

ALVIN LUCIER'S MUSIC OF SIGNS IN SPACE

Stuart Marshall

Consider how the notion of space has developed in the visual arts since the mid-1960s. Sculptural articulation of three-dimensional space has been supplemented by environmental art, body art, performance space, conceptual space, installation — the list could be enormous. In a sense space has been seen to play no part in music (at least by the composer). Western music has traditionally demanded a repression of space: most music is performed for an audience who are all in the same seat. To a certain extent music performance must address itself to the performance space but only to subjugate its specificities — a 'bad' concert hall is one that irrepressibly asserts its own presence. Conductors attempt to de-emphasise the acoustic characteristics of particular auditoriums in order to attain a kind of acoustic norm appropriate to the kind of music being played. This may involve the repositioning of instrumental sections and the moderation of notated dynamics if, for example, the brass section is over-emphasised by the resonance of the space. But this extremely important spatial parameter is unnotated by the composer and in this sense is extra-musical. It falls outside the musical code. Most music is spatially non-specific in notation and spatially asignifying in performance (in that performance aspires to an acoustic norm).

The music of Alvin Lucier makes a marked break with this tradition. Although his first 'environmental' works were contemporary with the rise of environmental art, I know of no direct visual art influence on his work of that time. Nevertheless his music made use of the very factors that were to become the most obvious problems of environmental/land art. By locating their work at a great distance from their audience (the exigencies of space) many environmental artists were forced to present their work as documentation in the gallery, eventually leading one to wonder just which (and where) the work was. Lucier's *Quasimodo* (1970), which uses an enormously expanded performance space, actually employs separation as its theme — it evokes the distance itself. Similarly his work about spaces other than the audience space (for example *I Am Sitting in a Room*) uses documentation — tape recording — to overlay and interrelate spaces and to explore the specificities of the audience space. In this sense his work has more in common with the installation which articulates the gallery space.

Lucier's music parallels the rethinking and redefining that has taken place in the visual arts. A few examples may illustrate its range. *Whistlers* (1967) and *North American Time Capsule* (1967) — extra-terrestrial space; *Chambers* (1968) — scale change and exchange of acoustic space; *Hartford Memory Space* (1970) and *The Duke of York* (1971) — memory space; *The Bird of Bremen Flies through the Houses of the Burghers* (1972) — computer simulation of phantasy spaces.

I have chosen to describe two of Lucier's spatial themes in depth. The first is the acoustic articulation of the performance space and the construction of sound 'geographies' within it. Several of the pieces have been realised as installations and here is an overlap with the work of some installation artists. For example, Dennis Oppenheim's *Castings* uses very similar spatial themes to Lucier's *Outlines*. The second is memory/psychic space involving notions of the subject's representation in and by language and, as Nancy Kitchel has put it, 'The

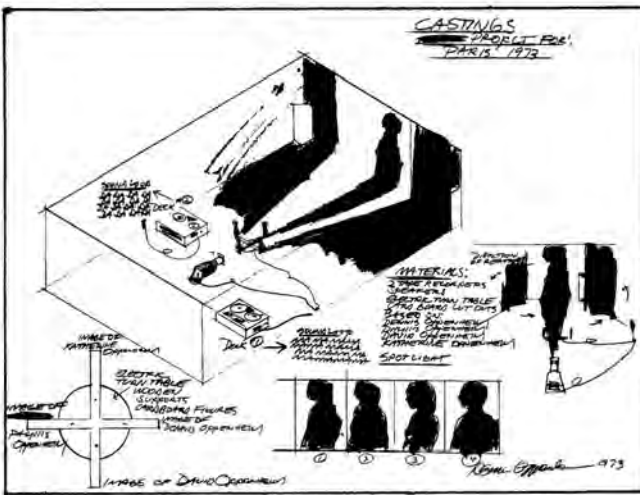
fragility of the boundaries that make one entity separate from another...the inviolability of them. Extending my boundaries, physical and mental, to encompass, assimilate, control others. Internalization as a method of assimilating others.'

Roselee Goldberg has convincingly argued that the development of notions of extended space in the visual arts have stemmed from the influence of conceptual art, but this has not been the case with Lucier. Although I agree with her that the 'coming-together of dancers, musicians and artists... and the resulting cross-fertilisation of concepts and sensibilities makes it difficult for those wishing to relocate the categories',¹ in Lucier's case an extended comparison of music and art could degenerate into a gratuitous game of free-association and mask the actual influences on his music. For instance, his development of musical spatial codes — his interest in the environment — was not prompted by a desire for grandiose sites, a return to the land (the influence of ecology) or for works of enormous scale, but rather by his concern with acoustic communication and the history of music semantics. Musical space and musical semantics are inextricably tied together in all his work.

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Without entering into all the convolutions of semantic theory it is possible to describe the course of Western music as a gradual slide towards asignification. This has been brought about by an increasing concentration on instrumental music (it should not be forgotten that the majority of the world's music has been, and is, vocal or vocal/instrumental), by the loss of emblemization so evident in the music of the Middle Ages and many non-Western musics, and by the slow elimination of the symbolics of the instrument and its symbolic role in performance.

Experimental music has most certainly been addressed to this situation on occasions, but most new music has continued the general trend. The fascination with composition was continued in *Musique Concrète*, where iconic signs were placed in a 'formal' musical structure to produce a peculiar tension between code and sign. Cage's musical philosophy was concerned with a metaphysics of presence and a denial of semiosis: '...discovering means to let sounds be themselves rather than vehicles.'² Paradoxically his music uses systems so complex as to efface their own presence to 'order' richly iconic signs (sound effects, amplified bodily processes) along with instrumental and electronic sounds.

Lucier is one of the few composers who have questioned the very nature of the musical message. His desire for a richly semiotic music led him to a study of bio-acoustic communication. Much of his work is modelled on the codes and semantics of animal communication which in turn have led him to their necessary corollary — the environment in the sense of the pragmatics of space (survival space, ecospace) both as signified and signifying. 'An animal sound message contains a minimum of two types of information. The first intrinsic part indicates the presence of an individual of the species, his spatial position, and, in a number of species (birds and porpoises among others), individualisation... The second part of the message... may also contain information relative to the milieu, such as localisation of an individual, an object, a territory or a predator.'³



Dennis Oppenheim Castings 1973

Vespers (1968) and *Quasimodo the Great Lover* (1970) are two of Lucier's works explicitly modelled on the codes and semantics of animal communication. 'I became envious of the prodigious sound-sending-and-receiving acuity of these creatures and began searching for ways to enable myself and others to participate in it.' The titles of these pieces are derived from the animal species whose communication systems provide these models. 'The title *Vespers* was chosen for the dual purpose of suggesting the dark ceremony and sanctifying atmosphere of the evening service of the Catholic religion and to pay homage to the common bat of North America of the family Vespertilionidae.'

Quasimodo is based on the 'songs' of the Humpback Whale, one of the most vocal of marine mammals. *Vespers* is a live performance work primarily concerned with the echolocation signification of space. A performance takes place in darkness using SONDOLS (SONar DOLphins), small echolocation devices which produce a highly directional hard sound pulse the repetition rate of which can be varied manually. These pulses function analogously to the clicks used by flying bats for spatial orientation and food detection. By virtue of their broad frequency spectrum and short duration they are ideal carriers of acoustic information such as frequency modulation, formant frequency activation and reverberation. Comparisons made between the acoustic characteristics of the outgoing pulses and the returning echoes allow for perception of the form and substance of the obstacles or surfaces which are echoed off. If the pulse speed is adjusted to the point at which pulses and echoes alternate periodically, the surface being scanned appears to vibrate — to emit sound itself. Performers make their way slowly through the performance space to a predetermined point using the acoustic information to avoid obstacles (survival) and provide scanning sound 'photographs'. All conventional musical gestures such as improvisation of rhythm are rejected. 'During the rehearsals it became clear that any personal preference as to speed, duration, texture, improvisation — and musical ideas based on past experience — served only to interfere with the task of echolocating and made coherent movement difficult or impossible.' Musical codes are replaced by a communicational code. Syntactic structuring is dictated by the exigencies of sound measuring. Pulses are placed between echoes, and silences are required to avoid acoustic clutter which masks an individual's echo trains. The work is totally space-specific in notation, as it is the environment itself which is 'read' as the score.

The signs used in *Vespers* are extraordinarily rich. The sounds emitted are non-semantic, rather like the material non-semantic second articulation of language (the phonemic



Nancy Kitchel *Exorcism* 1973

'The video-tape documents the acquisition on my own face of physical characteristics of another woman whose memory became an intrusive element in a relationship and made me feel as if I were in competition with her for the attention of the man I lived with. After making my face into hers, the re-establishment of my own appearance over her's, eliminating her's. The voice-over relates thought processes leading to the physical transformation. A conflict interrupts the process — in acquiring her face, I also acquire her anxiety about her identity — A mental struggle to myself necessitates a return to a period in memory when my identity was secure.

The notebook contains journal entries leading up to the making of the video-tape, establishing a sense of kinship with her as well as a personal necessity for the piece; tension studies (drawings and diagrams for the purpose of discovering the location of tension points in her face so that I could later concentrate tension into that area of my face); notes for and on the piece; text for the video-tape and photographs of the process of acquiring her physical and psychological characteristics and symbolically ridding myself of them and her.'

level), their purpose being to bear information which is imprinted by the environment. 'Sounds used as messengers.' At this first stage they do exhibit indexicality as the directional beam points towards what is to be signified. On their return they are richly iconic signs carrying information which is decoded by means of the processes of acoustic perception. Although human beings constantly decode such aspects of acoustic information — the proximity of a speaker as signified by relative loudness, for example — they remain unnoticed unless they form one of the signs which constitute a perception clash. A common instance of this is the film or television distance shot of a speaker, which is accompanied by a 'close-up' sound recording. *Vespers* purposefully foregrounds such non-conscious aspects of the acoustic message to provide an extremely powerful, familiar yet new, sound image. The score for the piece is verbal and consists of a description of the performer's task and the principles of echolocation.

Quasimodo, dedicated to the double bassist Bertram Turetzky, is written for 'any person who wishes to send sounds over long distances, through air, water, ice, metal, stone or any other sound-carrying medium, using the sounds to capture and carry to listeners far away the acoustic characteristics of the environments through which they travel.' The work not only deals with signification at a distance but also with the signification of distance. 'The transmission channel, even when considered as homogenous, is not inert, and it plays a role in signal structure or its perception...'⁴ To enable a performer to communicate vocally over great distances, enormous amplification and directionality must be produced electronically. (The songs of Humpback Whales can be heard at a distance of several miles

and certain marine mammals can echolocate bays and coastlines at great distances).

This is achieved by means of chained microphone/amplifier/loudspeaker systems deployed through the space to be activated. The performer should 'sing or whistle or play any large or small musical instrument' through the first amplification stage. A remote microphone detects this amplified sound, and this second booster stage broadcasts to a third and so on. The chain finishes with loudspeakers in an auditorium located at a distance from the performer great enough to allow the sounds to travel for a minimum of one second through acoustic space.

Again musical codes are replaced by communicational codes. The notation describes how the performer can construct a sign repertoire modelled on the acoustic sign system of whales. These are structured in sets 'in which each event within a set is subject to gradual, repetitive and cumulative variation with respect to pitch, timbre, amplitude, envelope or any other aspect of sound and time, in order to amplify in time the relationship between the original sound event, its change and the environment through which it travels.' Performance duration, as in *Vespers*, is dependent upon the length of time required to fully explore and articulate the acoustic environment in order to provide a detailed sound description.

Quasimodo and *Vespers*, like the majority of Lucier's work, present great notational problems. Neither can be performed in a detached 'professional' manner but require the performers to understand and carry out extremely complicated tasks. They must learn to consciously listen to what they normally hear non-consciously. Both scores explain the works in terms of responsibilities and aims appropriate to the goal-oriented nature of the performance activity. Both scores also provide a kind of textual realisation in the form of phantasy performances using the same principles of communication.

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The Only Talking Machine of its Kind in the World (1969) is Lucier's first speech piece which uses his own speech characteristic — a sometimes pronounced stutter — as material. It is also the first work to deal with the signification of memory space and psychic space and with the role of language and desire. The piece is for stammerer and a tape delay playback system consisting of a large number of tape machines, which are arranged in a network branching away from the speaker. Speech, when recorded through this system is increasingly repeated as it passes through more and more replaying tape machines which carry the speech towards the audience. Lucier's concern is with the transgression of the linguistic code and the appearance of extra-linguistic signifiers within speech ('the fracture of a symbolic code which can no longer "hold" its (speaking) subjects...'; '...the speaking subject as subject of a heterogeneous process...' Julia Kristeva).

The work uses anxiety about public speech: '...while everybody does not stutter, I think everyone has a certain amount of anxiety about speech. I've met a lot of people whom I don't think stutter but they think they do.' The performer is to talk about 'things that are intimate enough that they change your psychological state.' Lucier is considering stutters as psychically overdetermined signifiers, resulting from repressed unspoken signifiers interfering with intended speech and irrupting as compromise formations and as transgressions of the systematicity of the linguistic code. They are an instance of what, in Julia Kristeva's terminology, is describable as the presence of the geno-text within the pheno-text — that moment of transgression which challenges the illusory wholeness of the transcendental subject. They mark the operations of the primary processes of the unconscious and of desire, and reveal a heterogeneity within the signifying process — the infringement of the code from which the subject derives pleasure. These signifiers are

repressed because of their history, their significance for the subject as associations with repressed material. 'That's interesting because it's a mapping, it's a history of yourself... I can now treat the substitutions that my speech produces as historical, even of my own particular lifetime but sort of tracing responses or associa-, the whole fabric of how a word has sort of lived...and is continuing to live in my mind.'

The tape delay system throws the performer's speech back at him/her repeatedly, as an analogue of the primary process of the compulsion to repeat which is also realised within the stammers themselves. The tape system also operates as an analogue of the relations between the psychic systems as it re-transcribes signs⁵ as traces⁶ until, in this case, obliteration is reached through the superimposition of rewritings. The speaker's verbal signs are degenerated until they become incomprehensible, and a texture of rhythmic sound is formed from the almost mechanical articulation of the stutter. Histories are decomposed and speech is returned to phonation, to the drive to utter.

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'I am sitting in a room different from the one you are in now. I am recording the sound of my speaking voice and I am going to play it back into the room again and again until the resonant frequencies of the room reinforce themselves so that any semblance of my speech, with perhaps the exception of rhythm, is destroyed. What you will hear, then, are the natural resonant frequencies of the room articulated by speech.

I regard this activity not so much as the demonstration of a physical fact, but more as a way to smooth out any irregularities my speech might have.'

I am Sitting in a Room (1970), Lucier's second major speech work, occupies a kind of nodal position for these earlier works. The making of the piece necessitated the use of tape, and although live versions are possible (I heard of a 24-hour version performed in San Francisco) the definitive version is Lucier's own tape recording. This is Lucier's only extant work for magnetic tape as he has always been a great protagonist of live performance. The piece was made by recording the spoken text in a room, playing it back into the room through loudspeakers and repeating the operation until the situation described in the text has come about. The work was instigated by a demonstration of a loudspeaker, which was designed to take the resonance and acoustics of the reproduction space into account, and also by Lucier's observation of the behaviour of public speakers. Experienced speakers will often move about in a space, attempting to find a position in which flattering components of their speech are amplified by resonance and optimum voice-projection is attained. The space is used as an acoustic mirror which can be distorted for self-flattery. The resonance frequency of a space is excited when a sound produced within it corresponds in wave length to one of the dimensions of the room. Constructive interference of these sound waves leads to their amplification and predominance over other frequencies present within the exciting sound. Any space will therefore amplify certain components of sound and dampen others. By recycling a sound event through this room/filter amplified components will be greatly re-amplified and dampened components further suppressed.

I am Sitting in a Room uses verbal signs both to describe the process of the piece and as raw material, as a sound event on which the environment can leave 'its mark'. The connection with the sound signs of *Vespers* is obvious: 'it's like the bat piece, I didn't want the input to have much of interest about it semantically.' There is a slow shift from the semantics of verbal signs to the semantics of iconic signs, from arbitrary signs to motivated signs. A co-extensive shift takes place between the specificities of Lucier's speech — his stammering — and the specificities of the room's

acoustics, its acoustic signature. 'I'm not interested in these resonant frequencies of spaces in a scientific way as much as I am in opening a secret door to the sound situation that you experience when you are in a particular room.' The shift is a curious one, as verbal meaning persists long after the speech sounds have been degraded to the point at which a latecomer finds them incomprehensible. As in *Vespers*, there is a slow foregrounding of aspects of acoustic communication which are usually perceived non-consciously as attention is slowly directed from the speech act to its context. (In a sense every speech act bespeaks the state of the oral cavities, its immediate environment, proxemic information etc).

The work relates to *The Only Talking Machine* in that both works are concerned with operations upon Lucier's speech characteristics. Whereas in *The Only Talking Machine* these are nullified by their constant repetition, in *I Am Sitting in a Room* they are smoothed away in a gentle catharsis. It is in this sense that the first work is dedicated to those 'who believe in the healing power of sound.'

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Although Lucier's work is usually described in the context of electronic music his pieces are never about electronics per se. 'I don't care particularly much about circuitry or things of that kind but I do care about what electronics can do for me to help me touch people.' His synthesizer works never use the sound-producing modules - the instrument is used in its capacity as sound processor, its ability to change a sound's parameters.

The Duke of York (1971) and *The Re-Orchestration of the Opera 'Benvenuto Cellini'* by Hector Berlioz (1974) are two of Lucier's rare works for synthesizer, and the notion of synthesis is central to both. They relate strongly to the first speech piece in their concern with memory space (in this case phylogenetic) but also demonstrate a new attitude towards acoustic messages. In this case a vocal utterance is considered in aggregate as an indicator, a subcategory of the identifier signs. '...the means by which a person...may be definitely recognised.'⁷ *The Duke of York* is scored for vocalist and synthesist(s). The vocalist either with or without the collaboration of the synthesist prepares a repertoire of vocal utterances, samples of the acoustic messages of various vocal identities, and orders them chronologically or according to their temporal relations within the memory. If this is done without the help of the synthesist, the synthesist prepares his/her own repertoire. The vocalist's score may take the form of texts, records, tape-recordings of the original utterances. A performance requires the vocalist to speak, sing, etc, his/her repertoire into a microphone which is connected to loudspeakers via the synthesizer. If the performance is collaborative, the synthesist attempts to modify the vocal sounds to match his/her remembrance of them. If the performance is non-collaborative, s/he modifies the sounds to simulate the vocal identities of his/her repertoire. A key requirement of the work is that no change on the synthesizer can be rescinded. Consequently as the piece progresses, superimpositions are made and a synthesis of vocal identities is formed.

Lucier intends the work to have many phantasy correlations - the tracing of ancestries, hidden family ties and ancient liaisons. 'It seems to me quite possible that all the things that are told to us today in analysis as phantasy... were once real occurrences in the primaevial time of the human family.'⁸ Synthesis not only takes place between successive identities but also between the performers' remembrances of the vocalist's or each others' chosen identities. The piece strongly emphasises the phatic function of music and provides an opportunity for the mediation of externalised phantasies. His idea that the piece may provide the possibility of making manifest the kind of latent phantasy links and

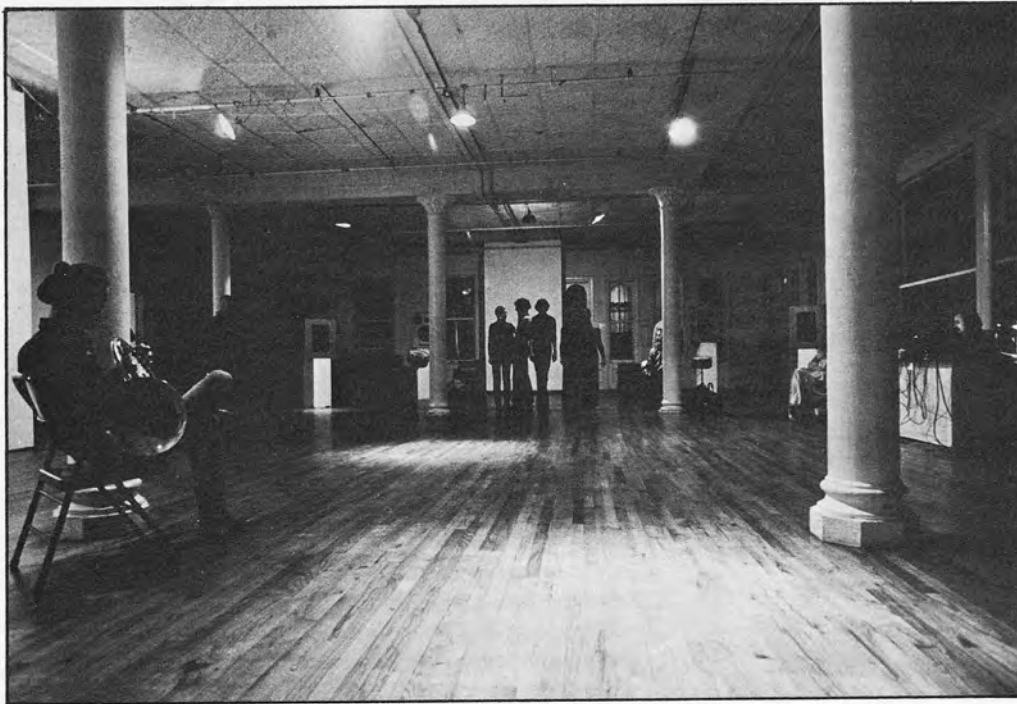
thoughts that he describes explains the work's requirement of synthesis. The synthesis that takes place imitates the unconscious mechanism of condensation - one of the means by which dream thoughts can escape censorship. The work is in fact a massive condensation producing a 'collective figure'.⁹

The Re-Orchestration of the Opera 'Benvenuto Cellini' by Hector Berlioz, again concerned with phylogenetic memories, is of a much more personal nature, tracing 'coincidences' in the lives of Berlioz and Lucier. The synthesis, again made by means of a synthesizer, is of a taped recording of Berlioz's opera and Lucier's speech. 'Resonances' between Berlioz's 'music as idealised speech' and Lucier's voice are established by means of the vocal control of resonance, filtering and envelope shape.

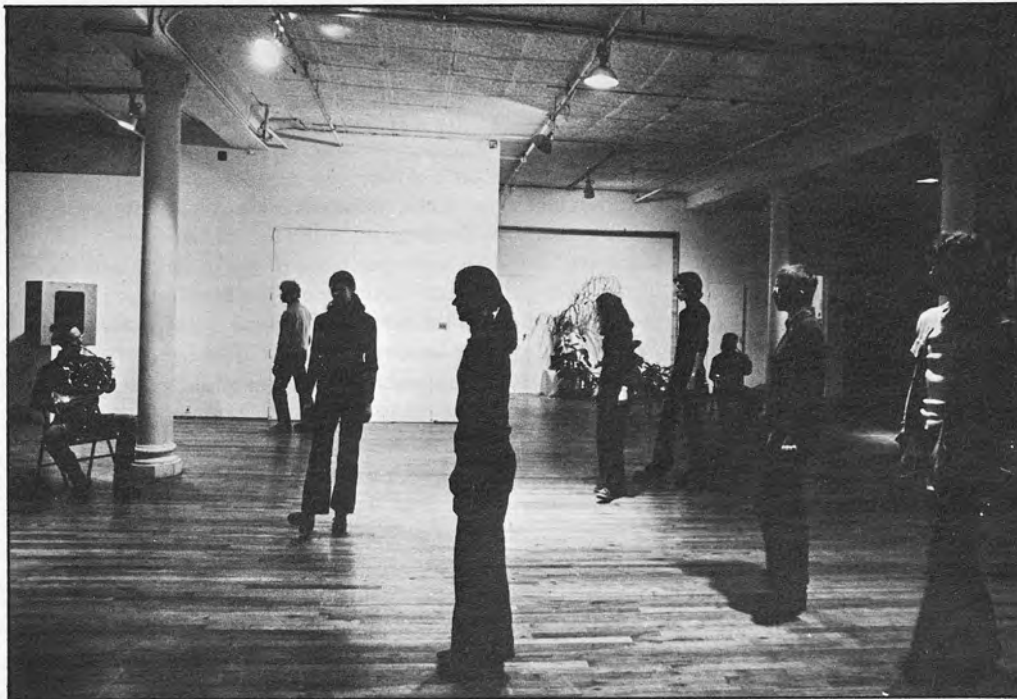
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Lucier's most recent work has markedly shifted emphasis from the signification of pre-existing spaces to the construction of complex sound geographies, all of which involve elements of dance. Since 1973 he has been musical director of the Viola Farber Dance Company and this working involvement has led him even further away from the notatable work realisable without the composer's presence. These pieces all to a great extent involve acoustic perspective, mapping and superimposition. *Still and Moving Lines of Silence in Families of Hyperbolas* (1973-4) and *Outlines* (1975) of persons and things, use acoustic phenomena that are particularly difficult to describe, and as far as I know the former piece, although performed many times, is still unnotated. Structuring in the musical or even communicational/syntactic sense of the ordering and combining in time of musical signs has been replaced by a concentration on the temporality of sound structures. 'Composition' has become irrelevant as he has turned his attention to 'the unleashing of natural phenomena that have to have their own time to develop.' He has recently remarked that he has replaced the composer's expending of effort in composition by a desire to understand acoustic phenomena. 'John Cage looks at all the possibilities and then subjects...them to chance operations. That to me is artifice, and I don't want to do that...now I'm thinking of the physical sounds...I just want to understand how they will hit an object and reflect around or...diffract around and I want to use that. So while I'm not dealing with sounds in superimposed systems, which makes composing hard, I'm trying to deal with the physical realities of sound which is... the hardest thing of all.'

Still and Moving Lines of Silence begins from the phenomenon of standing waves and resonance first used in *I am Sitting in a Room*. It has many versions but the 'simplest' one, which is the basis of all others, is realised with sine wave generators, amplifiers and loudspeakers. A standing wave is produced in a space when a tone is played which corresponds in wavelength, by a simple whole number relationship, to a dimension of the space. Constructive interference takes place and the sound wave stabilizes, dividing the space into stationary troughs and crests of pressure. These can be perceived on moving through the space as increases and decreases in loudness. If the sine waves is played through two loudspeakers these lines form hyperbolas due to a phase effect between the speakers. This version is used with the Viola Farber Dance Company to provide a kind of sound terrain within which the dancers orient themselves. Extreme control must be achieved and accurate calculations made in order to ascertain which pitches to use in which spaces. This presents enormous problems as reflections of sound within the space complicate the theoretical calculations. Minutely untuning one sound source throws the stable phase pattern out and the hyperbolas of pressure lines move in elliptical patterns,



**Still and Moving Lines of
Silence in Families of Hyperbolas**
1973-4. Three stages in the
performance at the Kitchen,
New York, February 1975.



Mary Lucier

Lucier's most recent work poses important questions about the relationship of the subject to music as a signifying practice. It focuses attention literally on the *position* of the subject. In no sense can an audience member be considered the mere passive recipient of musical meaning. In these pieces the stress on the articulation of perception makes the subject active as the place where musical meaning is created. Everything is in motion and no one can perceive the work as totality. This is a new notion of musical temporality which is intrinsically linked to musical space.

Discography

North American Time Capsule (1967). CBS Odyssey Records 32 16 0258, and Music of Our Time Series S 34-60166.
Vespers (1968), Mainstream MS/5010.
I Am Sitting in a Room (1970), SOURCE Record 3.
The Duke of York (1971) and *Bird and Person Dying* (1975). CRAMPS Records, to be released 1976.

All unnumbered quotes are either from Lucier's notations, a series of interviews with Douglas Simon or personal communications.

- 1 Roselee Goldberg, 'Space as Praxis', *Studio International*, Sept/Oct 1975, p.130.
 - 2 John Cage, *Silence*, Calder and Boyars, London, p.80.
 - 3 Rene-Guy Busnel, 'Acoustic Communication', in *Animal Communication*, ed. T. Sebeok, Indiana University Press.
 - 4 Ibid.
 - 5 'I am working on the assumption that our physical mechanism has come about by a process of stratification: the material present-at-hand as memory traces is from time to time subjected to a restructuring in accordance with fresh circumstances – it undergoes, as it were, a re-transcription. Thus what is essentially new in my theory is that memory is present-at-hand not once, but several times over, that it is registered or deposited in various species of signs.' S. Freud, *Standard Edition* 1, pp.233-8, Letter 52,1896.
 - 6 See J.Derrida, *L'écriture et la différence*, Seuil, Paris, Collection 'Tel Quel'.
 - 7 C.Morris, *Writings on the General Theory of Signs*, The Hague, Mouton.
 - 8 S. Freud, *S.E.* XVI, p.371.
 - 9 'There is another way in which a "collective figure" can be produced for the purposes of dream condensation, namely by uniting the actual features of two or more people into a single dream image.' S. Freud, *The Interpretation of Dreams*, The Pelican Freud Library, p.400.
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