canadian communities who were its intended audience.

Belmore created *Ayumee-aawach Oomama-mowan* in response to the Oka Crisis, a much-publicised land dispute between the Canadian government and the Mohawk community at the Kanesatake settlement near Oka, Quebec. The stand-off, which lasted through the summer of 1990, was triggered by a bid by the town of Oka to develop a golf course over native burial and sacred grounds and the rejection of a land claim filed by the Mohawk community. Belmore's installation consisted of a giant, two-meter-wide megaphone that was designed to carry the voices of native speakers directly to the land; she claimed, 'Protest often falls upon deaf government ears, but the land has listened to the sound of our voices for thousands of years' (Lippard 1997: 15). Belmore describes the genesis of this work as follows:

> During the summer of 1990, many protests were mounted in support of the Mohawk Nation of Kanesatake in their struggle to maintain their territory. This object was taken into many First Nations communities – reservations, rural, and urban. I was particularly interested in locating the Aboriginal voice on the land. Asking people to address the land directly was an attempt to hear political protest as poetic action. (Belmore 1991)

Belmore's project to 'locate the Aboriginal voice on the land' is striking in that it creates room for marginalised voices to emerge within a contested political sphere, and allows these voices to embody the tensions figured in the conflict itself, by engaging directly with the land. The 'audience' in this installation is not the typical one for political protest (i.e. the government), or even the communities that are invited to interact with it; it is the land itself, which, through the mere act of 'being spoken to', is reconstituted as a living entity and not an object that can be owned or occupied.

In one instance, Belmore installed *Ayumee-aawach Oomama-mowan* in a meadow in the Rocky Mountains, as part of the exhibition *Between Views* at the Banff Centre (an arts institution in Alberta, Canada). Lucy R. Lippard (1997) describes this exhibit in her excellent treatise on site-specific art, *The Lure of the Local: Senses of Place in a Multi-Centered Society*:

> For an exhibition about nature and tourism, Belmore organized an eclectic gathering of Native Canadians – leaders, writers, poets, social workers and activists – who spoke to their mother earth from an alpine meadow in the Rockies. The huge megaphone symbolized public address, carrying amplified Native voices far and wide. Self-determination and land rights were primary themes, but they were couched in the empowering language of celebration … Mowhawk Elizabeth (Toby) Burning said through the megaphone: 'You are our reason for continuing our resistance against development, and standing up for our language and for our past, because we are you.' Belmore's work is a way of healing assimilation, her forced estrangement from her own culture. A place in culture is a place to speak from. (Lippard 1997: 15)

Ayumee-aawach Oomama-mowan: Speaking to Their Mother shifts the location of a public forum from the centres of power to remote areas, and as such reclaims the political worth of marginal (and marginalised) places. The installation draws attention to the uneven modes of exchange that determine who speaks, who listens and where; it shows that the place of political exchange is integral to that exchange, that the positions of political actors cannot be divorced from the 'place(s) from which they speak'.

The curator Jolene Rickard, who later included *Ayumee-aawach Oomama-mowan* in an exhibit at the Smithsonian's National Museum of the American Indian in Washington DC, wrote that she found it to be 'one of the most significant expressions of sovereignty beyond political boundaries' (Rickard 2006). I would support the idea that the very scope of 'political boundaries' is redrawn in Belmore's installation: not only is the place of politics multiplied and diversified, and the boundary between the powerful and the marginalised complicated, but the dimensions of political communication are no longer limited to the sense of language. Here, the sound of political speech is as important as meaning, as is the unique ability of sound to bypass dominant modes of political containment and confinement.

Charlotte Townsend-Gault has described Belmore's work as blurring the distinction between 'an aesthetics and ethics':

> Native artists in Canada over the past two or three decades have been expected to be embodiments of tradition, seers, perfect spiritual beings, and all-purpose spokespersons for the moral high-ground. This proved an untenable guide for reading

native art and the hermeneutics has moved on. Yet it is exactly the precariousness of their position, caused by the tangle of aestheticised politics and desire, which certain artists of native ancestry like Belmore … contrive to make compelling … [It] becomes evident that for her there is no sharp divide between aesthetics and ethics. (Townsend-Gault 2002)

The spatial practice that is embodied in Belmore's work is at once poetic and political, aesthetic and ethical, drawing upon marginalised social histories and voices in creating alternative expressions of place and public space.

Conclusion

Sound installation artists have profoundly reconceptualised the meaning of 'spatial sound' and its ability to reflect multiple dimensions of social and political life. In the 1950s electronic spatial music projects were predominantly concerned with articulating sonic geometries within three-dimensional space: routing sound objects along Cartesian grids at different speeds and angles, positioning masses and planes of sound within Euclidean space. Since that time, myriad influences ranging from experimental music and conceptual art traditions to expanded forms of sculpture and architecture have contributed to what has become a critical sonic–spatial practice: one that is concerned not only with the 'composition' of acoustic space, but with the confluence of acoustic, political, social and public spaces.

As sound installation traditions move from articulating poetic to critical concerns, theoretical discourses must also reflect these shifts. Rather than investigate the location of sounds within three-dimensional space, our questions should extend towards critical realms: how are spaces constructed, socially and politically? How do spatially organised sound works reflect and resist these constructions? What is the role of the public in shaping these forms? In developing such critical perspectives, the sonic–spatial imagination is reoriented from absolute to experiential realms, from universal to particular ones, with social identities and political histories newly implicated in creating alternative spatial expressions and relationships to place in and through sound.