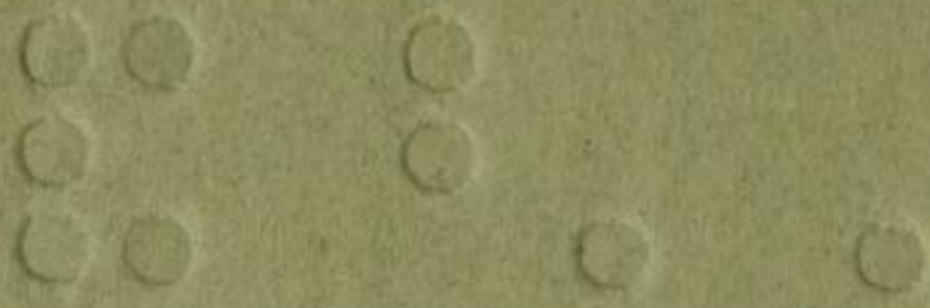


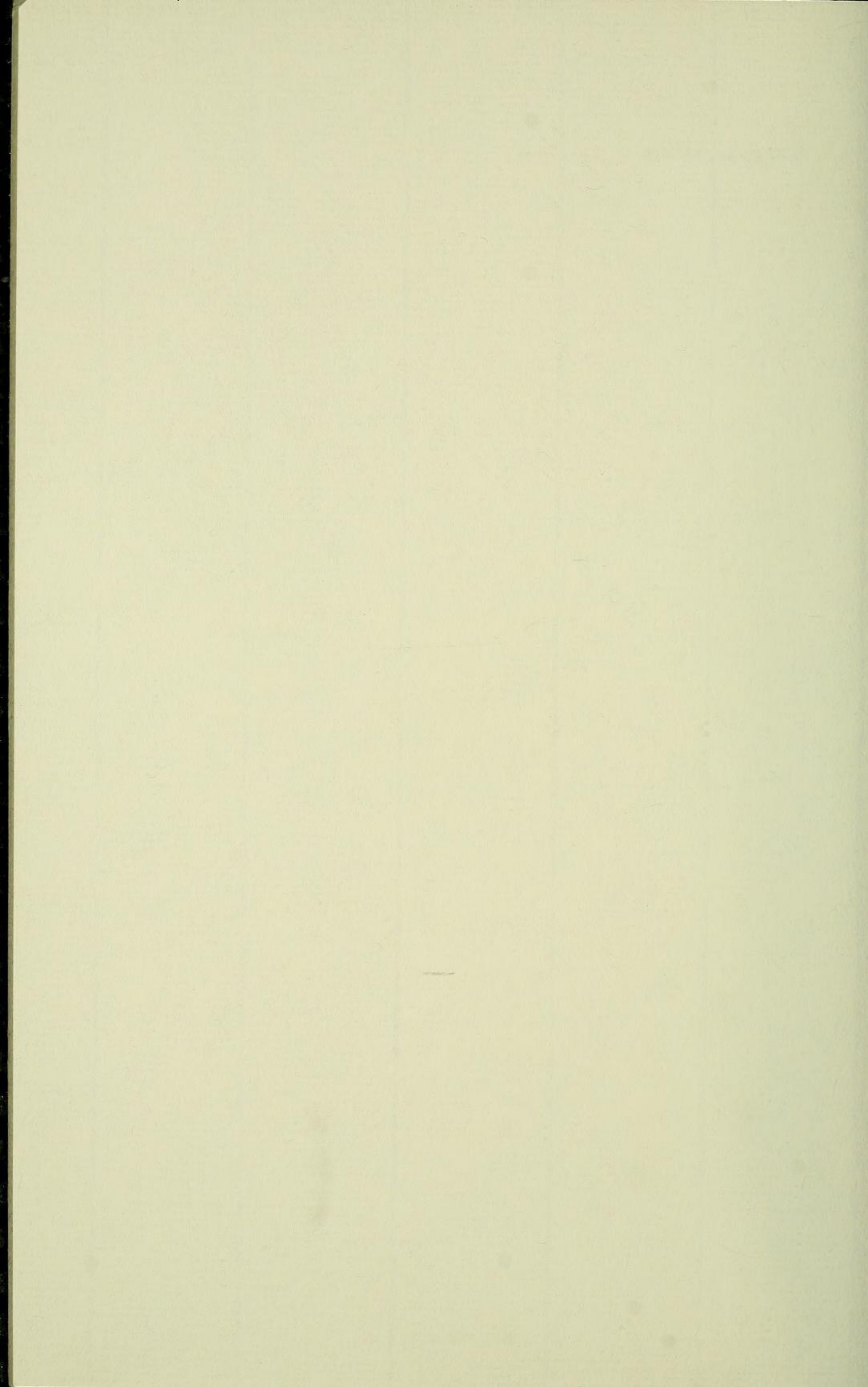
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Sound by Artists



Sound by Artists

Edited by Dan Lander and Micah Lexier

Published by Art Metropole and Walter Phillips Gallery

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for Douglas, Jan, Lynn, Richard and Sheila

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Preface

Braille was chosen for the cover of this anthology, as it reflects many of the issues surrounding both the form and content contained within. Braille focuses our attention on the non-visual aspects of perception and in this book the superiority of sight over all other senses is brought into question.

One of the ways in which Braille is used is to communicate, in tactile language, material that originated in written language. The Braille on the cover alludes to the various aspects of translation that pervade the entire publication. At its most basic the very act of writing about sound is an act of translation. Translation of an idea from one language to another is a difficult enough process, but to transcribe, recreate or describe the quality of a sound, or a delicate mix of sounds, poses a larger problem.

As editors, we were also concerned with the practical issue of translating, among other things, sound installations and multi-layered tape-works into a book-page format. Although the relationship between a spoken word and its written equivalent is tenuous, they do share an idea that can be conveyed. But how does one translate a recording of the ambience of a particular room? If we accept that it is the idea that is translated, then how do we decide what is the idea of a particular sound? The contributors to this anthology have contended with this issue in a variety of ways.

Braille is used by unsighted people, who define their spatial relationship to the world through sound. This notion of a heightened sensitivity to sound (what Rudolf Arnheim called 'blind hearing') is an example of the state to which many of the authors in this anthology would have us aspire.

Micah Lexier

Introduction

The desire to compile this anthology was driven by the noticeable lack of information and critical analysis regarding an art of sound. Although there has been an abundance of activity centred around explorations into sonic expression, there is no sound art movement, as such. In relation to artists' works, sound occupies a multitude of functions and its employment is often coupled with other media, both static and time-based. As a result, it is not possible to articulate a distinct grouping of sound artists in the way one is able to identify other art practices. As the reader will discover, the ideas and projects put forth between the covers of this book are diverse and at times at odds with one another. The contributors included span many disciplines: critic, curator, writer, composer, video artist, installation artist, visual artist, performance artist and some more aptly described as sound, audio or radio artist. *Sound By Artists* is a collection of information pertaining to a disparate art form, presented in the hopes of stimulating dialogue.

The terms experimental music and sound art are considered by some to be synonymous and interchangeable. In fact, it is difficult to identify an art of sound precisely because of its historical attachment to music. Although music *is* sound, the tendency has been to designate the entire range of sonic phenomenon to the realm of music. With the introduction of *noise* – the sounds of life – into a compositional framework tending towards the ephemeral and avoiding the referential, artists and composers have created works based on the assumption that all sounds uttered are music. Futurist Luigi Russolo, envisioning an all-inclusive music, states in *The Art of Noises: Futurist Manifesto* (1913) that:

We want to give pitches to these diverse noises, regulating them harmonically and rhythmically. Giving pitch to noises does not mean

depriving them of all irregular movements and vibrations of time and intensity, but rather assigning a degree or pitch to the strongest and most prominent of these vibrations. Noise differs from sound, in fact, only to the extent that the vibrations that produce it are confused and irregular. Every noise has a pitch, some even a chord, which predominates among the whole of its irregular vibrations.¹

Noise is considered by Russolo for its expressive musical qualities *only* and not for any other significant meaning(s) that it may hold. Here, we have a definition of music that considers all (organized) sound *as* music, limiting the possibilities for an art of sound autonomous from the structures and presuppositions traditionally attached to musical composition and reception. The imposition of a 'musical template' onto the sounds that otherwise, in a day to day context, have meanings *other* than musical ones, leads us to a dead end conclusion: all sound is music. In defense of a music autonomous from noise, Chris Cutler, drummer and critic has written:

But if, suddenly, *all sound* is 'music,' then by definition, there can be no such thing as sound that is *not* music. The word music becomes meaningless, or rather it means 'sound.' But 'sound' already means that. And when the word 'music' has been long minted and nurtured to refer to a *particular* activity in respect of sound – namely its conscious and deliberate organization within a definite aesthetic and tradition – I can see no convincing argument at this late stage for throwing these useful limitations into the dustbin....²

The 'useful limitations' that constitute and enrich a musical art practice, restrain and limit an art of sound. The stripping away of meaning from the noise of our world constitutes a refusal – fetishizing the ear, while ignoring the brain – to engage ourselves in dialogue with the multiplicity of meanings conveyed by the sounds we produce, reproduce and hear. If a critical theory of sound (*noise*) is to develop, the urge to 'elevate all sound to the state of music,' will have to be suppressed. *Noise* – your lover's voice, a factory floor, the television news – is ripe with meaning and content distinguishable from the meaning and content of musical expression. It is *this* content that constitutes any possibility for an art of sound.

Recorded sound, like the photographic picture, is a form of representation and whether the method employed is optical film, magnetic tape or digital sampling, recording is fundamental to the devel-

opment of the audio arts. Although photography, for which theories of representation are well established, preceded that of sound recording, a theory of phonography (recorded sound) has yet to emerge. In fact, the process involved in both media is similar. A mechanical instrument is used to collect data which is edited, then manipulated and finally presented as a finished work of art, conveying a particular point of view and revealing the political and social attitudes of its author. And yet, compared to the visual arts, for which theories of representation are well developed and refined, phonography, as a form of cultural and social representation, exists in a vacuum, devoid of any substantial critical discourse.

With the introduction of relatively inexpensive tape recorders, microphones and signal processing instruments, recording has become accessible. However, general usage of tape recorders remains limited to two passive acts: recording and playing back previously recorded music. By contrast, most people use their camera as a tool for documenting their family, friends, travel and other activities, not as a duplication machine to copy other photographs. Furthermore, what one sees when looking at their photographs is self-generated and self-referential: you were there. Listening to a recording (even one that you have made yourself) of pre-recorded music amounts to nothing more than the selection of a cultural product that exists with or without your 'participation.' The potential of the microphone/tape recorder is boundless – compact, battery operated, inexpensive and readily available – as an instrument for artistic and social expression. Any social or private activity that emits sound can be recorded. Can you imagine placing an LP on the turn-table that contains the sound of your first words, your grandfather's diary or the sounds of the social function that you attended last weekend? As William S. Burroughs points out, you could:

record your boss and co-workers analyze their associational patterns learn to imitate their voices oh you'll be a popular man around the office but not easy to compete with the usual procedure record their body sounds from concealed mikes the rhythm of breathing the movements of after-lunch intestines the beating of hearts now impose your own body sounds and become the breathing word and the beating heart of the organization the invisible brothers are invading present time the more people we can get working with tape recorders the more useful experiments and extensions will turn up....³

Artists whose works are specifically constructed for recording tape are aware of the possibilities brought about by the inherent properties of the medium. Contrary to other art forms such as painting and sculpture, sound recordings are not bound to a fixed space; and through duplication, multiples can be distributed, allowing the work to be heard at various sites and at various times. Furthermore, what the listener hears is not a representation of the work, but the *work itself*. In fact, like bookworks, many listeners can be in possession of the actual artwork and, over time, gain an intimacy with the work that is impossible with traditional art forms. Given the fact that play-back systems are so abundant, and cassette tapes and postage so affordable, artists working with recorded sound have, at least theoretically, the potential to reach a wide and diverse audience autonomous from the institutions and bureaucracy associated with the contemporary art museum system.

Of course, another form of distribution is radio, which would seem to offer an unlimited space in which an art (of radio?) could proliferate. However, radio, as we have come to know it – ‘don’t touch that dial’ – is already full of itself. Baudrillard states that:

in terms of the medium the result is space – that of the FM frequency – which is saturated with over-lapping stations, so that what was once free by virtue of there having been space is no longer so. The word is free, but I am not; the space is so saturated, the pressure of all which wants to be heard so strong that I am no longer capable of knowing what I want. I plunge into the negative ecstasy of radio.⁴

Contemporary radio is a state-controlled medium, ever moving, always full, offering brief interludes of nostalgic re-runs from its mythical ‘golden era’ and attempting, endlessly, through its smooth and icy voices, to inform us of the mundane. Radio has been co-opted as a tool for the dissemination of state and corporate ideology. As a medium, radio is underdeveloped because it refuses to recognize the perpetration of its self-defined limitations. Like television, radio is a stagnant technology. Unless access to radio is gained, we may never come to realize its implementation as a vehicle for cultural expression and dissension. If radio were to become a space where imagination, experimentation and chance-taking could occur, the numerous possibilities that the medium may hold might begin to bear fruit. Although there are practitioners of radio art, the conditions governing the medium make tenuous the realization of an art of

radio: the self-conscious casting out of disembodied objects, ephemeral and tangible in the same breath.

If a sound liberation is to occur it will mean confronting the meaning(s) of the noise we produce, challenging the context of its reproduction and transmission, and engaging in an active, rather than passive, investigation of sound recording technologies.

Dan Lander

July, 1989

Notes

1. Luigi Russolo, *The Art of Noises* (New York: Pendragon Press, 1986).
2. Chris Cutler, 'Editorial Afterword,' *Rē Records Quarterly*, Vol.2, No.3 (London: 1988).
3. William S. Burroughs, *The Ticket That Exploded* (New York: Grove Press, 1987).
4. Jean Baudrillard, *The Ecstasy of Communication* (New York: Semiotext(e), Foreign Agent Series, Autonomedia, 1988).

The Future of Music: Credo

John Cage

The following text was delivered as a talk at a meeting of a Seattle arts society organized by Bonnie Bird in 1937. It was printed in the brochure accompanying George Avakian's recording of my twenty-five-year retrospective concert at Town Hall, New York, in 1958.

I BELIEVE THAT THE USE OF NOISE

Wherever we are, what we hear is mostly noise. When we ignore it, it disturbs us. When we listen to it, we find it fascinating. The sound of a truck at fifty miles per hour. Static between the stations. Rain. We want to capture and control these sounds, to use them not as sound effects but as musical instruments. Every film studio has a library of 'sound effects' recorded on film. With a film phonograph it is now possible to control the amplitude and frequency of any one of these sounds and to give to it rhythms within or beyond the reach of the imagination. Given four film phonographs, we can compose and perform a quartet for explosive motor, wind, heartbeat, and landslide.

TO MAKE MUSIC

If this word 'music' is sacred and reserved for eighteenth and nineteenth century instruments, we can substitute a more meaningful term: organization of sound.

WILL CONTINUE AND
INCREASE UNTIL WE REACH A MUSIC PRODUCED THROUGH THE AID
OF ELECTRICAL INSTRUMENTS

Most inventors of electrical musical instruments have attempted to imitate eighteenth and nineteenth century instruments, just as early automobile designers copied the carriage. The Novachord and the Solovox are examples of this desire to imitate the past rather than construct the future. When Theremin provided an instrument with genuinely new possibilities, Thereminists did their utmost to make the instrument sound like some old instrument, giving it a sickeningly sweet vibrato, and performing upon it, with difficulty, masterpieces from the past. Although the instrument is capable of a wide variety of sound qualities, obtained by the turning of a dial, Thereminists act as censors, giving the public those sounds they think the public will like. We are shielded from the new sound experiences.

The special function of electrical instruments will be to provide complete control of the overtone structure of tones (as opposed to noises) and to make these tones available in any frequency, amplitude, and duration.

WHICH WILL
MAKE AVAILABLE FOR MUSICAL PURPOSES ANY AND ALL SOUNDS THAT
CAN BE HEARD. PHOTOELECTRIC, FILM, AND MECHANICAL
MEDIUMS FOR THE SYNTHETIC PRODUCTION OF MUSIC

It is now possible for composers to make music directly, without the assistance of intermediary performers. Any design repeated often enough on a sound track is audible. Two hundred and eighty circles per second on a sound track will produce one sound, whereas a portrait of Beethoven repeated fifty times per second on a sound track will have not only a different pitch but a different sound quality.

WILL BE EXPLORED.
WHEREAS, IN THE PAST, THE POINT OF DISAGREEMENT HAS BEEN BETWEEN
DISSONANCE AND CONSONANCE, IT WILL BE, IN THE IMMEDIATE FUTURE,
BETWEEN NOISE AND SO-CALLED MUSICAL SOUNDS.

THE PRESENT METH-
ODS OF WRITING MUSIC, PRINCIPALLY THOSE WHICH EMPLOY

HARMONY AND ITS REFERENCE TO PARTICULAR STEPS IN THE FIELD OF SOUND, WILL BE INADEQUATE FOR THE COMPOSER, WHO WILL BE FACED WITH THE ENTIRE FIELD OF SOUND.

The composer (organizer of sound) will be faced not only with the entire field of sound but also with the entire field of time. The 'frame' or fraction of a second, following established film technique, will probably be the basic unit in the measurement of time. No rhythm will be beyond the composer's reach.

NEW METHODS WILL BE DISCOVERED, BEARING A DEFINITE RELATION TO SCHOENBERG'S TWELVE-TONE SYSTEM

Schoenberg's method assigns to each material, in a group of equal materials, its function with respect to the group. (Harmony assigned to each material, in a group of unequal materials, its function with respect to the fundamental or most important material in the group.) Schoenberg's method is analogous to a society in which the emphasis is on the group and the integration of the individual in the group.

AND PRESENT METHODS OF WRITING PERCUSSION MUSIC

Percussion music is a contemporary transition from keyboard-influenced music to the all-sound music of the future. Any sound is acceptable to the composer of percussion music; he explores the academically forbidden 'non-musical' field of sound insofar as is manually possible.

Methods of writing percussion music have as their goal the rhythmic structure of a composition. As soon as these methods are crystallized into one or several widely accepted methods, the means will exist for group improvisations of unwritten but culturally important music. This has already taken place in Oriental cultures and in hot jazz.

AND ANY OTHER METHODS WHICH ARE FREE FROM THE CONCEPT OF A FUNDAMENTAL TONE.

THE PRINCIPLE OF
FORM WILL BE OUR ONLY CONSTANT CONNECTION WITH THE PAST.
ALTHOUGH THE GREAT FORM OF THE FUTURE WILL NOT BE AS IT WAS IN THE
PAST, AT ONE TIME THE FUGUE AND AT ANOTHER THE SONATA, IT
WILL BE RELATED TO THESE AS THEY ARE TO EACH OTHER:

Before this happens, centers of experimental music must be established. In these centers, the new materials, oscillators, turntables, generators, means for amplifying small sounds, film phonographs etc., available for use. Composers at work using twentieth century means for making music. Performances of results. Organization of sound for extra-musical purposes (theatre, dance, radio, film).

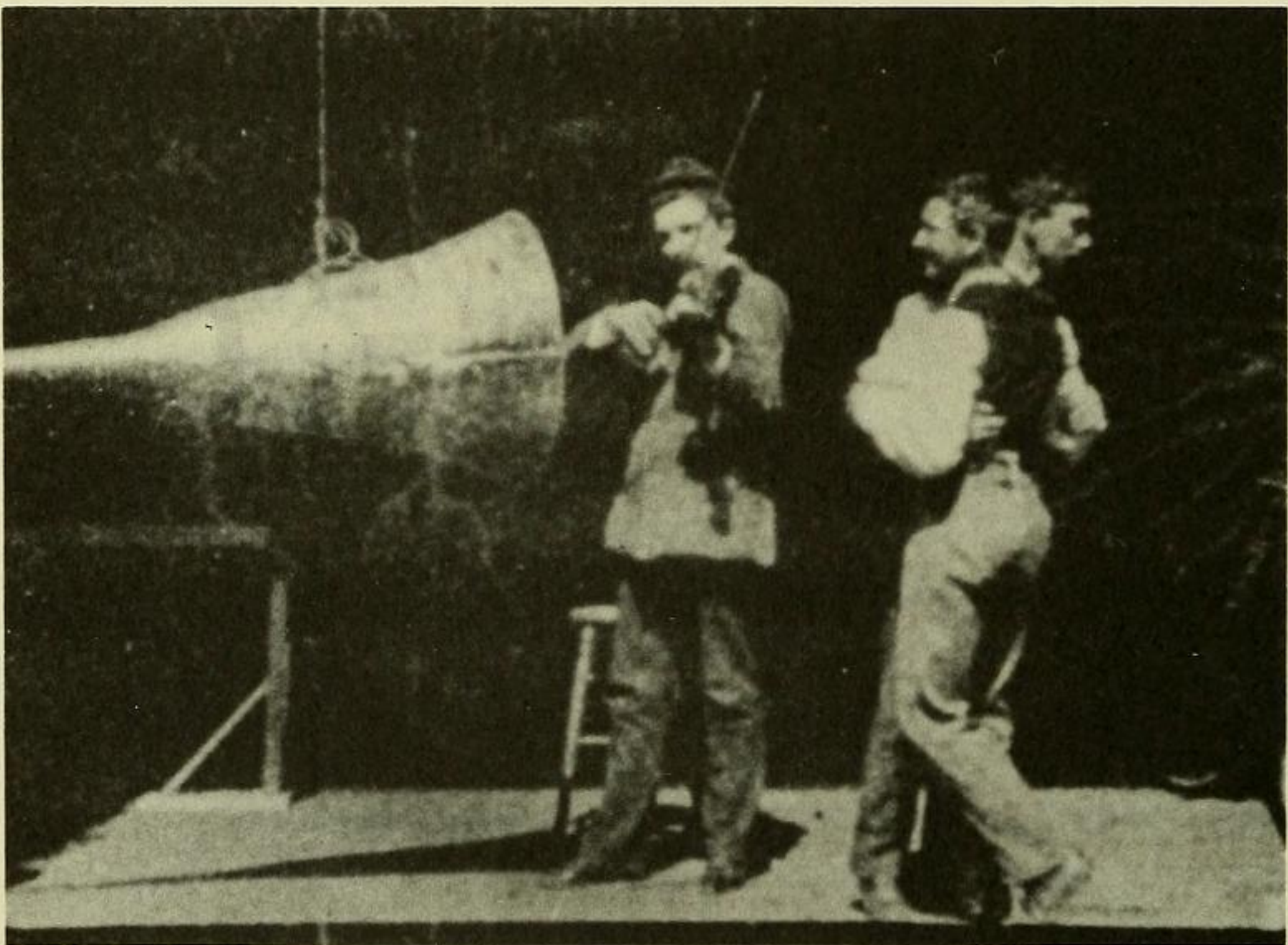
THROUGH THE
PRINCIPLE OF ORGANIZATION OR MAN'S COMMON ABILITY TO THINK.

.....
It was a Wednesday. I was in the sixth grade. I overheard Dad saying to Mother, 'Get ready: we're going to New Zealand Saturday.' I got ready. I read everything I could find in the school library about New Zealand. Saturday came. Nothing happened. The project was not even mentioned, that day or any succeeding day.

M.C. Richards went to see the Bolshoi Ballet. She was delighted with the dancing. She said, 'It's not what they do; it's the ardor with which they do it.' I said, 'Yes: composition, performance, and audition or observation are really different things. They have next to nothing to do with one another.' Once, I told her, I was at a house on Riverside Drive where people were invited to be present at a Zen service conducted by a Japanese Roshi. He did the ritual, rose petals and all. Afterwards tea was served with rice cookies. And then the hostess and her husband, employing an out-of-tune piano and a cracked voice, gave a wretched performance of an excerpt from a third-rate Italian opera. I was embarrassed and glanced towards the Roshi to see how he was taking it. The expression on his face was absolutely beatific.

A young man in Japan arranged his circumstances so that he was able to travel to a distant island to study Zen with a certain Master for a three-year period. At the end of the three years, feeling no sense of accomplishment, he presented himself to the Master and announced his departure. The master said, 'You've been here three years. Why don't you stay three months more?' The student agreed, but at the end of the three months he still felt that he had made no advance. When he told the Master again that he was leaving, the Master said, 'Look now, you've been here three years and three months. Stay three weeks longer.' The student did, but with no success. When he told the Master that absolutely nothing had happened, the Master said, 'You've been here three years, three months, and three weeks. Stay three more days, and if, at the end of that time, you have not attained enlightenment, commit suicide.' Towards the end of the second day, the student was enlightened.

This essay was previously published in *Silence: Lectures and Writings*, by Wesleyan University Press, Middletown, 1973.



Thomas Alva Edison, *Kinetophone Film*, ca. 1889.
Photo: Edison National Historic Site.

Soundings

Suzanne Delehanty

At the beginning of this century, sounds began to reverberate through the once silent and timeless world of the plastic arts. It was as if musical instruments, hushed for centuries behind the window of Renaissance art, suddenly stirred and resounded. How could it be otherwise? The melodies of Edison's phonograph, the roar of the automobile, the wireless wonder of Marconi, the smashing of the atom and Einstein's theory of relativity had ushered in a new age. Artists, always the first to perceive the essential changes in the world around us, set out to give form to the spirit of the new era. For some, the utopian possibilities of technology and the machine became a primary source of inspiration. For others, imbued with the idealism of the nineteenth-century Romantics and Symbolists, the dream of an integration of all the arts offered refuge and salvation from the looming edifice of science and technology. This dream emerged from its slumber beneath the rational materialism of the last century to shatter the Renaissance concept of art as a silent and timeless mirror of nature and to release an art that is an equivalent of reality, a separate realm.

Sound, gathered from the space around us by our skin and bones, as well as by our ears, is inextricably bound to both our perception and experience. Human thought is manifested in word and speech, while emotions such as joy and sadness are expressed in song and lament. The sound of sea, wind and rain never cease to renew our awe of nature. Ambient sound, or the sound that surrounds us, gives us a sense of our proper bodily location in space. Noise, random or unwanted sound, often alerts us to impending events and to danger or else merely jangles our nerves. By contrast, sound ordered by the human mind – and exceptionally by chance – is music, a celebrated human accomplishment. The absence of sound is silence, the unknown: inaudible voices have always been meta-

phors for the visions of mystics and for the revelations of an invisible world beyond our ken.

Sound, both heard and unheard, offered the first Modernists at the opening of the century a means to present their revolutionary ideas about the nature of the work of art, the artist and the spectator. During the nineteenth century, the views of the Renaissance were transformed by the Romantics and the Symbolists, who came to doubt the truth of pure sensory perception. For them, art was not a study of nature, as the Realists and Impressionists maintained. Rather, art was the creative power of the word, the Logos, out of which all things were made in the beginning: it was the power to create, borne out of inspired originality. In 1859, in *The Mirror of Art*, Charles Baudelaire, the last Romantic poet and the first Modernist, declared:

It is Imagination that first taught man the moral meaning of colour, of contour, of sound, and of scent. In the beginning of the world it created analogy and metaphor.¹

With Baudelaire the work of art shifted from the world of Renaissance illusion, the factual description of objective reality, to a new and third realm that mediated between the outer world of phenomena and the inner world of the spirit. Through the 'magical operation' of the imagination, in Baudelaire's view, artists became creators who could stir new responses in the beholder. Artists were no longer merely skillful delineators of the visible world, they were now the creators of, and guides to, a completely new realm. This mystical role of the artist was echoed by the Dadaist Hugo Ball in his diaries written between 1910 and 1921:

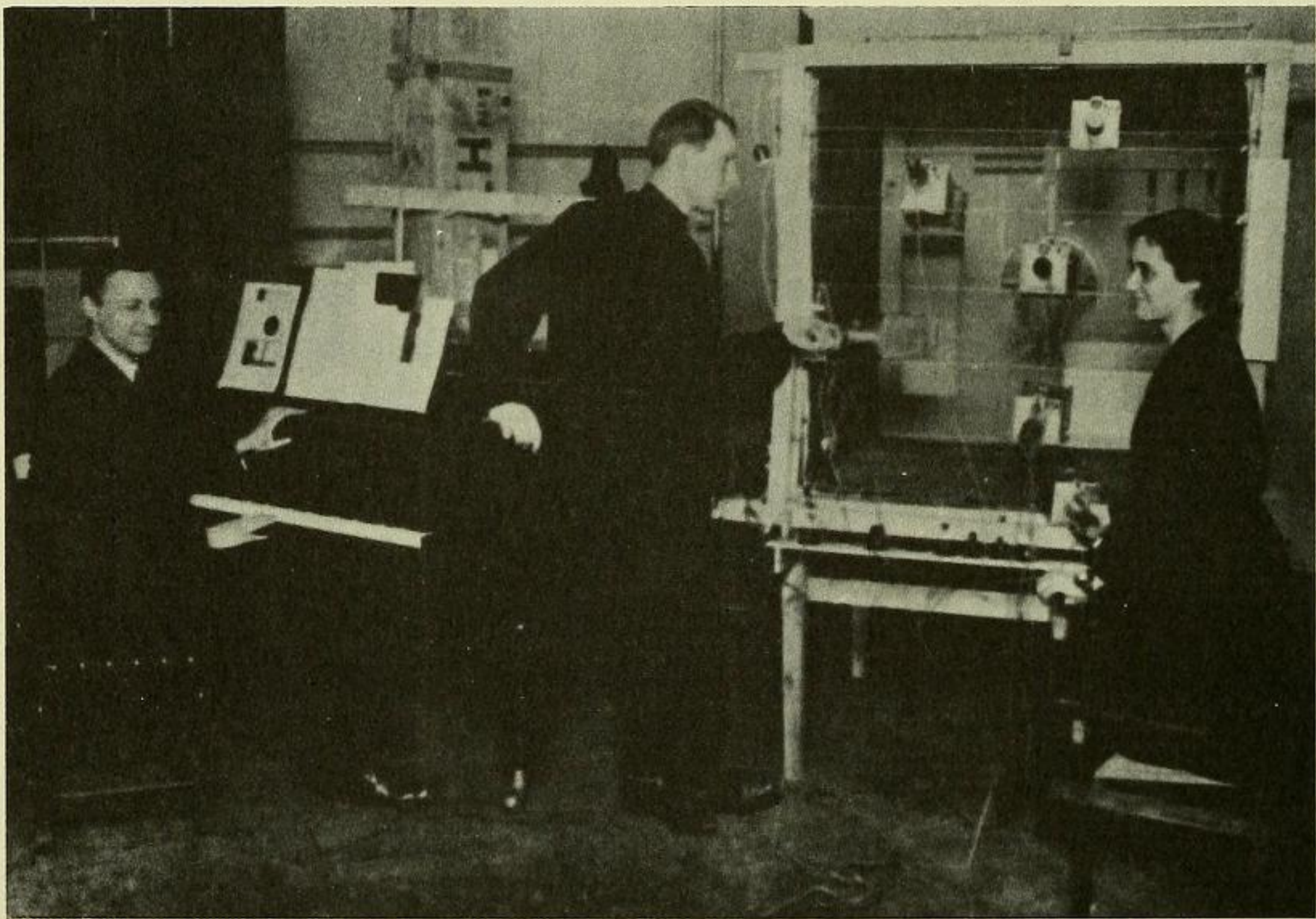
When we said Kandinsky and Picasso, we meant not painters, but priests; not craftsmen, but creators of new worlds and new paradises.²

In this new realm charted by Baudelaire and explored at the end of the nineteenth century by the Symbolist poets and painters, sound in all of its manifestations became a vehicle for the advanced artists of the day to cultivate new paradises. Through sound and music artists not only banished the old separation between the artist and the onlooker, they also broke down the old boundaries among the various forms of art. For some of these pioneers music became a metaphor for the ideal they sought and it led to abstraction in art; other artists and composers invented new sounds or took sounds from the

everyday world as material from which they might forge their new realm. Sound, music, noise and even silence were temporal and therefore allowed the first Modernists to present the twentieth century's concept of time and space as a vital continuum in which the artist and the viewer and the subject and object of art were merged.

Temporal, immaterial and abstract, noble since antiquity, music held out to the first Modernists a paradigm of abstraction. Their yearning to mediate between the world of phenomena and the world of the spirit led them to music and to the creation of non-objective art in the twentieth century. To the ancient Greeks, painting and sculpture were respected skills, or craft, while music, with its power to reveal the hidden order of the cosmos and to affect the soul and actions of mankind, was an art of divine inspiration. Music owes this place of reverence to the sixth-century B.C. Greek philosopher and mathematician Pythagoras, who discovered a correspondence between musical intervals and arithmetical ratios. His system of seven modes was based on the seven known planets, whose vibration in their heavenly orbits caused, Pythagoras believed, the music of the spheres.

The Pythagoreans' mystical concept of the harmony of the spheres gave music a noble place in the Renaissance's *universitas literarum*, the reason for the pride of place assigned to musical instruments in the fifteenth-century Gubbio Study. Leonardo da Vinci, the creative genius of his age, who invented speculative musical instruments, sought to elevate painting to the lofty position of music. In his *Trattato della pittura*, written at the end of the Renaissance, he likened the harmony of proportion in painting to musical harmony. In so doing he restated the commonly held theory of the Renaissance that the plastic arts were frozen music. Leonardo, insistent on the divine quality of the painter's imagination, even claimed that painting was superior to music because the sequences in painting were not fleeting, but permanent – timeless images that could be contemplated indefinitely. The competition between music and the less noble plastic arts, which was prominent in the aesthetic discourses of the Renaissance, continued in the nineteenth century. In 1807 Goethe – poet, painter, and philosopher – observed that 'a recognized theory of painting, as it exists in music, is lacking.'³ Throughout the century, fired by the belief that reason could penetrate all natural phenomena, scientists sought, as Goethe antici-



Ludwig Hirschfeld-Mack, pianist, and his group, projection booth for *Colored Reflected-Light Compositions*, ca. 1924. Photo: Bauhaus-Archiv, Berlin.

pated, a mathematical foundation for colour like that of music. The practical needs of the growing textile industry, for example, led the French chemist Michel-Eugène Chevreul to the study of the laws of colour; his book, first published in 1839, was widely read by artists in the last decades of the century. Charles Blanc, in his book *The Grammar of the Art of Drawing* (1867), stated that 'colour which is controlled by fixed laws can be taught like music.'⁴ The mathematician Charles Henry also investigated the mathematical base for colour in *The Circle of Colour* (1888). On a more pragmatic level, inventors such as Bainbridge Bishop and Alexander Wallace Rimington built wondrous mechanical colour organs to explore and demonstrate the relation between colour and music. Their inventions anticipated similar studies by Hirschfeld-Mack at the Bauhaus in the 1920s.

The correspondence between music and the plastic arts also figured in the speculations of the century's poets and philosophers whose thoughts ran counter to the empiricism of the age. It was the power of intuition to sense the mystery of the unknown, not the power of reason to make the mysterious known, that the German Romantic poet Novalis celebrated in 1801 when he wrote, 'Everything visible refers to the invisible / Everything audible to the inaudible.'⁵ Byron shared Novalis' belief in man's ability to perceive a metaphysical reality behind the physical reality and in the doctrine of the harmony of the spheres bequeathed by the Pythagoreans. 'There's music in all things, if men had ears: Their earth is but an echo of the spheres.'⁶ Arthur Schopenhauer's *The World As Will And Idea*, published in Leipzig in 1819 and translated into French in 1889, was an influential source of the growing conviction among Symbolist painters and poets that music was the key to vast expanses beyond rational comprehension:

The composer reveals the essence of the world and pronounces the most profound wisdom in the language that his reason cannot understand; he is like a mesmerized somnambulist who reveals secrets about things that he knows nothing about when he is awake.⁷

That there was a correspondence between music and the visual arts was a common conviction among both artists and musicians in Germany, France, Italy and Russia during the first decades of this century. In his search for an art that satisfied the inner necessity that he felt within himself, Wassily Kandinsky found the transcendental

quality of music vastly attractive. For Kandinsky and Frantisek Kupka, the pioneers of abstraction, colour and non-objective forms in painting were analogous to music, to the inner sound that Kandinsky sensed but could not see in the world around him. About 1910 the Russian composer Alexander Scriabin conceived *Prometheus: A Poem of Fire*, a symphony with colour equivalents created by one of the new mechanical inventions of the age, the colour organ. Arnold Schoenberg, whose intellectual affinity with Kandinsky sparked a lifelong friendship, wrote in *The Blue Rider* almanac published in Munich in 1912:

Kandinsky and Oskar Kokoschka paint pictures in which the external object is hardly more to them than a stimulus to improvise in colour and form and to express themselves as only the composer expressed himself previously.⁸

Kandinsky's writings and general interest in the relation between the plastic arts and music before the First World War was echoed in the work of the American artists and founders of Synchronism, Stanton Macdonald-Wright and Morgan Russell. The latter sought 'painting capable of moving people to the degree music does.'⁹ Russell even envisioned a machine that would synchronize coloured light and sound. Sound also inspired Georgia O'Keeffe, who found that 'music could be translated into something for the eye.'¹⁰ In Miro's gouache from 1940, the song of the bird and the patter of rain are auditory images that coalesce into a melodious pictorial space that, like music, sweeps us into the realm of the imagination hailed by Baudelaire.

When the plastic arts were liberated from the portrayal of tangible reality – prerequisite to the discovery of abstract art – the traditional materials of painting and sculpture, such as oil paint, tempera, linen, clay and marble, gave way to whatever material artists needed to create their new fictive realm. With the Industrial Revolution and the birth of the machine in the nineteenth century, new technologies appeared to extend, and even replace, the natural materials that painters and sculptors had previously used to shape illusions of reality. Alexander Graham Bell was only one of the inventors who transformed the age; through his telephone, music and speech were miraculously transmitted between Boston and Providence in 1876. Soon after, Thomas Alva Edison produced a speaking phonograph that talked, whispered and sang. During the last decades of the

century, Sears, in their mail-order catalogue, advertised lantern slides accompanied by recorded songs, and in Edison's laboratory, William K.L. Dickson developed the Kinetophone to synchronize sound with moving pictures. The technologies and machines that were spawned in the nineteenth century – a source of both wonder and anxiety – produced a whole new class of man-made objects that supplied artists with a hitherto undreamt of array of materials. At the same time, the machine, held in contempt by Baudelaire and other idealists, created the modern world that compelled some artists to fashion a new realm from machine-made materials or to redeem traditional artistic materials by casting them in new form and imbuing them with new meaning.

For the Italian Futurists, united in the first decade of the twentieth century, noise and sound expressed the power and speed of the new age. In 1913 in his manifesto *The Art of Noises*, Futurist painter and musician Luigi Russolo proclaimed:

Ancient life was all silence. In the nineteenth century, with the invention of the machine, Noise was born. Today, Noise triumphs and reigns supreme over the sensibility of men.¹¹

The Futurist painters, like Russolo and Gino Severini, employed the traditional medium of oil painting to make new images that suggested the sound and dynamic movement of the era. Russolo even invented musical instruments that imitated the noise of machines and presented his *Intonarumori*, or Noise Organs, in concert in Paris in 1914 and later in capitals across Europe. Other artists, led by Duchamp, took man-made objects and natural materials from the real world into art's fictive realm. The composer Erik Satie turned airplane propellers, Morse-code tappers and typewriters into musical instruments for his score for *Parade*, a performance that outraged all Paris in 1917. Taking the lead from Duchamp and Satie, John Cage in 1952 composed *4'33"*, a piece in which the performer sits before a piano for four minutes and thirty-three seconds without sounding the keyboard. The music is our perception of silence and ultimately of non-silence – for sound is found everywhere, even in what we expect to be silence. Cage's student David Tudor, with the members of *Composer's Inside Electronics*, a group of visual artists and musicians, explores the resonant qualities of such found objects as oil drums and copper plumbing fixtures in *Rainforest IV*. With *The Glass Orchestra*, the eighteenth-century's fascination with the

celestial tones of objects made from glass has been imaginatively renewed since the 1970s.

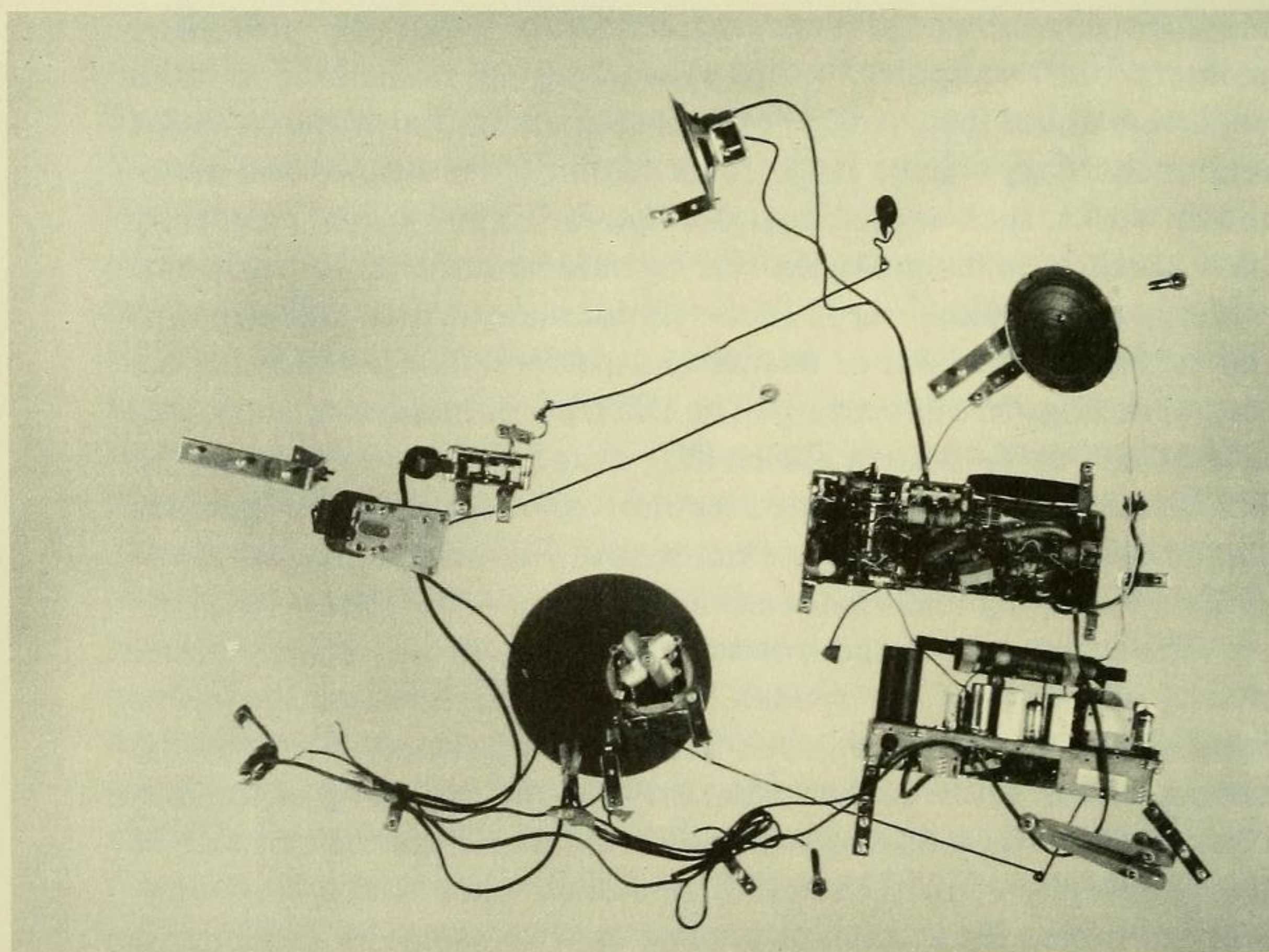
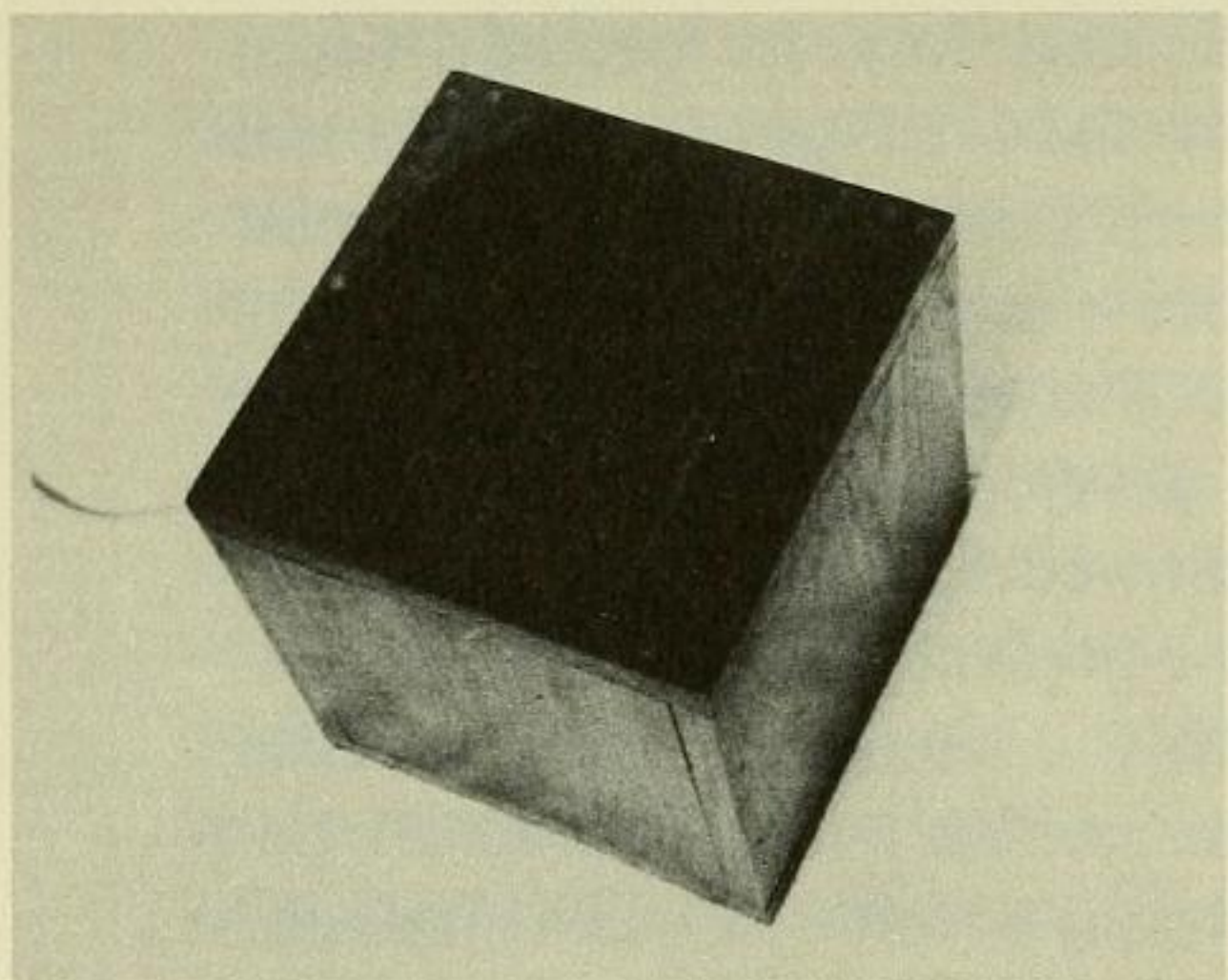
The desire to explore the fundamental physics of acoustics has also led the composers Takehisa Kosugi and Alvin Lucier to new materials. Sound waves quiver into visibility in sand, salt and sugar in Kosugi's composition and thread before our very eyes in Lucier's *Music on a Long Thin Wire* (1977). Lucier's piece was suggested by experiments that he observed in an acoustics laboratory. On other occasions his music has been inspired by brain waves, conch shells and the nocturnal flight of bats. As music became more material, sculpture adopted musical qualities. Since the 1960s such sculptors as Baschet, Agam and Bertolia have explored the sonorous qualities of metals in their instrument-like sculptures that not only appeal to both the eye and the ear but were built to be touched and stroked like musical instruments.

Before the First World War, both painters and poets came to recognize that letters and words, freed from mere description by the Symbolist poets, were simultaneously visual images and aural signs. Words entered the plastic arts, and visual images joined poetry. Kandinsky, in his book *Sounds* (1912), used words to stir impressions in both the eyes and the ears. A few years later the poet Guillaume Apollinaire stretched the lines of type in *The Rain* into a gentle shower on a leaf of *Calligrams*, while the violence of battle blasted into new typographical frontiers in the foldout pages of *Futurist Words in Liberty* written by F.T. Marinetti, the poet and flamboyant founder of Italian Futurism. Through fragments of words cut from newspapers, Braque added elements chosen from the tangible world to his painted fictions in order to evoke our auditory sensations and powers of association. The word alone as a pure abstraction, like a musical note, gave birth not only to Kandinsky's poetry and to the mystical incantations of Hugo Ball but also to families of secret languages, in which the word lost its original meaning and assumed mutable interpretations in the fictive realm of artistic creation. The Russian Futurist poet Victor Khlebnikov in his invented language *ZAUM* reduced words until nothing was left but pure sound. Kurt Schwitters created a nonsensical language, which he named *MERZ*, and used it to fabricate sound poems, which were published by his Merzverlag in the twenties and thirties.

The transmission of Schwitters' *Ursonate* or *Archetypal Sounds* on German radio in 1932 carried his art to a wider audience and

showed, as Marinetti and Bertolt Brecht had demonstrated in the same decade, that radio could be a medium for artists. Laszlo Moholy-Nagy used sound in quite another way. In 1922 he ordered works of art by telephone and thereby used the spoken language and modern technology to distance himself from the art object to point out that the artist's conceptual process is more essential than the materials used to create art. Since Schwitters and Moholy-Nagy made their bold experiments, the development of the telephone, radio and recording industry has allowed sound to be extended or stored to hold the past moment in the present, like traditional painting and sculpture, or more aptly the camera's image. These discoveries – along with talking films, which became a commercial success in the late 1920s, and television, which was mass-produced after the Second World War – expanded artists' interest in the aesthetic as well as the political and social influence of the systems of mass-distribution and global communications. Since the 1960s many painters and sculptors – often working in collaboration with engineers under the auspices of the organization Experiments in Art and Technology – have made records, films, videotapes and multimedia works, such as the Pepsi Pavilion for Expo '70, and frequently have used these technologies side by side with the more traditional materials of the plastic arts. In the sixties many artists also turned to the transitory medium of events and performances, which have a long genealogy in our century. The Dada performances of Hugo Ball at the Cabaret Voltaire in Zurich in 1916 and Gilbert and George, the British artists who transformed themselves into singing sculptures in the late sixties, are just two examples of the transformation of the artist's own body and voice into the material – the object – of art.

The expansion of the materials of art to include sound, noise, music, silence and the spoken word – all invisible to the eye – satisfied the desire of artists to present the passage of time in the once timeless world of the visual arts. At the beginning of the fifth century B.C. Heraclitus saw the world in flux. In the transmission of the philosophy of the Greeks to the Renaissance, Heraclitus' view was subsumed by a concept of time as a sequence of measurable points that could be arrested by the laws of Renaissance perspective and symbolized by an hourglass held captive in the illusory stillness of representation. This mechanistic notion of time was overturned at the end of the nineteenth century by the philosopher Henri Bergson, who echoed Heraclitus in his influential book of 1889 *Time and Free*



Top, Robert Morris, *Box with the Sound of Its Own Making*, 1961.

Photo: Leo Castelli Gallery.

Bottom, Jean Tinguely, *Radio Drawing*, 1963.

Photo: The Museum of Fine Arts, Houston.

Will. Bergson saw time as the ever changing process of duration and movement in which the past flowing into the present could not be truly discerned by either human consciousness or memory.

In the twentieth century the use of sound allowed visual artists to express duration in Bergson's sense. Sound, both implied and actual, became inseparable from the realization that the viewer's perception of a work of art transpires in time which, as John Cage has observed, 'is what we and sound happen in.'¹² The artist's gestures and their moments of thought also unfold in time. In Man Ray's *Indestructible Object* (1923), re-made in 1958, the sound of the metronome recalls the artist's process: the eye is the viewer in absentia, who watches the artist working in the solitude of his studio. Sound is used for a similar purpose in Robert Morris' *Box with the Sound of Its Own Making* of 1961 and in the series of paintings with accompanying records that Roman Opalka began in 1965. Howard Jones whose sonic wall relief from the sixties responds to human activity, considers that 'light and sound, like life and thought, are actively involved with time, change and interval.'¹³ Time and change were also the substance of the ephemeral mixed-media events that George Brecht, Dick Higgins, Alison Knowles and other Fluxus artists staged on both sides of the Atlantic in the early sixties. Like the concurrent and often overlapping Happenings of the Pop artists, these audio-visual actions exist today only by recollection or in such announcements as George Maciunas' 1964 poster for the *Perpetual Fluxus Festival*. The Fluxus artists' choice of the word 'perpetual' may seem contradictory but, in fact, it signified that time and change, rather than static permanence, are the material of life and, therefore, of art. Perpetual change is also at the heart of Jean Tinguely's *Tokyo Gal* (1963). In this flirtatious assemblage of found objects and old radio parts, sound – inseparable from movement – expresses Tinguely's belief that:

everything changes, everything is modified without cessation; all attempts to catch life in its flight and to want to imprison it in a work of art, sculpture or painting, appear to me a travesty on the intensity of life!¹⁴

Just as sound and music offered visual artists a means to present the invisible but unending phenomena of time, it also allowed artists to describe time's equally invisible correspondent, space. The science of acoustics, which was well known to the theatre builders of

ancient Greece and important to the architects of the Renaissance, was established in 1877 by the British physicist Lord Rayleigh. The ancients' view of space as a unified dimension of the world – an emptiness in which all bodies have a place – continued in the Renaissance and provided a foundation for perspective, allowing artists to create an illusion of spatial depth that mirrored, yet was separate from, the space in which we stand. This construct of space upon which the plastic arts were formulated in the Renaissance collapsed at the end of the nineteenth century. With the introduction of non-Euclidean geometry and with Einstein's theory of relativity, the static view of objects in space was replaced by the dynamic view that, in fact, objects, movement and space but formed an indissoluble union in the space-time continuum, in which all acoustical phenomena, as well as all human experiences, transpire.

Around 1910 in Munich, Paris, Berlin, Milan and Moscow, the Abstractionists, Cubists and Futurists abandoned the centralized perspective that, along with the frame and the pedestal, set the viewer distinctly apart in Renaissance painting and sculpture. The Cubist painter Braque, for example, dissected the forms of the violin – albeit an image of a violin compressed irrevocably on a two-dimensional surface – to suggest the melodious sounds pulsating in time and in the air around it. By so doing, Braque played upon and entwined our sense of sight and hearing and thereby extended our range of visual perception which embraces 180 degrees of an imagined circle to 360 degrees, for our ears perceive what is above, below and all around us in space.

In the last two decades, artists have used actual sound to investigate our experience of space itself. Bernhard Leitner, trained as an architect and urban planner, considers sound and its movement, rhythm and intensity as events in time. In his room-like environments from the seventies, Leitner has created new perceptions of space with intersecting invisible lines of transmitted sound. Max Neuhaus, who abandoned a career as a virtuoso percussionist in 1967, has made more than a dozen sound installations in such unexpected locations as Times Square, where he amplified a ventilation chamber of the subway to create a volume of activated space at street level. While invisible – and not generally identified as a work of art – Neuhaus' environmental piece may be perceived aurally by attentive passers-by. Bruce Nauman, by contrast, warps our habitual way of hearing and its capacity to inform our sense of proper

physical location in space by removing or reflecting the ambient sound along his thirty-foot wall constructed from acoustical insulation. When we walk past Nauman's wall, the presence of ambient sound in one ear and its absence from the other alters our customary sense of balance. For Liz Phillips 'air is a material.'¹⁵ With an archway of delicate copper tubing and a bronze screen that receive and project electronically controlled sounds, somewhat like a Theremin or proto-synthesizer, Phillips creates what she calls capacitance fields that make the space sensitive to our actions, weight and density and allow us to mold and shape sound as if it were plaster or clay that a magician had removed from our sight, but not from our touch. The singing bridge of Doug Hollis gathers the wind to make 'spaces to be discovered by the ears.'¹⁶

If sound, music and noise offered visual artists a means to represent the continuum of space-time, it extended artists' ability to elicit new responses from the once passive onlooker. The spectator had not always been separated from the work of art and its creator. In archaic Greek rituals the audience and performers were originally a chorus in the transformation of daily life into the heightened form of art with poetry, song, images and movement. The spirit of rational inquiry reached its height, however, during the age of Pericles, when Aeschylus, Euripides and Sophocles codified rituals into dramatic presentations that unfolded on a stage that separated actors from spectators. During the Renaissance and into the nineteenth century the separation among the performing arts elaborated into opera, ballet and theatre. The composer Richard Wagner, however, reunited music, dance and narrative in spectacular operas that were conceived to envelop the spectator in a flood of sensory and emotional experiences. The total fusion of all artistic media, which Wagner called *Gesamtkunstwerk*, was akin to the longings of Baudelaire and the Symbolist poets and painters, who became the composer's ardent champions. At the same time that artists were seeking synaesthesia, or a new unity of all the arts, Hermann von Helmholtz was examining interconnections among natural phenomena. Von Helmholtz, a giant of nineteenth-century scientific thought, published his lifelong study of acoustics, optics and human perception at the end of his life in *The Origin and Correct Interpretation of Our Sense Impressions* (1894), in which he established that our physical sensations are inseparable from our unconscious mental processes of memory and association.

HURRY! HURRY!
FULLY GUARANTEED!
 stupendous impressive

PERPETUAL FLUXUS FESTIVAL PRESENTS AT WASHINGTON SQUARE GALLERY. 528 WEST BROADWAY. 9PM

FEB. 5	TOSHI ICHIVAKA: NEW PIECE	MAR. 5	TAKEMISA KOSUGI: MUSICS
FEB. 19	YOKO ONO: FROM GRAPEFRUIT	MAR. 19	BEN PATTERSON: SEMIARS
APR. 2	WILLEM DE RIDDER: CLOWN PIECES	APR. 2	BEN VAUTIER: TOTAL ART
APR. 16	HI RED CENTER: A SURPRISE!	APR. 16	WILLEM DE RIDDER: CLOWN PIECES
APR. 30	STANLEY BROUWEN: INSTRUCTIONS	MAY 14	PHILIP CORNER: MUSIC
MAY 28	RICHARD MAXFIELD: MUSIC	MAY 14	PHILIP CORNER: MUSIC
JUNE 11	G. CHIARI & P. CASTALDI: EVENTS	JUNE 11	RICHARD MAXFIELD: MUSIC
JUNE 25	FLUXUS MOVIES	JUNE 25	G. CHIARI & P. CASTALDI: EVENTS
JULY 9	SOMEBODY, NOBODY, OR EVERYBODY	JULY 9	FLUXUS MOVIES
JULY 23	DITTE ROY & EMMETT WILLIAMS	JULY 23	SOMEBODY, NOBODY, OR EVERYBODY
AUG. 6	ALISON KNOWLES: PROPOSITIONS	AUG. 6	DITTE ROY & EMMETT WILLIAMS
AUG. 20	CONCERT BY 26 COMPOSERS	AUG. 20	ALISON KNOWLES: PROPOSITIONS
SEPT. 4	FLUXUS OLYMPIC GAMES	SEPT. 4	CONCERT BY 26 COMPOSERS
SEPT. 18	GEORGE BRETT: EVERYTHING	SEPT. 18	FLUXUS OLYMPIC GAMES
SEPT. 2	AVO. 3 RAINBOW: EVENTS	SEPT. 2	GEORGE BRETT: EVERYTHING
OCT. 2	CHIEKO SHIOMI: COMPOSITIONS FOR ALL	OCT. 2	AVO. 3 RAINBOW: EVENTS
OCT. 16	STAR MYSTERY STAR	OCT. 16	CHIEKO SHIOMI: COMPOSITIONS FOR ALL
OCT. 30	DICK HIGGINS: THEATRE	OCT. 30	STAR MYSTERY STAR
NOV. 3	ROBERT WATT'S: TRACES & THINGS	NOV. 3	DICK HIGGINS: THEATRE
NOV. 17	TAKAKO SAITO: AMUSEMENTS	NOV. 17	ROBERT WATT'S: TRACES & THINGS
NOV. 31	SHIGEKU KUBOTA: EVENTS	NOV. 31	TAKAKO SAITO: AMUSEMENTS
DEC. 5	ROBERT WATT'S: TRACES & THINGS	DEC. 5	SHIGEKU KUBOTA: EVENTS
DEC. 19	TAKAKO SAITO: AMUSEMENTS	DEC. 19	ROBERT WATT'S: TRACES & THINGS
DEC. 31	SHIGEKU KUBOTA: EVENTS	DEC. 31	TAKAKO SAITO: AMUSEMENTS

colossal gigantic
GREATEST MUSICAL SHOW ON EARTH!
COME ONE! COME ALL!

George Maciunas, *Perpetual Fluxus Festival*, 1964. Photo: Earl Ripling.

In the first decades of the twentieth century synaesthesia motivated Kandinsky and Franz Marc in their influential almanac of 1912 called *The Blue Rider*. As Kandinsky later explained, they wanted their yearbook 'to eliminate old narrow ideas and tear down the walls between the arts, and ... to demonstrate eventually that the question of art is not a question of form but of artistic content.'¹⁷ The Cubist painters sought, as did Kandinsky, to create not an illusion of reality, but our vibrant experience of it through artistic forms that encompass all the senses; the form of Picasso's violin, for example, actually reflects the way we see. Similarly, Gino Severini has surrounded us with the suggested movement and sound that fill the environment of the machine age in *Festival at Montmartre* (1913). Severini's picture reflects the statement that appeared in the Futurists' exhibition catalogue (1912):

With the desire to intensify the aesthetic emotions by blending, so to speak, the painted canvas with the soul of the spectator, we have declared that the latter '*must in the future be placed in the centre of the picture.*'¹⁸

In Marcel Duchamp's readymade *With Hidden Noise* (1916), we are invited to wonder what exactly is concealed within the ball of twine. Our speculations complete the cycle of exchange that Duchamp created. Duchamp's ideas were carried on by John Cage, who has been a seminal force in all the arts since 1945. Cage, a student of Arnold Schoenberg, found sound in silence and music in the pedestrian noise of the workaday world. In *33 1/3* (1969) Cage made an environment of record players and randomly selected LPs. The viewer chooses and plays the records and thereby completes Cage's gently tongue-in-cheek, participatory work. Robert Rauschenberg, who studied with Cage in the early fifties at Black Mountain College in North Carolina, believed that art is a mediator between illusion and life and 'is a means to function thoroughly and passionately in a world that has a lot more to it than paint.'¹⁹ In *Music Box* (1953) Rauschenberg uses three pebbles as percussive elements to tantalize our sense of hearing, touch and play, whereas in *Dry Cell* (1963), a collaborative work with engineer Billy Klüver, our shouts and claps elicit a response from the once-silent art object. Nam June Paik, also a student of Cage and a central figure in Fluxus, has created a number of works that are neither totally visual nor totally musical, but belong to the hybrid category intermedia. In *Participation TV*

(1969), for example, the viewer creates the visual image on the TV screen by speaking into microphones that Paik has wired to a television set. With David Tudor's *Rainforest IV* (1973), realized by Composer's Inside Electronics, the viewer is an integral part of the work. *Rainforest* has extended the implications of Erik Satie's ambient *Furniture Music* (1920). Like Satie, whom Cage and Tudor admired, they have overturned the traditional view that music is performed at a specific time in a proscenium space which separates performers and audience.

The desire to reintegrate the arts, in which sound in its manifold forms has played a significant part, has taken artists in this century far beyond the traditional purview of painting and sculpture to their own bodies and voices, to time and space and to the environment. In 1909 Kandinsky, freed from all restrictions on media, created *The Yellow Sound*, an abstract composition for the theatre in which human voices (words without meaning), music by composer Thomas von Hartmann, movement and colour all merged to create an atmosphere that would unleash inner experiences or 'vibrations' in the spectator. More recently Meredith Monk and Robert Wilson are among the artists who have most fully followed the nineteenth century's search for a synaesthesia of the arts. In 1976 Wilson, in collaboration with the composer Philip Glass, created *Einstein on the Beach*, a five-hour opera of slowly evolving visual and musical splendour. Since the 1960s Meredith Monk has created a body of works for which she not only composes the music but also creates the narration, choreography, visual design and film sequences. In *Recent Ruins* (1980), from which *Silver Lake with Dolmen Music* is drawn, Monk retrieved layers of time and space, whole worlds, from the past. The inspiration for these worlds began with a sound – the sound of her own voice in song and incantation.

The entrance of sound, both heard and unheard, into the plastic arts heralded nothing less than a new beginning. In this beginning was the word, the spoken word, ambient sound, noise, music and silence; all allowed artists to transform the visual arts into a new and third realm. In this realm, compounded in the artist's mind of physical and metaphysical reality, the once discrete, static relation among artist, art object and viewer began to quiver and resound. The artist, once merely a craftsman, became a creator. The onlooker, once solely a passive observer, became the artist's collaborator. The work of art, once silent, permanent and timeless, became a hybrid

object that began to resonate in a third realm beyond the worlds of illusion and reality. Sound announced that human experience, ever changing in time and space – the substance of life itself – had become both the subject and object of art.

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Notes

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The Sound of One Line Scanning

Bill Viola

Our greatest blessings come to us by way of madness.

Socrates

The ancient Greeks heard voices. The homeric epics are full of instances of people guided in their thoughts and actions by an internal voice to which they respond automatically. This suggests a people, as Julian Jaynes has pointed out, not fully exercising what we would consider free will or rational judgement.¹ As with most of us, there is a conversation going on in their heads, but it is not with themselves. Jaynes calls this distant mental landscape the 'bicameral mind,' and claims that, prior to the transition period of the Greeks, all ancient cultures were not fully conscious as we know it. In other words, they possessed many gods. Today we are suspicious of persons exhibiting such behaviours, forgetting that the term hearing refers to a kind of 'obedience' (the Latin roots of the word are *ob* plus *audire*, or 'to hear facing someone'). So rooted is our need for the concept of the independent mind, that we categorize those hearing the voices as: a) mildly amusing, b) a poet, or c) confined to a mental institution. A possible fourth category might be 'watching television.' The prophets and gods have departed our world and the confused chatter in their wake must now be exorcized by someone called a 'therapist.'

A woman named Be was alone in the bush one day in Namibia, when she saw a herd of giraffes running before an approaching thunderstorm. The rolling beat of their hooves grew louder and mingled in her head with the sound of sudden rain. Suddenly a song she had never heard before came to her and she began to sing. Gauwa (the great god) told her it was a medicine song. Be went home and taught the song to her husband Tike. They sang and danced it together. And it was, indeed a song

for trancing, a medicine song. Tike taught it to others who passed it on.

!Kung Bushman story from Botswana,
as told to Marguerite Anne Biesele.²

Consciously or unconsciously, most people assume the existence of some sort of space when discussing mental functioning. Concepts and terms for the manipulation of solid objects are constantly used to describe thoughts, as in 'the *back* of my mind,' '*grasp* an idea,' '*over* my head,' '*cling* to beliefs,' 'a mental *block*' and so on. This mental space is directly analogous to the 'data space' in our first brain child, the computer, being the field in which calculations occur and where the virtual objects of digital graphics are created, manipulated and destroyed. Like a fundamental ontology, this given space is perpetually before or after what is done, an *a priori* existence from birth in the flip of a switch until the lights finally go out. If there is a space of thinking, either real or virtual, then within it there must also be sound, for all sound seeks its expression as vibration in the medium of space. The acoustic properties of this space, then, become the subject of this article.

To the European mind, the reverberant characteristics of the interior of the Gothic cathedral are inextricably linked with a deep sense of the sacred and tend to evoke strong associations with both the internal private space of contemplation and the larger realm of the ineffable. Dream image or flashback sequences in cinema have often utilized reverberation effects in the sound track to signify subjectivity and detachment. Cathedrals, such as Chartres in France, embody concepts derived from the rediscovery of the ancient Greeks, particularly Plato and Pythagoras, and their theories of the correspondence between the macrocosm and the microcosm, expressed in the language of sacred number, proportion and harmony and manifested in the science of sound and music. These design concepts were not considered to be the work of man or merely functions of architectural practice, but represented the divine underlying principles of the universe itself. By incorporating them into the body of the church it was intended to establish a harmonic reflection of their form here on earth.

Chartres and other edifices like it have been described as 'music frozen in stone.' References to sound and acoustics here are two-fold. Not only are there the actual sonic characteristics of the cavernous interior, but the form and structure of the building itself reflects the principles of sacred proportion and universal harmony – a sort of 'acoustics within acoustics.' When one enters a Gothic sanctuary, it is immediately noticeable that sound commands the space. This is not just a simple echo effect at work, but rather all sounds, no matter how near, far or loud, appear to be originating at the same distant place. They seem detached from the immediate scene, floating somewhere where the point of view has become the entire space.

Ancient architecture abounds with examples of remarkable acoustic design – whispering galleries where a bare murmur of a voice materializes at a point hundreds of feet away across the hall or the perfect clarity of the Greek amphitheatres where a speaker, standing at a focal point created by the surrounding walls, is heard distinctly by all members of the audience. Modern techniques of architectural acoustics, pioneered by people like Wallace Sabine at the turn of the century, were derived in response to severe unintelligibility and lack of clarity from room reverberation. This is doubly ironic, both in terms of the two thousand-year-old Greek theatre and the fact that the acute reverberation in the Gothic cathedral, although a result of construction and not specific intention, was considered an essential part of its overall form and function.

The science of acoustics is the study of sound in space. It assumes strong architectural associations because, although it can be described as simply the study of the behaviour of sound waves, sound manifests itself at its most complex and interesting when bouncing off solid forms, most noticeably those of man-made interior spaces. In the rural world of the Middle Ages, it is doubtful that the awesome reverberations inside the cathedral had ever been heard before by the members of the clergy. A partial list of some of the most basic physical phenomena studied by the acousticians reads like a set of mystical visions of nature.

Refraction: The bending of soundwaves due to a change in speed as they pass through different media, such as two layers of air of different temperatures. At Queen Victoria's funeral in London in 1901, rounds of artillery were fired and although not heard in the surrounding

countryside, the loud roar of cannons suddenly materialized ninety miles away.

Diffraction: Sound turning a corner, when the edge of a barrier generates a new series of waves. We hear invisible persons talking on the other side of a high wall.

Reflection: The rebounding of sound waves off a surface, the angle at which they bounce off being equal to the angle at which they arrive. With multiple surfaces this becomes an echo, and it is then possible to hear one's own voice, possibly multiple times, as it existed at a previous point in time. One can sing with one's self. Multiple regular reflections produce the condition of reverberation, where a sound can be repeated over and over on top of itself, the past becoming indistinguishable from the present.

Interference: Two sounds collide with each other, the wavefronts of each alternately reinforcing and inhibiting themselves. In a large hall the sound of a loud instrument suddenly drops to a barely audible whisper at a certain location in the room.

Resonance: Soundwaves reinforce themselves, either by the addition of an identical sound or when the material properties or spatial dimensions match the physical shape of the soundwaves themselves. A singer's voice becomes louder, gaining energy when released into a small enclosure, or an object produces a specific tone when struck. The shape and materials of an object represent a frozen sound potential.

Sympathetic Vibration, related to resonance and possibly the most evocative of all: When a bell is struck, another identical one across the room begins vibrating, giving off the same sound.

Each of these phenomena evokes wonder, even after their scientific representations have been rationally understood. There is something of the immortal in an echo, for example; we can easily imagine an ultimate state of reverberation – a space where everything that has ever happened continues to exist – the end of time, where everything is live, perpetually present. If we sense that the description of sympathetic vibration bears some resemblance to radio broadcast, it is no coincidence, the same principle is at work. The processes of contemporary media systems are latent in the laws of nature – they have existed in various forms since the beginning of history.

We can also see, in resonance, that all objects have a sound component, a second shadow existence as a configuration of frequencies. In 1896, Nikola Tesla, one of the great geniuses of the electrical age, strapped a small oscillating motor to the central beam in his Manhattan laboratory and built up a powerful physical resonance that conducted through the building and into the earth to cause an earthquake in which buildings shook, panes of glass broke and steam pipes ruptured over a twelve block area. He was forced to stop it with a blow from a sledge hammer. Tesla stated that he could calculate the resonant frequency of the earth and send it into strong vibration with a properly tuned driver of adequate size and specific placement.³

Palongawhoya, traveling throughout the earth, sounded out his call as he was bidden. All the vibratory centers along the earth's axis from pole to pole resounded his call: the whole earth trembled: the universe quivered in tone. Thus, he made the whole world an instrument of sound, and sound an instrument for carrying messages, resounding praise to the creator of all.

Hopi Indian myth of the creation of the First World.⁴

'In the beginning was the Word ...' provokes one to ask, where was the image? But like the Biblical creation myth, Indian religion (for example Yoga and Tantra) and later Asian religions (for example Buddhism) also describe the origin of the world in sound, with the original creative potency still accessible to the individual in the forms of sacred speech and chanting (sympathetic vibrations). This idea of the origin of images in sound is mirrored in the invention and development of communication technology. In the age of the electronic image, it is easy to forget that the earliest electrical communication systems were designed to carry the word. For example, Edison initially tried to market the phonograph to the business community as an automated replacement for the stenographer in the office. If speech is the genesis of the media body electric – the telegraph and the subsequent systems of the telephone, radio and television – then acoustics (or general wave theory) is the basic structural principle of its many manifestations.

The video image is a standing wave pattern of electrical energy, a vibrating system composed of specific frequencies as one would expect to find in any resonating object. As has been described many times, the image we see on the surface of the cathode ray tube is the

trace of a single moving focused point of light from a stream of electrons hitting the screen from behind, causing its phosphor coated surface to glow. In video, a still image does not exist. The fabric of all video images, moving or still, is the activated, constantly sweeping electron beam – the steady stream of electrical impulses coming from the camera or video recorder. The divisions into lines and frames are solely divisions in time, the opening and closing of temporal windows that demarcate periods of activity within the flowing stream of electrons. Thus, the video image is a living dynamic energy field, a vibration appearing solid only because it exceeds our ability to discern such fine slices of time.

All video has its roots in the live. The vibrational acoustic character of video as a virtual image is the essence of its 'liveness.' Technologically, video has evolved out of sound (the electromagnetic) and its close association with cinema is misleading since film and its grandparent, the photographic process, are members of a completely different branch of the genealogical tree (the mechanical / chemical). The video camera, as an electronic transducer of physical energy into electrical impulses, bears a closer original relation to the microphone than to the film camera.

The original television studio was a hybrid of radio, theatre and cinema. Its images existed in the present tense. Its construction was based on the radio studio with the isolated control room behind glass, 'on air' signs and cameras placed out on the floor to pick up the action. The structure of the elements in the studio can also be viewed as the physical embodiment of the aesthetics of cinema, an ingenious solution to the 'limitation' of having to exist live. Multiple cameras, usually three (representing film's classic long, medium and close-up shots), view the action from their individual points of view. Unlike cinema, where activity within a given scene must give the illusion of simultaneity and sequential time flow, with the action often shot out of order, video represents a point of view that is literally shifted around the space in the present tense, parallel to the action. The illusion which video had to work very hard to create was one of recorded time, doing so only where necessary by using different parts of the studio in combination with lighting effects. Direct translations of a sister art form of present-tense time, the theatre, were used to format early television dramas and many of the burlesque-like variety shows. They were almost always performed in the theatrical setting of the live audience, who functioned as surrogate home

viewers until later replaced by the laugh track and applause machine.

The fundamental aspect of cinema, the montage (an articulation in time), was interpreted by the fundamental aspect of early television, the live (an articulation in space), in a key piece of equipment in the studio, the video switcher. This was the central creative device for organizing what was finally to be seen by the viewer at home. The basic elements of cinematic language were hard-wired into its design. A simple switch button represented Eisenstein's paramount montage, the cut, and with a switch on each camera, cuts could be made to any point of view desired. Griffith's fade to black became a gradual reduction in signal voltage with a variable potentiometer. Wipes and split-screens were translated by engineers into circuit designs to electronically interfere with and offset the regular voltages in the signal flow, the most symmetrical stationary wipe patterns being harmonic overtones of the fundamental frequencies of the basic video signal. Thus, without the ability to record, a simulation of cinematic edited time was constructed by a live electronic instrument.

It wasn't until the late 1960s that this emulation of cinema was broken, when artists began poking beneath the surface to uncover the basic characteristics of the medium and release the unique visual potentials of the electronic image, now taken for granted with a yawn, and oftentimes a grimace, as standard TV fare. The video switcher was redesigned into the first video synthesizer. Its principles were acoustic and musical, a further evolution of the early electronic music systems like the Moog. The videotape recorder was the last link in the chain to be developed, coming a good decade after the arrival of television and only fully integrated into video's image processing system with the introduction of the time-based corrector in the early 1970s. With the seamless incorporation of recorded material into the image stream and the advancements of electronic editing, a need arose to specifically identify remote feeds as 'live.' Not only did video begin to look and act like cinema, but it began to look and act like everything else – fashion, conversation, politics, visual art and music.

A single neuron operates on the power of about a thousandth-millionth of a watt. Hence, the entire brain operates on about ten watts.

Sir John Eccles⁵

Musically speaking, the physics of a broadcast is a type of drone. The video image perpetually repeats itself without rest at the same set of frequencies. This new common condition of the drone represents a significant shift in our culturally derived thought patterns. It can be evidenced by contrasting another drone-based system, traditional Indian music, with our own European classical music.

Western music builds things up, piling notes on top of notes, forms on top of forms, in the way one would construct a building, until at last the piece is complete. It is additive: its base is silence, all musical sounds proceed from this point. Indian music, on the other hand, begins from sound. It is subtractive. All the notes and possible notes to be played are present before the main musicians even start playing, stated by the presence and function of the tambura. A tambura is a drone instrument, usually of four or five strings, that, due to the particular construction of its bridge, amplifies the overtone or harmonic series of the individual notes in each tuned string. It is most distinctly heard at the start and end of the performance, but is continually present throughout. The series of overtones describes the scale of the music to be played. Therefore, when the primary musicians play, they are considered to be pulling notes out of an already ongoing sound field, the drone.

This music structure reflects the Hindu philosophical concept of the origin of all things in sound, represented by the essential vibration Om, which is believed to be always present, without beginning or end, everywhere in the universe, generating all forms of the phenomenal world. In the music, there is great emphasis on tuning, while the philosophers speak of 'tuning the individual' as a means to contact and replenish these fundamental energies. The idea of a sound field that is always present shifts the emphasis away from the objects of perception to the field on which the perception is occurring; a nonspecific viewpoint.

As a drone, video's significant aspect is that its electronic images exist everywhere at once, the receiver is free to pull the signal out of the line at any given point along its path or at any location out in the broadcast field. Children have been known to pick up radio signals in their dental braces, a contemporary manifestation of 'speaking in tongues.' The 'space' of broadcast recalls the acoustic space of the Gothic cathedral, where all sounds, no matter how near, far or loud, appear to be originating at the same distant place. They seem detached from the immediate scene, floating somewhere where the

point of view has become the entire space. In technology, the current shift from analogue's sequential waves to digital's recombinant codes further accelerates the diffusion of the point of view. Like the transformation of matter, there is a movement from the tangibility of the solid and liquid states into the gaseous. There is less coherency, previously solid barriers become porous, and the perspective is that of the whole space, the point of view of the air.

Within several weeks of launching its satellite, Brazil established communication links to all corners of the country and mapped every square mile of one of the largest uncharted territories left on the planet, the Amazon basin. One can now, theoretically, make a phone call relaying one's position from anywhere in the jungle and even see *Dynasty* if a TV set and generator are on hand. A system is already in place in the U.S. for new cars where the vehicle's position and direction are relayed to a navigational satellite that pinpoints its location and displays an electronic map on a dashboard screen. On the map every street in the country is selectable in varying scales down to a few square blocks, with all the individual street names noted. It is now impossible to get lost – a disturbingly boring thought, not to mention a paranoid one.

In the late twentieth century, the Unknown, the 'other side of the mountain,' so central to the structure of our thoughts, has ceased to exist in geographic spatial terms. By the early 1980s the entire surface of the earth had been satellite-mapped down to a resolution of thirty feet or more. This 'Known' of everything creates some bizarre new models of consciousness, like the military's computer navigation system where there is no direct sensory link to the outside world. Here, a jet rocket can travel at high velocities hugging the landscape while relying solely on information of the precise terrain and features ahead stored in the on-board computer memory; data gathered again from satellite remote sensing. Memory replaces sensory experience; a Proustian nightmare.

Space without a container is the mental world of thoughts and images. Many of the techniques of the shaman rely on gaining a masterful, uncanny control over one's 'point of view,' a realization that point of view is not necessarily synonymous with physical position. Mircea Eliade, tracing the origins of religious thought, suggests that the emergence of upright posture reorganized consciousness along the vertical axis, initiating the existence of the four cardinal directions of space (front, back, left, right, with the possible addition of

two, up and down) and, along with it, the privileged centre, the self ego Ptolemaic focal point thus implied.⁶ The four-walled, six-faceted room is the archetypal distillation of this mental foundation, and Brunelleschi's perspective, an urban fabrication, further articulates it. The mind is not only confined by three dimensional space, it creates it.

Hard walls, with their recursive enclosing reflections, are dissolving into transparent spaces of information architecture. The same mathematics that describe an acoustically flat non-reverberant space, a 'neutral' room completely void of echoes or reverberation, also describe a large expansive plain. The term 'flat' is used in both situations. For the Native Americans who inhabited the open plains or the Aboriginal peoples of the Australian desert outback, there are no *acoustics* as such. Their acoustic spaces are internal.

When a man is far away down on the plain and I am on the hill, I look towards him while I am quietly talking to myself. He sees me and turns towards me. I say, 'Do you hear?' I move my head from side to side glaring at him, and at last I stare at him, and then turning I say, 'Come on, quickly.' As I stare at him fixedly, I see him turn as he feels my stare. He then turns and looks about while I continue staring at him. So I say, 'Walk this way, right along, where I am sitting.' Then he walks right up to me where I am sitting behind a bush. I draw him with my power (miwi). You do not see any hand signs or hear any shouting. At last he comes up and nearly falls over me. He says, 'You talked to me and I felt it. How did you talk so?' I explain, and he adds: 'I felt your words while you were talking to me, and then I felt that you are there.' I answer, 'True, it was in that way that I talked to you, and you felt those words and also that power.'

Australian Aboriginal medicine man,
as told to Ronald M. Berndt, Lower Murray River, Australia.⁷

As the telegraph and subsequent 'wireless' communication technologies were provoked by a response to the separation of individuals over the vast spaces of the New World, so thought transference and 'seeing at a distance' for the Aborigines are a manifestation of the vastness and stillness of the Australian desert. Desert solitude is an early form of visionary technology. It figures strongly in the history of religion. Individuals have used it to hear the voices of the past and future, to become 'prophets,' to receive images or for Native Americans, to host 'vision quests.' It seems that when all the clutter

and noise of everyday life is reduced to such brutal minimalism, the usual control valves are released and images well up from within. The boundary between the software of the private interior and the hardware of the exterior landscape is blurred; their forms intermingle and converse.

Evidence of synaesthesia, the crossover between and interchangeability of the senses, has been reported in individuals since the earliest civilizations. It has been particularly evocative for artists who have dreamed of the unification of the senses, and there are many examples in recent art history, ranging from the Russian composer Scriabin's chromatic piano, which played colours from a keyboard, to the nausea of the *son et lumiere* shows of public tourism. Visual artists have often described hearing music or sounds when they work, as composers have mentioned perceiving their music in imagistic form.

My whole imagination thrilled with images; long lost forms for which I had sought so eagerly shaped themselves ever more and more clearly into realities that lived again. There rose up soon before my mind, a whole world of figures, which revealed themselves so strangely and plastic and primitive, that, when I saw them clearly before me and heard their voices in my heart, I could not account for the almost tangible familiarity and assurance in their demeanour.

Richard Wagner⁸

Synaesthesia is the natural inclination of the structure of contemporary media. The material that produces music from a stereo sound system, transmits the voice over the telephone and materializes the image on a television set is, at the base level, the same. With the further implementation of digital codes to bring personal chequing, buying gas, cooking with the microwave and other functions into this same domain, there will be an even more extensive common linguistic root. Efforts with artificial technology have made it necessary to distinguish between synaesthesia as an artistic theory and practice, and synaesthesia as a genuine subjective ability or involuntary condition for certain individuals. There is a natural propensity in all of us to relate sound and image. The beauty of these experiences is in their fluid language of personal imagination and in their

ties to mood and moment. As long as their individual subjective nature is understood, that is, that they can never become conventional, we will be spared the tedium of the dogma and proprietary theorizing of the practitioners, from the visual musicians to the music videoists.

The free-translation between all sensory modalities, however, is only the first stage towards a transcendence of the ultimate barrier between the domains of the physical body and the luminous mind. In extreme cases, this physical threshold has been crossed. E. Lucas Bridges, son of a late 19th century Christian missionary living with an indigenous people of Tierra del Fuego, the Ona, describes a vivid demonstration.

Houshken ... broke into a chant and seemed to go into a trance, possessed by some spirit not his own. Drawing himself up to his full height, he took a step toward me and let his robe, his only garment, fall to the ground. He put his hands to his mouth with a most impressive gesture and brought them away again with his fists clenched and thumbs close together. He held them up to the height of my eyes, and when they were less than two feet from my face drew them apart. I saw that there was now a small, almost opaque object between them. It was about an inch in diameter in the middle and tapered away into his hands. It might have been a piece of semi-transparent dough or elastic, but whatever it was it seemed to be alive, revolving at great speed, while Houshken, apparently from muscular tension, was trembling violently.

The moonlight was bright enough to read by as I gazed at his strange object. Houshken brought his hands further apart and the object grew more and more transparent, until, when some three inches separated his hands, I realized it was not there any more. It did not break or burst like a bubble; it simply disappeared, having been visible to me for less than five seconds. Houshken made no sudden movement, but slowly opened his hands and turned them over for my inspection. They looked clean and dry. He was stark naked and there was no confederate beside him. I glanced down at the snow, and, in spite of his stoicism, Houshken could not resist a chuckle, for nothing was to be seen there.⁹

When the first technologies of image and sound codified the functioning of the human senses into a surrogate artificial form, a tremendous and unpredictable understanding was gained of the operations of human perception. Similarly, as the implementation of the

computer becomes an embodiment of mind, the new links to the 'mind stuff' of digital data processing will certainly provide even more potent translation possibilities beyond basic sensory inputs. Although it is tempting to ponder a possible synaesthetic 'putting back together' of science's discrete perceptual and cognitive compartments inspired by these electronic free and fluid interchanges of our ways of seeing, what seems to be emerging at the moment is the amnesia and anaesthesia of a vast cluttered and confused landscape of image fragments, the semiotician's field day of delights.

This condition of our contemporary media culture is hauntingly embodied in a single individual of the early 20th century, a remarkable mnemonist to whom all sensory modalities were fluidly and uncontrollably connected; who was assaulted by a barrage of images and associations remaining for hours, days or even years; who constantly found that the distinctions between the past (memory), the present (sensate experience) and the future (fantasy) were blurred or non-existent. The great Russian brain researcher A.R. Luria conducted a thirty-year study of this disturbingly prophetic character, whom he simply called S.

Luria described S. as he flawlessly recited dozens of pages of text filled with everything from a narrative story to a foreign language he did not speak, complex scientific terms or even nonsense syllables. His memory was also spatial – he could remember the positions of the individual elements on the page or blackboard in any order presented and did so even when asked to repeat them years after the original tests. When he was a child, the imagery of school was so real that he sometimes failed to get out of bed to get ready to go. A characteristic of S.'s inner world that greatly impressed Luria was his effortless ability at synaesthesia, a fact that Luria realized was precisely the reason that he was able to perform such amazing feats of recall. S. described his procession of thoughts:

I heard a bell ringing. A small round object rolled right before my eyes ... my fingers sensed something like a rope.... Then I experienced a taste of salt water ... and something white.

I'm sitting in a restaurant – there's music. You know why they have music in restaurants? Because it changes the taste of everything. If you select the right kind of music, everything tastes good. Surely people who work in restaurants know this.¹⁰

Gradually, it became impossible for S. to function:

I always experience sensations like these. When I ride in a trolley I can feel the clanging it makes in my teeth. So one time I went to buy some ice cream, thinking I'd sit there and eat it and not have this clanging. I walked over to the vendor and asked her what kind of ice cream she had. 'Fruit ice cream,' she said. But she answered in such a tone that a whole pile of coals, of black cinders, came bursting out of her mouth, and I couldn't bring myself to buy an ice cream after she'd answered that way.... Another thing ... if I read when I eat, I have a hard time understanding what I'm reading – the taste of food drowns out the sense.¹¹

As he grew older, S.'s inability to forget began to seriously affect his life, and he eventually quit his job and began a life of exhibiting himself as a public attraction. Luria commented on the difficulty of compiling a final report on his subject, since during the sessions images would come into S.'s mind that constantly slipped him out of control and he would begin to 'operate automatically,' becoming verbose, his mind cluttered with details and irrelevancies as he digressed endlessly. S. lived with an image stream that he couldn't turn off. Out of his possession of a super-human indelible memory he developed an overwhelming, disturbing sense of everything being temporary.

If S. was an ancient Greek, he might have been one of the most extraordinary individuals that the culture had produced. Instead, he ended up as a contemporary tragic hero, immortalized in the pages of scientific journals, his experiences sometimes reading as the vengeful curse of a bad music video director. Today, our self-created media systems offer us creative potentials previously only available to individuals with special powers. The synaesthetic possibilities in the sensory and conceptual domains are inspirational, but instead, as victims of 'sane' communicators with equally 'sane' imaginations, we are becoming like Luria's mnemonist – overwhelmed and incapacitated by rootless images and amplified voices. It is the village 'seer' we sense the absence of, not the formal structures of efficient information management systems and professional communicators.

Artists, poets, composers and scientists who have heard the voices know they are not mad – their work testifies to this fact. However, severe mental breakdown can be a type of occupational hazard for persons working at the boundary of commonly accepted consensus reality, a space culturally fabricated by the perceptual conventions imposed by the structuring devices of language, customary behaviour and forgotten histories. Creative ‘madness’ might simply be a disorder of history, ‘cured’ by the passage of time, as visionary insights become the commonplace facts of culture. In all their sessions, S. never once said that he thought himself possessed by madness. He once told Luria that until he became an adult and got his first job, he just assumed that everyone’s mind functioned in exactly the same way his did.

All men are capable of having dreams and seeing visions.

William Blake

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Notes

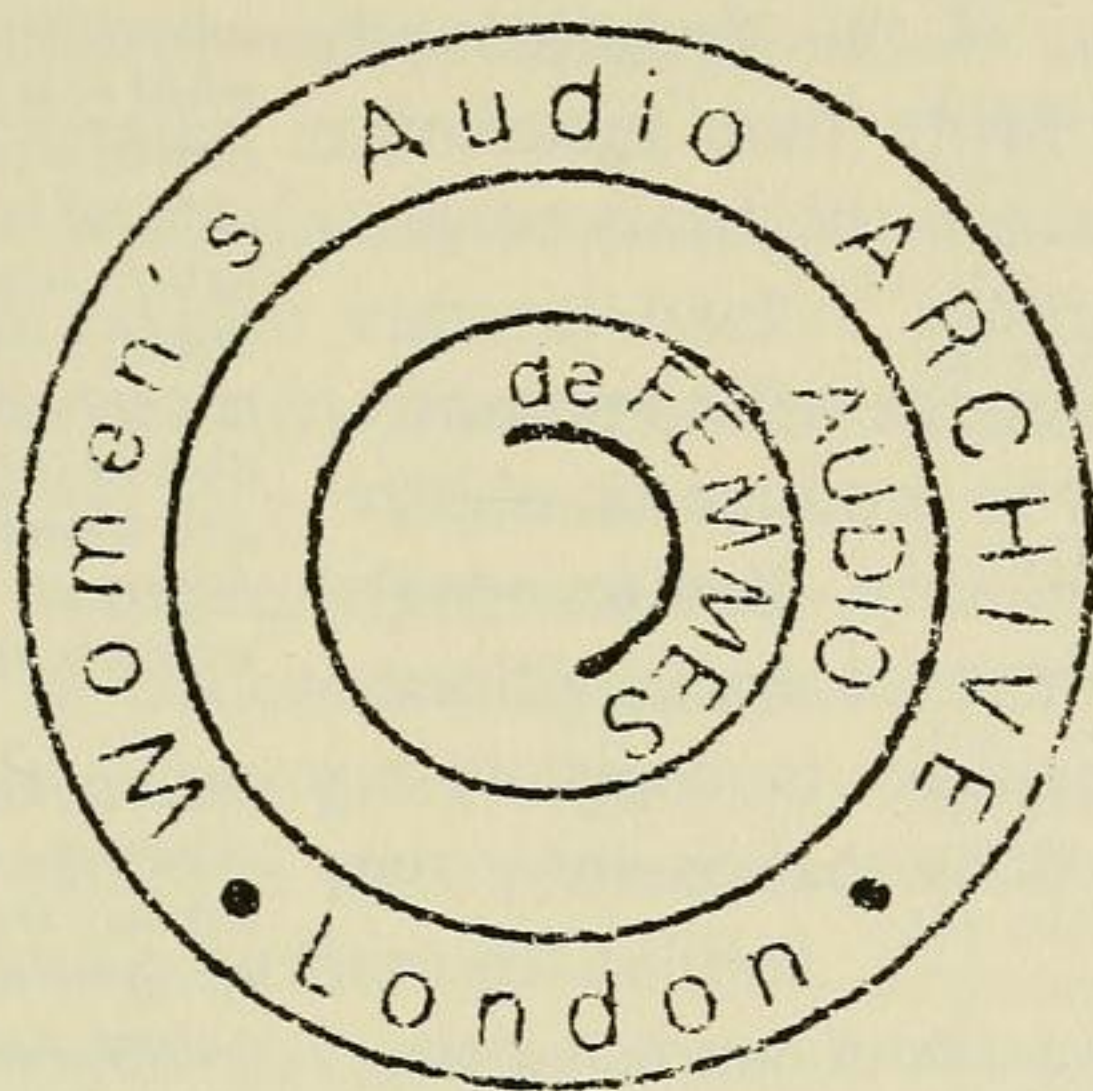
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2. Recounted in Joseph Campbell, *The Way of the Animal Powers* (San Francisco: Harper and Row, Alfred Van Der Marck Editions, 1983), p. 163.
3. Described in John J. O’Neill, *Prodigal Genius: The Life of Nikola Tesla* (New York: Ives Washburn Inc. 1944), pp. 159-62.
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5. Sir John Eccles, ‘The Physiology of the Imagination,’ *Scientific American*, 1958.
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8. Richard Wagner, *My Life* (New York: Dodd and Mead, 1911), quoted in C.E. Seashore, *Psychology of Music* (New York: Dover Publications Inc., 1967 reprint of 1938 original), pp. 166-7.

9. E. Lucas Bridges, 'The Uttermost Ends of the Earth' (New York: E.P. Dutton, 1948), quoted in Joseph Campbell, *The Way of the Animal Powers* (San Francisco: Harper and Row, Alfred Van Der Marck Editions, 1983), p. 163.

10. A.R. Luria, *The Mind of a Mnemonist* (New York: Basic Books, 1968), pp. 81-2.

11. *Ibid*, p. 159.

Marysia Lewandowska



My problem (in writing verse, and my reader's problem in understanding it) consists in the impossibility of the task: for example, to express the sigh a-a-a- with word (that is meaning). With words / meanings to say the sound such that all that remains in the ear is a-a-a.

Marina Tsvetaeva

Women's Audio Archive is a sound documentation place concerned with the spoken word. It is a living archive and an independent project that has grown out of the interest in language as a site of cultural displacement. The impossible task of the collection is to untie the knot of a language / voice / power relationship.

Speaking, the Holding of Breath

It is from a distance that you hear sounds, your own voice perhaps, there unuttered, stored in the memory of the recording, revealed in the event of speaking. The voice comes back to you not as your own any more, it comes in the form of a recording, it exercises authority. But through dialogue you can divest the power of authority, of the singular and one-directional voice. 'More than binarism, dialogism may well become the basis of our time's intellectual structure.'¹

To speak is to question the will to possess. It is a rejection of a will to produce an object and turn it into a commodity. But to speak means also to reaffirm presence, to be noticed, to gain control. 'Language is legislation, speech its code.'² How does speech enter the service of power?

When we are talking about women being silenced historically, we are stating that in a power-structured language their voice is absent, not heard, and consequently their identity is missing. Speaking does not assume meaning apart from the social and cultural circumstances from which it arises. We are always facing the question of who is telling the story, in whose presence and in whose name? Who is listening and through what means is the voice disseminated? Who speaks aloud? Who preserves what?

Technology presents us with a promise of record keeping, of retaining memory, the privilege of truth. But we no longer live in the world of the original and need continuously to be reassured by the visible. We are bound by a search for beginnings. The reading of reality becomes a terrain for the reflection of our own uncertainty. It represents only one possible

A Conversation Between Marysia Lewandowska and Caroline Wilkinson

CW: I am interested in this fragment where you are talking about being subject to continuous re-telling of the story. I completely agree that we often can only survive if we keep on forgetting. This happens on an individual psychic level, but I think also currently there's a sense of time being fragmented into a series of perpetual presents and this process itself induces amnesia. I'm concerned to question what role the media plays in the formation of a sense of trans-individual memory and history and to what extent they usurp and warp the significance of other, existing stories. This takes place not only in the form of transmission but also in the lack of access to production and distribution. We are subjected to different stories at different times, which leads to a very partial 'memory.'

ML: In the slide / tape Prudence you created a very powerful and disturbing sound track using as a source a straight radio broadcast of a specific nature and appeal. In doing that you have exposed a number of problems occurring in the shift from the ever-presence of radio, to the particular presence in the gallery. What new meaning is created in such a process and how does it affect the content of the sound work?

CW: I'm glad you were disturbed! The sound track was composed completely from recordings made over a period of time in late 1985 from one program on BBC Radio 1 (the 'pop' channel). So the sound in the piece is dislocated in one very obvious sense. Normally it functions very much as an aural backdrop, but I wanted to scrutinize recurring fascinations (obsessions), in order to unpick certain strands, which become submerged in the general fabric if they're not focused on. The very form of the discourse functions to sustain that submergence. I was concerned to disrupt the seamlessness of the flow of sound because being a master-discourse, it reinforces a prevailing sense of the authority of a particular form of address, and also, a

choice, which emerges from its own shadow. In Martin Heidegger's words:

What is unspoken is not merely something that lacks voice, it is what remains unsaid, what is not yet shown, what has not yet reached appearance.³

In recent years, due to complex visible and invisible divisions, language has become a site for tracing social, cultural and political displacement. I was interested in how this displacement manifests itself in the work of women coming from diverse cultural backgrounds. In general, the women whose recordings are stored in the Archive, all use sound / voice / text as a way of exploring their identities and as a means of understanding issues and relationships between language, gender, race and class. The Archive as a project is committed to investigating further possibilities of creating a non-homogeneous culture: a culture based on difference and tension, the expression of crisis and fragmentation in the search for relevant meaning. Perhaps, it is through an experience of the 'undercurrent' and in the continuous effort to preserve that we will be able to create our own, self-doubting version of reality. In establishing the Women's Audio Archive I had in mind both the collection and the site that would preserve women's audio work and women's conversations as part of the developing history of women in the media-visual tradition that can otherwise, by its ephemeral nature, be so easily forgotten. The Archive and its attention to sound / language act as an incision in the hegemony of visual culture and commodity value. It provides a framing and a method without submission to methodology. It gathers sound and speech as a commentary, being commen-

process of amalgamation in which a range of values are transmitted, filtered through the opinion of one man. (I am absolutely not represented in all this!) I think that with the Women's Audio Archive you are concerned that as an undertaking it should function differently. In a way, you are trying to identify things that are otherwise unrecorded and unavailable.

ML: I am interested in the fabric of that backdrop and what's behind it and how one could start to weaken the main thread of it, in order to gradually tear it down. The backdrop is something that prevails most often against our own values and desires. The metaphor of the backdrop is close to that of 'noise,' not in terms of sound but also imagery. It's something that is always there, and it's hard to know how it affects us.

In some of the conversations recorded for the Archive I've noticed that the beginning sounds just like 'speaking on the radio,' it is full of politeness which obscures and rounds the edges. Even speaking with you now exposes very little of what our language might be. I know it takes hours of moving away from that routine language that the conversation becomes an expression of identity, or rather, is able to move closer to the body. To use Kristeva's words, 'to break the code, to shatter language, to find a specific discourse closer to the body and emotions, to the unnameable, repressed by the social contract.' The backdrop is still too much in sight, although we have started the process of re-naming.

CW: Just to mention Prudence again, what I specifically wanted to do was to keep very close to the format of the sound as it's broadcast because that fascinates me. It's an endless stream, a discourse that goes on virtually without stopping. I think that's where its power is and certainly its manipulation. There is no space for silence at all. It's like there is no chance to breathe it in. And what I wanted was to stay so close to that but by shuffling it differently, changing the order, compressing certain parts to indicate that there was a presence through omission; the very absence of certain voices was painfully

tary itself – a place for exiled language. It gives space to raw language, an ‘uncultured’ language counteracting both the norm and cultural absorption. What women (and men) often fear is not speech itself, but the manipulation of words / meanings that are taken from their own body and forced uncritically into the cultural body. The Archive’s interest lies in dissemination of the unscrutinized word, in holding speech beyond the boundaries of print.

The project is situated within a particular time and its interest is in addressing issues and exposing ways in which history can be constructed. A recording establishes a specific relationship with a spoken word. Ensuring its repetition, it often makes it more fragile and vulnerable to manipulation. It grants preservation often at the cost of dislocation, tearing it away from its original context.

At the centre of the collection as a project, is conversation. What a conversation offers is a chance of breaking the codes of negation, capable of exposing a side-track of thought neglected in the right to speak. In conversation the wrong-sidedness of language is revealed and patterns of communication can be redrawn. The interest of recording conversations refers back to my own cultural background and the desire to keep track, to make visible and to hear my own version of reality. It is a verbal culture in which the channels of subversion emerge in conversations with others, and through the word that spreads around, mediated between desires and deeds. It is often too easy to think of the world as divided between only the free and the suppressed speech territories. The problem is not solely in the suppression of the moment of speech, but in the nature of freedom. Freedom

eloquent and I wanted to make that absence apparent not as a lack, but as a deafening silence. But I think not allowing a space even to think is a crucial part of it. It’s a kind of onslaught really, that wraps you up the whole time in its noise. It’s totally unlike the way people communicate in an exchange, where they feel safe to be silent or to think or to pause, where the other person is giving them a chance to organize their thoughts and their feelings.

I wanted to ask you how do you feel the Archive could become more of a public place?

ML: I want this collection to be public, but I think there is something I start to understand now – why it is not public yet. That it is still at the stage of forming itself and questioning itself. As an archive its value is not immediate, and its relationship with time and place is different from other cultural institutions. And if you think of it as a cultural interference, then you also have to be absolutely sure that it is made visible at a moment when it stands the least chance of reinforcing the ‘backdrop.’ At present, quite deliberately, the Archive relies on word of mouth for distribution and information.

CW: Something else that occurred to me, is the sense in which the Archive is a kind of accumulation, and in a way that’s close to a conversation. When you start a conversation you have a desire for another person or people. You don’t know exactly where you are going to end up because, although you might have a clear idea initially, in collaboration you go off in a slightly different direction. One of the things that seems to me most fruitful about a conversation is that it is an encounter with the unknown. It is also a way of clarifying your own thoughts and sustaining the desire for contact with someone else, whether it’s intellectual or whatever. Without trying to make the analogy too neat, I have a very strong sense of that in relation to the Archive and I think that fits with what you have said about trusting you’ll know the moment for it to enter the public domain. I think that’s very much like that stage when

does not lie in legal guarantees, but in the ability to question itself and change course, inventing its own parameters. In totalitarian societies the word is still a powerful weapon which threatens the master discourse without, as in liberal democracies, being absorbed by it:

to create culture it is necessary to meet, to talk together, to organize without any economic, juridical, and religious submission, dependence and prohibition.⁴

Where is the beginning of sound, of the recording, of the voice present in the magnetic field of the tape and in the field of imagination? In speaking, one crosses between two spaces, that of speaking and that of sound. It is in the communication between those spaces and in the 'being through speech' that the presence of the familiar is established.

The moment of recording sound and the moment of replay do not share the same space and time. The sound imagines the site. It elaborates on the invisible. It presents time in the density of visions, breaking up the perception of one image. In the recording, the voice comes from someone who is not seen, whose presence is asserted through sound. Our attention is therefore fixed in listening / imagining. It is the voice that is present in the disappearance of the body. Through listening we cannot possess that body. What truth does the voice conceal? What is the testimony without the body?

If sound is at the origin of being, how does it represent that being? Is it solely through speech that we begin to draw the contour of identity?

A conversation enters no stage, it does not require a setting. It is able to find a space in the unlawful territory of language. It is on-going,

you're discussing ideas with someone and you are absolutely committed to them, but it's also a matter of deciding how to be most effective at any one time and it takes a certain moment of wisdom, maybe, to be able to hold back when your energy is going into something and you want to communicate that to people but it's not the right time.

ML: I also try not to submit to the idea that there is an established pattern for the success of any operation. The project doesn't seem to be developing in a straight line, neither in terms of its measurable success nor in the material it concerns itself with. It wanders about and goes off in order to be able to accommodate changes in the way it exists and within people involved in the recordings. I think this claim that any one project or person can be seen as symptomatic of our time is rooted in a kind of nervousness and fear of the insignificance of our time. So that any sign transcending that fear is immediately capitalized on and made 'real.' The lack of a coherent value system means that all the time we are dealing with gaps.

Coming back to sound. Where would you see the limits of this practice and the desire of visual artists to engage with sound?

CW: I find it very difficult to answer because I don't think I myself had a clear, formulated sense why I wanted to use sound initially. There was definitely a connection between its 'disembodiment' as a material and equivalent qualities in light projection. Although both depend on the existence of technology in order to be reproduced, re-enacted, at the moment when these two elements coincide, physically all we actually register is waves of sound and light. But the field of vision, the tract of sound in space, immediately position us as spectators, as audience.

I wanted to ask you who you feel is working with sound as a significant element in their work?

ML: There are two women from Germany whose work I value a lot,

from time to time. It becomes its own solution. It may begin at the moment of ending. It pays no attention to progress. It is here now. Conversation provides a transitional space, a non-solid state of passing through, of self-doubting and speaking out of not-knowing. By means of recording, conversation represents time. It enters history. It articulates history. It makes the past present, over and over again. The ever present is granted by the apparatus – the tape recorder. The recording keeps time but it also keeps a record of tongue, of a story you are telling now and then, of a fantasy free from the oppression of chronology.

Speaking belongs to the area of the untraceable, the testimony of the word cannot be forced out of the body. The body is able to sustain torture in the refusal to utter and submit. In the moments of historical and personal despair the word is often exposed, its power of withholding threatens. Speech leaves no visible mark, its only refuge is in the memory of the listener. But how can we enter into the cultural and political debates with our silent bodies? We are always at the beginning of re-inventing the language in relation to the body. But we cannot be a mouth to the cultural body that is not our own. The narratives are too often invented for us by those who seize power in the exercise of arrogance and trivia. They colonize the media and they try to colonize us. We are in need of re-defining the content of our stories, as well as the medium and the process of their distribution.

It is conversation that offers a possibility to question the repression of the self and grants a gradual gain of access to women's own language. But to identify what that language might be, we need to keep on talking / listening to more than ourselves. In the refusal

Dorothee von Windheim in Köln and Christina Kubisch in Berlin. The first one uses the tape-recorder to record her presence within an environment marked by a strong visual and political reference. Two significant projects of this kind are the recording of footsteps along the Berlin Wall and a recorded walk along the Rhine in Köln. In both projects the sound originates from the body. Some of Dorothee's other recordings are of readings from her diary, indicating another kind of presence, that of spoken language. Christina Kubisch's work also derives from the relationship of sound and human presence, in her case the presence of the audience generating sound through movement.

That particular way of using sound made me think of the recording as a site, a location for a recurring desire to re-define a voice and its relation to history. When we are talking of recording history, we are not necessarily thinking of a tape. We are implying a range of documents available to us as evidence. But a large part of that evidence is already edited, if not missing. It is fragmented by prejudices and exclusions originating in the dominant cultural 'whiteness,' both female and male. There is a responsibility on our part, as white women, to address those issues.

What is the construction of a recording as an account, if it's both through language (story) and presence of the body (being)? The question is not only who is talking but also who was there, who decided to switch on the tape recorder, who kept the tape? All this isn't that relevant in making an art work, but it assumes a different meaning through recording political speeches, demonstrations and rallies. There is a moment when you must consider how the medium you choose is placed within the tool-box of political references and how they may contribute to the possible readings of your own art production.

CW: I have been thinking about the whole notion of silence. It's something Marguerite Duras uses in a film called Natalie Granger. I think the case she makes in the film is that there is a kind

to speak other than her own truth, she is struggling to decipher and articulate that truth. She knows it is not once and for all. She insists on searching among her own confusions. Talking brings a pleasure of rebellion to her, of breaking away from the constraints of linear time, based in the process of revealing the link between a word and a desire for presence.

How are we speaking, if not historically? But as Julia Kristeva points out:

we are constantly faced with a double problematic: that of ... *identity* constituted by historical sedimentation, and that of ... *loss of identity* which is produced by this connection of memories which escape from history only to encounter anthropology.... We confront two temporal dimensions: the time of linear history, ... and the time of another history.⁵

Conversation is a medium which escapes 'progress' and one-dimensional development, its importance is as cultural memory. The liquid of the present originates in the dialogue with the past, which we help to dissolve into the future. The past is full of blank spaces. We often can only survive if we keep on forgetting. But in a world structured by the order of reason, we are not allowed to forget; our memory is stored in the machine and called upon out of our control. We are subject to continual re-telling of the story. The sound recording is a means of construction and reconstruction of the state of mind embedded in the language system. The uncertainty of boundaries, placements, historical constructions and their representations, preoccupies my sense of being. In a tangled presence of language I am learning to gather attention, to accommodate fear, the unknown. 'It is not the voice that commands the story, it is the ear.'⁶

of tenacity and strength in women remaining silent. And I would actually question that, but I just wondered if it is a possible strategy and what its significance is in relation to speech.

In other words, if one had a recording in which the impossibility of speaking was as eloquent as the recorded sound, either of a human presence or of voice. I am equivocal about it and I don't want to advocate silence because I do feel strongly that there is a problem when one is silent, and I'm speaking from experience. The refusal of speech is certainly a very eloquent expression of something, but it does imply that one, in a way, may even be displaced from oneself. Because if you can't take on the means of a certain kind of power in our culture then what expression do you have for whatever you identify as your culture, your own cultural power?

ML: Silence is not simply a state of non-speaking. What we observe now is the terror of 'noise,' 'cultural noise,' and the lack of silence. I am very drawn to the idea of the Archive being a place for re-constitution of silence in cultural terms. If we consider the position of women in relation to silence, maybe instead of understanding it as meaning absence, we could look at it as non-submission to the patriarchal 'noise.' If you imagine reaching a state of being able to articulate your relationship with silence, would it mean coming to your own speech?

Where I see a point of crisis now, is not in women being silenced, but in women being subjected to 'noise.'

CW: This makes me think of Marlene Goris' film, A Question of Silence. I wanted to see it again because my memory of it was one of confusion. The women's silence in the film, their refusal to offer explanation, was obviously a strength in the way it was depicted, and I took it as that, but I also felt it was a problematic area as well. What it seemed to come close to was a kind of a feminine principle almost of a certain sort of inscrutability, and I think that that could be a problem if one is trying to open up possibilities for different kinds of contacts

Notes

1. Julia Kristeva, 'Word, Dialogue and Novel,' *The Kristeva Reader* (Oxford: Blackwell, 1986), p. 59.
2. Martin Heidegger, *On the Way to Language* (New York: Harper & Row, 1982), p. 107.
3. Ibid.
4. Luce Irigaray, seminar at the Institute of Contemporary Arts (London, May 5, 1987).
5. Julia Kristeva, 'Women's Time,' *The Kristeva Reader* (Oxford: Blackwell, 1986), p. 189.
6. Italo Calvino, *Invisible Cities* (London: Picador, 1984), p. 106.

or networks, not only between women. So, I had a lot of doubt about it, whilst also feeling that there is a tremendous power in refusal, in withholding speech if it is identified as contaminated, exhausted, the language of the oppressor.

When you talk about 'noise' – which I like very much because it's very much my impression of how one has to live now, being subject to 'noise' – I'm aware of a paradox. If you are dealing with sound on tape, the implications of what that sound records are multiple and perhaps one has to have a very clear understanding of what a gap in sound means, how one can transfer the kind of significance one wants for that gap, onto a tape. It's a bit like making any kind of work: one can't be totally literal because in the process of translation from one medium to another, one expression to another, there is an alteration of sense.

ML: What the sound work is able to grasp is a passage from the reality of recording to the reality of play-back, which are two different realities. Incorporating silence in a recording means also reminding yourself and your audience of the process of erasure and manipulation inherent in the production of sound. The inbuilt facility of any tape-recorder is the erase-head, which gives you the power to exercise silence. This is particularly relevant in the documentary recording.

But there is also another aspect of a recorded silence when you are a listener in a gallery situation and you expect to hear sound and not to hear yourself, at the moment of silence and gap you are forced to start hearing yourself. That area of shifting from the reality of sound / voice to the reality of bodily presence, which testifies silence, interests me, especially in relation to the Archive.

But how to keep that silence active and articulate so it is present rather than lost?

Listen

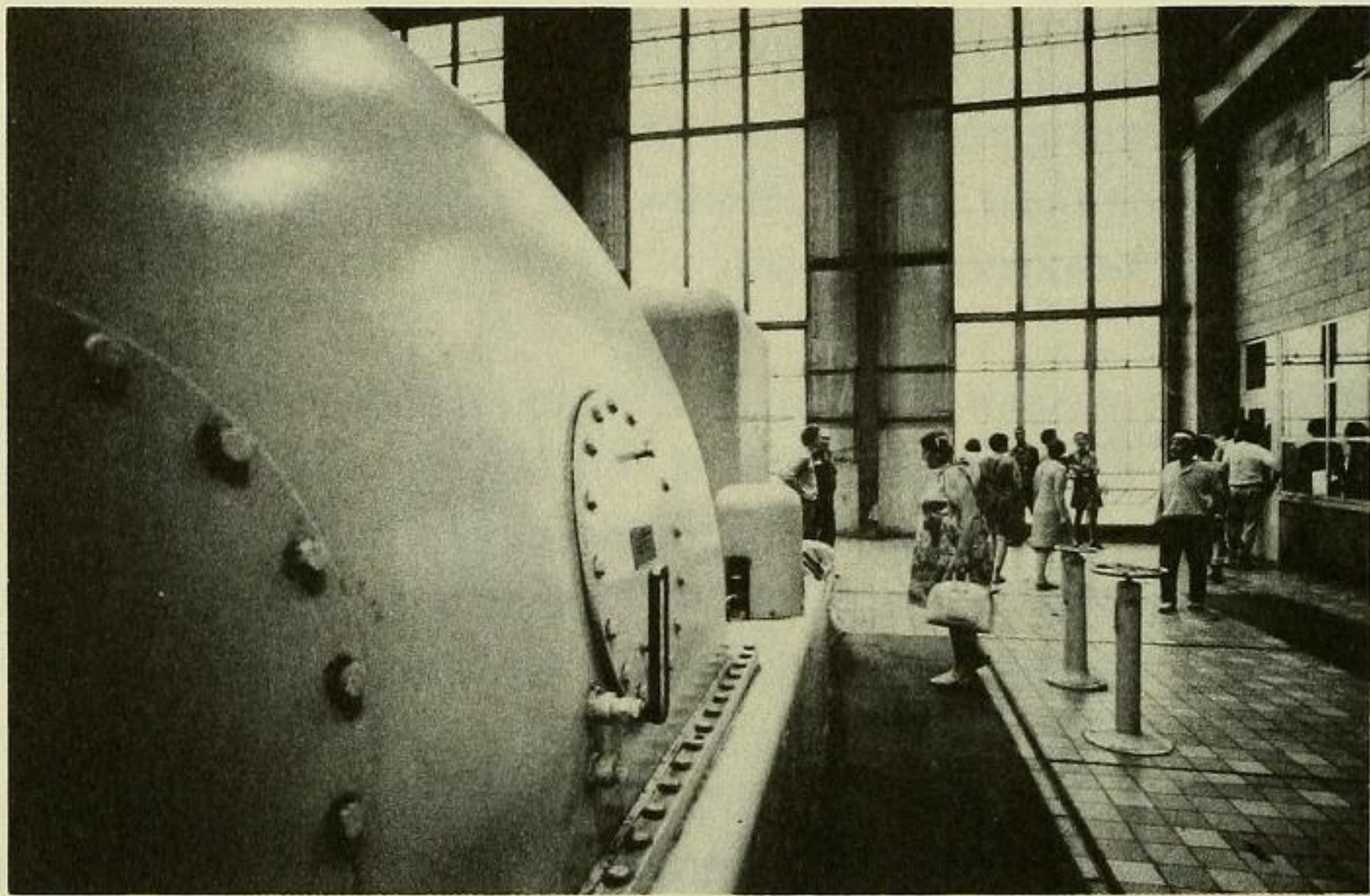
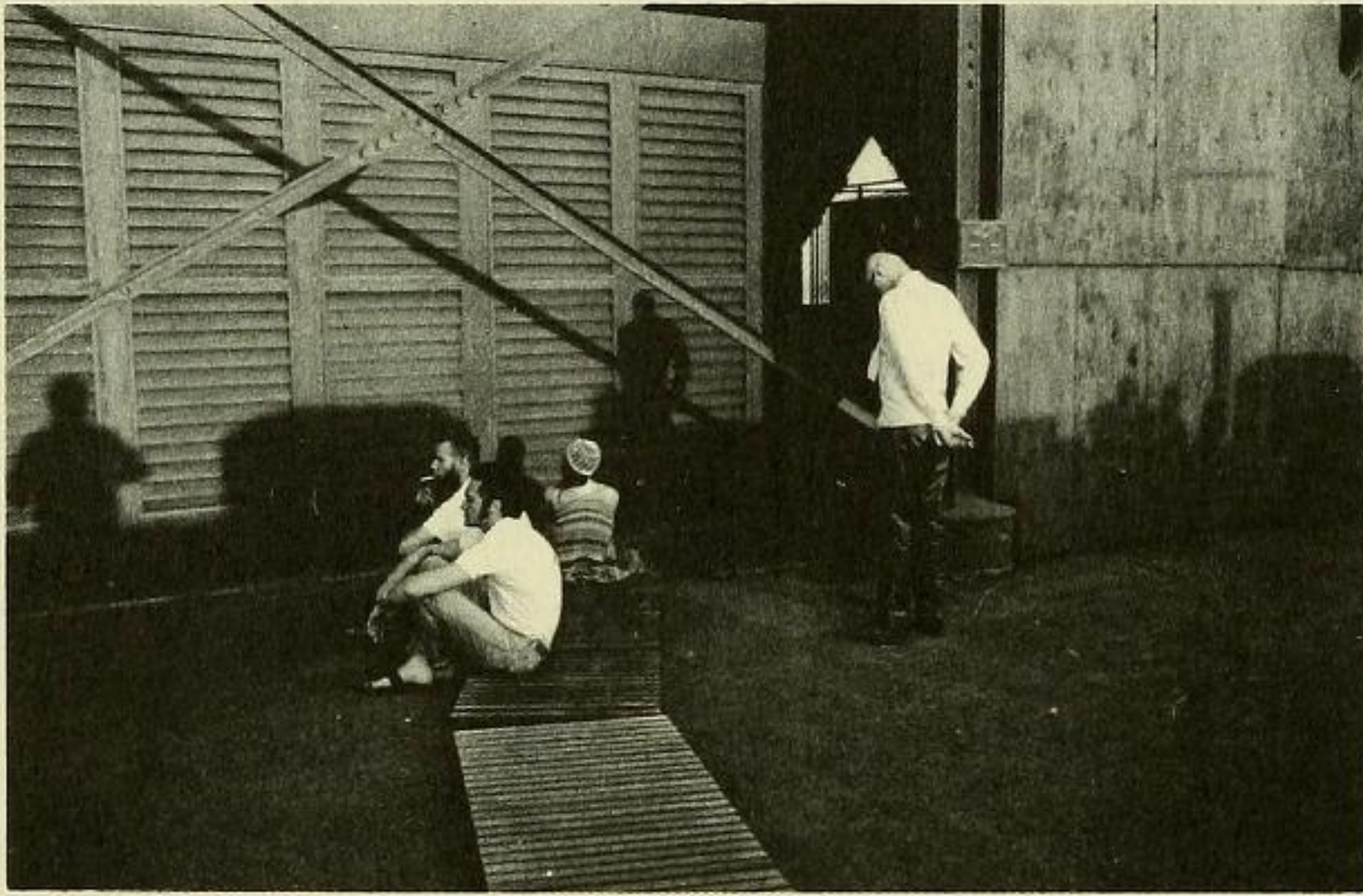
Max Neuhaus

The impetus for the title was twofold. The simple clear meaning of the word, to pay attention aurally, and its clean visual shape – LISTEN – when capitalized. It was also – partly, I must admit, as a private joke between me and my then current lover, a large French-Bulgarian woman, who when angry used to shout it before she began to throw things – its imperative meaning.

LISTEN was my first independent work as an artist. As a percussionist I had been directly involved in the gradual insertion of everyday sound into the concert hall, from Russolo through Varese and finally to Cage where live street sounds were brought directly into the hall. I saw these activities as a way of giving aesthetic credence to these sounds – something I was all for. I began to question the effectiveness of the methods, though. Most members of the audience seemed more impressed with the scandal than with the sounds, and few were able to carry the experience over into an appreciation of these sounds in 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 – a demonstration in situ.

The first performance was for a small group of invited friends. I asked them to meet me on the corner of Avenue D and West 14th Street in Manhattan. I rubber stamped LISTEN on each person's hand and began walking with them down 14th Street towards 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 river for 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.



Listen, 1968. Photos: Peter Moore.

After a while I began to do these works as 'Lecture Demonstrations.' The rubber stamp was the lecture and the walk was the demonstration. I would ask the audience at a concert or lecture to collect outside the hall, would stamp their hands and lead them through their everyday environment. Saying nothing, I would simply concentrate on listening and start walking. At first, they would be a little embarrassed, of course, but the focus was generally contagious. The group would proceed silently and, by the time we returned to the hall, many had found a new way to listen for themselves.

Of course, there were a few 'mishaps.' I remember one in particular at a university somewhere in Iowa. The faculty must have thought I was actually going to give a talk. They were nonplussed when I told the students to leave the hall, but, fortunately, not quick-witted enough to figure out a way of contradicting the day's guest lecturer. The students were more than happy to escape and take a walk. Several hundred of us formed a silent parade through the streets of this small town – it must have been Ames. The faculty was so enraged that, to a man, they boycotted the elaborate lunch they had prepared for me after the lecture. I quite happily ate a lot of meat and potatoes.

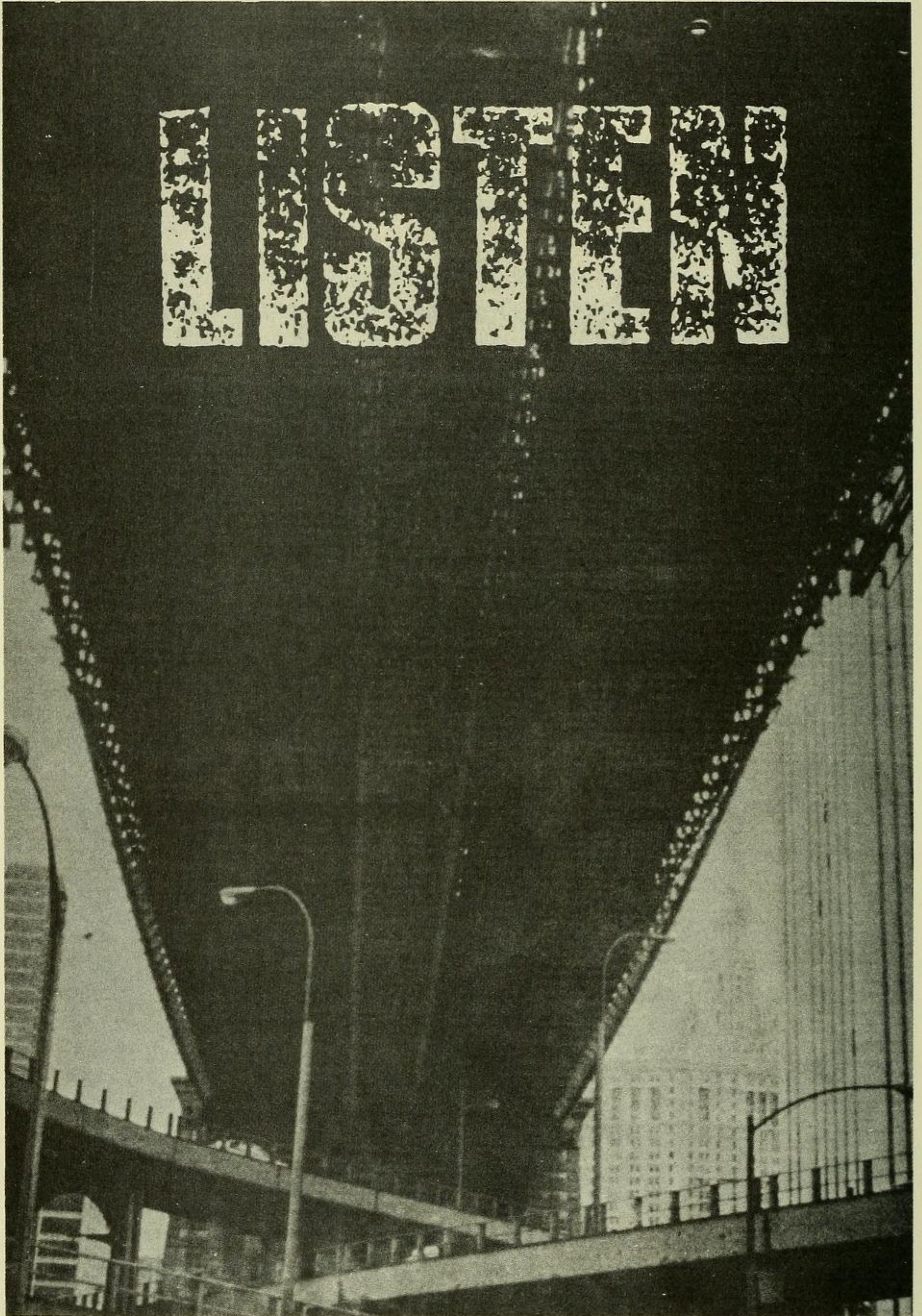
A number of years later, when Murray Schafer's *Soundscape* project became known, I am sure these academics didn't have any problem accepting similar ideas. The reality, though, was quite another matter – not being safely contained between the covers of a book.

I suppose the real definition of this series of pieces is the use of the word LISTEN to refocus people's aural perspective. I began to think of other ways of using it. (The Iowa experience had blacklisted me as university lecturer.)

The largest version of the work (one million people) was an opinion editorial that I wrote for the *New York Times* in 1974, condemning the silly bureaucrats of the Department of Air Resources for making too much noise.

Unable to do their real job of cleaning up the air that New Yorkers breathed, they naïvely applied their energies to 'cleaning up' the sound of the city. To keep their pot boiling, they published a pamphlet entitled, 'Noise Pollution Makes You Sick.' I countered with 'Noise Propaganda Makes Noise.' The basic point being that by arbitrarily condemning most man-made sounds as noise, they were making noise where it never existed before. The most tragic result of their meddling is the people one has seen blasting their ears out (quite literally) with 'Walkmen' while riding the subway, convinced that they are protecting

LISTER



their ears from the subway sounds which are, in fact, much less loud.

There were other manifestations of the idea. I organized 'field-trips' to places that were generally inaccessible and had sounds that could never be captured on a recording. I also did some versions as publications. One of these was a poster with a view looking up from under the Brooklyn Bridge, with the word LISTEN stamped in large letters on the underside of the bridge. This idea came from a long fascination of mine with sounds of traffic moving across that bridge – the rich sound texture formed from hundreds of tires rolling over the open grating of the road-bed – each with a different speed and tread.

The last work in the series was a do-it-yourself version. I published a postcard, in the form of a decal with the word LISTEN outlined in open letters, to be placed in locations selected by its recipients.

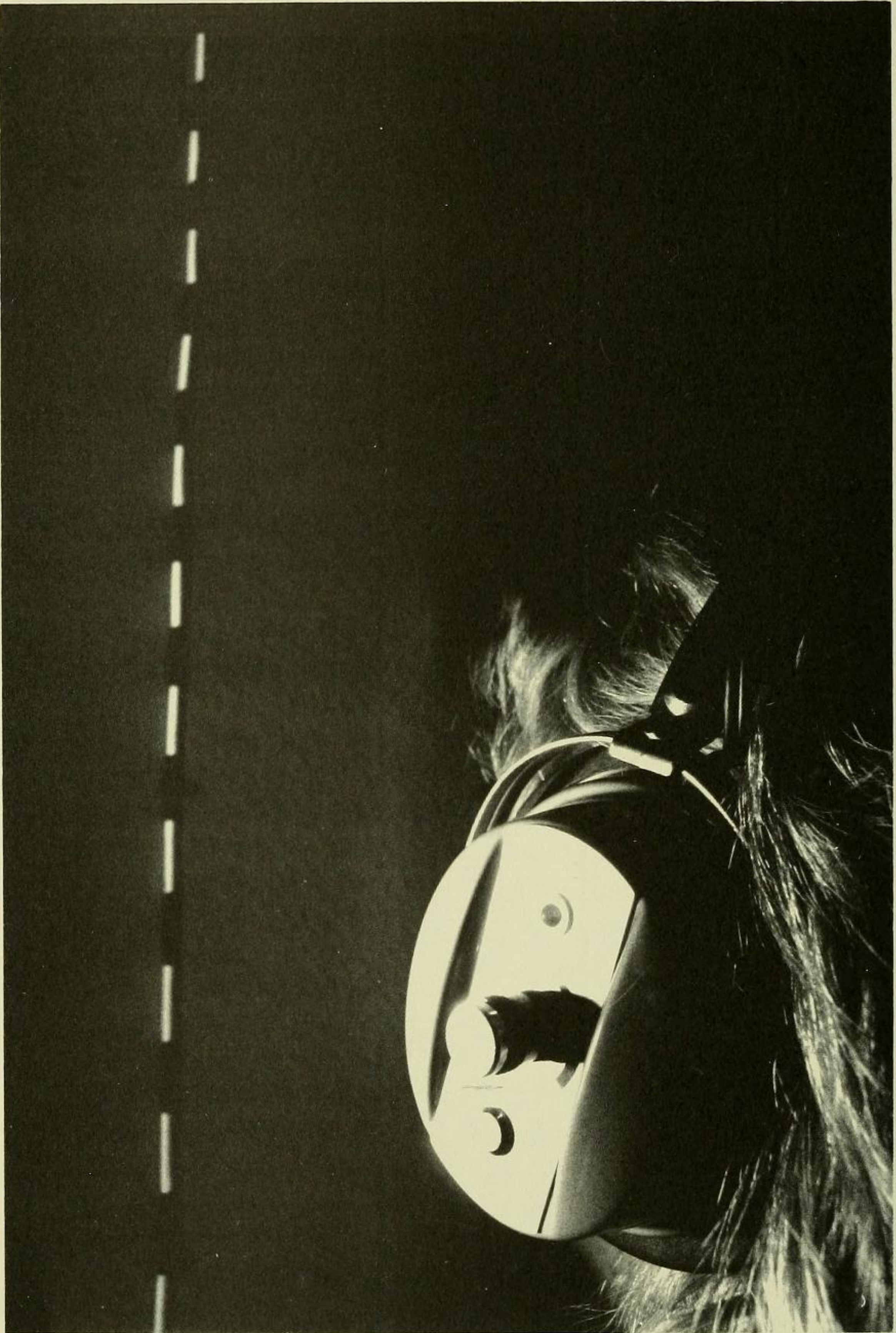


Photo: Giacomo Oteri.

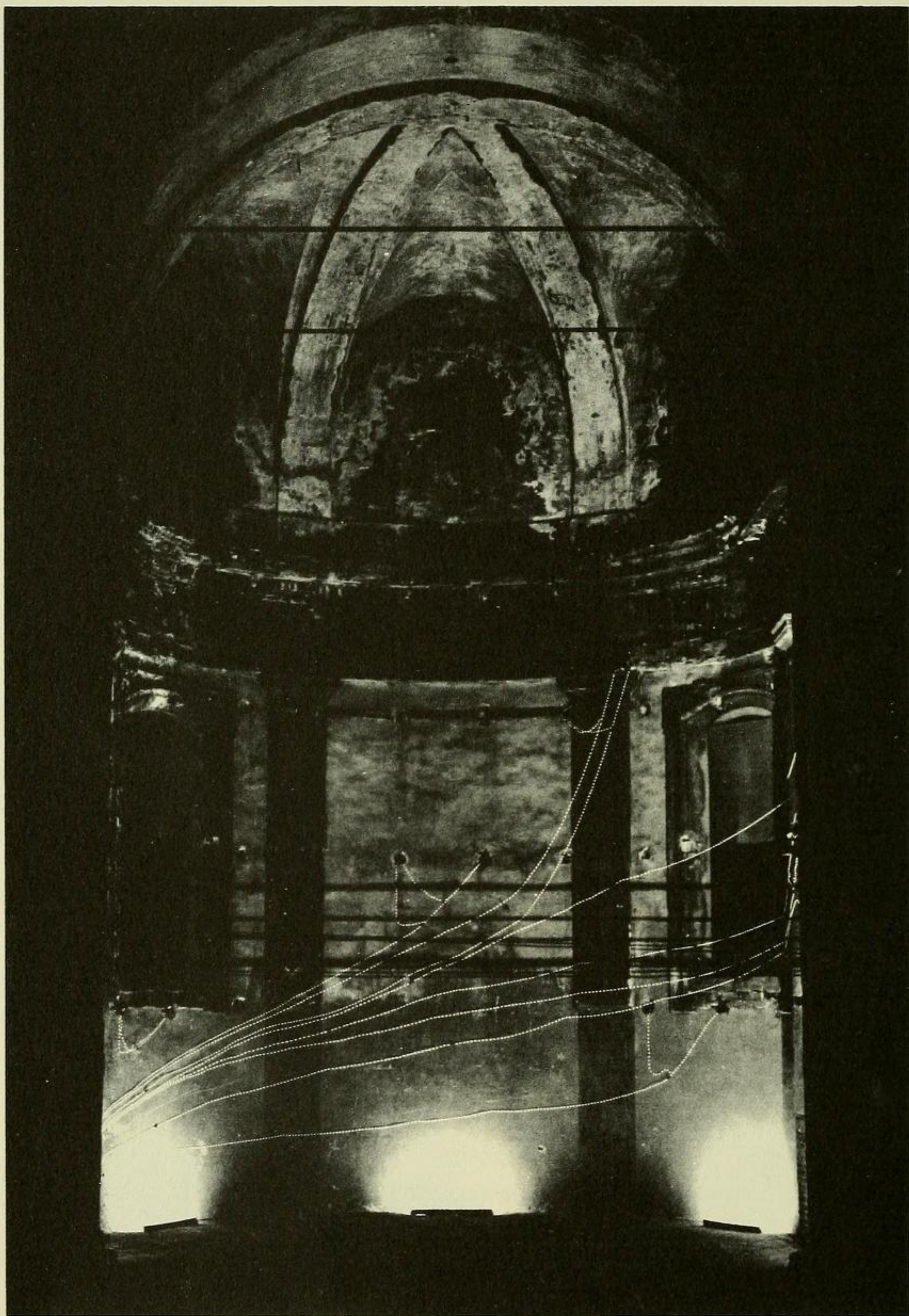
About My Installations

Christina Kubisch

My sound installations are based on electro-magnetic sound transmission. A series of electric cables are installed in an indoor / outdoor situation. The cables can be fixed to walls, ceilings and floors or suspended in the air. They can follow the natural forms and architecture of the place (for example, cables can be wrapped around trees in a wooded area or strung around columns in an old monastery) or they can form an independent geometric structure throughout the space.

Sound transmission originates with an audio source (generally tape) that is amplified by a specially built amplifier from which the cables are sent and returned, forming a loop. One 'pair' of cable structures forms a stereo output (left and right channels). The public (listener) wears a wireless headphone with an adjustable dynamic range control. The listener can walk around freely, receiving the sounds via the built-in electro-magnets, which function like pickups. Through movement (or non-movement), the listener is able to choose between various sound sources and their combinations. The volume of the sound increases as the listener moves closer to the cables. Quick movements through the space cause the sounds to fade into one another, while slow movements cause sequences of sounds. The space between the cable fields produces silence.

The sounds can be electronic, natural or instrumental and are compiled, in advance, in my sound studio. The 'composition' for any given installation is related to the 'sound-architecture' of the cable structure.



Above, *Chiesa Di S. Carpoforo*, Milano, 1987. Photo: Giacomo Oteri.
Opposite, *Moltkerei*, Köln, 1985. Photo: Stefan Array.

Sounds

I generally work with 'opposing' sounds.

Natural sounds: recordings made in nature, animal sounds, water sounds, the sounds of different materials, the voice, primitive instruments like a sea-shell or an Australian didgeridoo.

I am particularly interested in these sounds because they are evocative and, when heard in a different space from the original, can take on a magical and mysterious quality. My intent is to create a landscape of sounds (soundscape) in which the public can move freely, exploring and individually changing the composition. It's like walking in a jungle or along the seaside at different times of the day and on different paths.

Electronic sounds: I like to create sounds that are close to the character of the above mentioned sounds, interesting in their timbre and structure, and yet, not immediately identifiable with traditional instruments. The sounds are more articulated in their innate micro-structure than in melodic or harmonic patterns. Of special interest to me are rhythmic structures and their combinations. For example, a listener 'caught' between two cable-fields is apt to hear a polyrhythmic pattern. Natural and electronic sounds can be integrated into a kind of music that I call Ethno Electronics: music where electronic nature and natural electronics are so integrated that they form a new unity.



Afterword

The predominant means of acoustic communication today are radio, records, cassette tape and video. The technical media have radically altered the relationship existing between listener and music. Technology has bred a musical standard that is intended to be appreciated through loudspeaker systems and has very little to do with performance techniques used in the past.

As early as 1958 Karlheinz Stockhausen, a pioneer in the field of electronic music, wrote:

And what have record and radio producers done up-to-now? They have reproduced a music that was conceived and written for performance in concert halls and opera houses. Radio has strived to perfect technical reproduction to a standard that made it progressively more difficult for the listener to distinguish between original and copy. The illusion must be complete. The conscious deception perfect. All this leads towards a society that gains its spiritual sustenance from cans.

Canned music is able, through computer-controlled recording and reproduction techniques, to produce the sensation of 'being in the centre of the musical performance.' However, it is precisely this 'perfection' that discourages listeners from indulging in musical activities themselves. Creative musical experience need not, however, be limited to academic practice or to recorder recitals during 'musical afternoons' at home. The fear of electronics ignores the fact that each note is an electrically converted vibration and that live sound material can be produced 'naturally' by current, in the same way as traditional instruments.

Listening is, in itself, an activity that must be consciously learned and developed. In contrast to the conditions in concert halls, our ears, coupled with the other senses, perceive rotund, spherical and moving sound. Creative listening is the starting point for my sound installations and sound-zones in which the structure of the composition is combined with sequences of tone and movement. The audience is able to move freely between various acoustic fields distributed throughout the sound zone, enabling the listener to discover ever new and individual sound combinations. These sound-zones are often created in the open air: in woodland glades for instance, or in buildings that were not constructed to act as concert halls, such as deserted factories, shipyards and cellars.

This essay first appeared in the catalogue *A Different Climate: Women Artists use new media*, published by Städtische Kunsthalle, Düsseldorf, 1986.

Anti-Copyright and Cassette Culture

Donal McGraith

Traditionally, copyright has been seen as a progressive reform, a cornerstone in the protection of the artist. Recently major corporations in the recording industry have pushed for more stringent copyright legislation to cope with the perceived threat to this form of ownership presented by new developments in reproduction technology and its accessibility. The protection of artists has been a major propagandistic tool. Industry slogans endorsed by some artists such as 'Hometaping is Killing Music,' are attempts to legitimate the industry's control of duplicating mediums, and in fact, are part of a major campaign to extend that control. There is a real threat to this control, which I hope to make clear in the following.

Copyright is one means of commodifying cultural exchange. Modern secular culture was supported by a system of patronage where the artist was a vassal of the aristocracy, a purveyor of symbols of power and wealth. As the bourgeoisie became more and more dominant the aristocracy eventually lost its role as patron of the arts. Emphasis was placed upon separable and saleable performance or product. However, as a marketable commodity, art lost its verification of uniqueness that came from aristocratic power. The mystique of genius was transmuted into the trademark of authorship. In order to sell what is useless and free, since art no longer served to document and symbolize power directly, it became necessary to somehow distinguish true art from false art; a distinction that was really meaningless in aristocratic culture since, by patronage of the artist, the results were validated as art.

The rapid advancement of industrialization demanded an ever-increasing number of workers. Peasants were disenfranchised to fulfill this need and the traditional peasant culture was undermined. Peasant culture was amorphous, static and anonymous, but most of all free of charge. The debilitating reality of industrial urban life

created a mass of spectators with, for the most part, no time or energy to maintain cultural autonomy. Despite the fact that the new proletariat received wages barely sufficient for life, they refused merely to survive and sought after pleasures they could not afford. This created a market for a popular commodity culture. And so, peasant culture was sold back to those who originally owned it. Broadsides are a good example of this.

These anonymous, free peasant songs were usurped by the same music printers who often controlled the printing of art music. These printers were those best served by the original copyright and performance right legislation. This is the genesis of the culture industry. Copyright is instituted for the protection of sellers, not artists, against other sellers. It is an agreement between the state and the sellers to rationalize the cultural marketplace and to entrench the control by the sellers over the industry. The state will, of course, police the cultural property of the cultural industry.

Royalties must be afforded to the artist in order to seal some economic bond between authorship and the commodity. Without this, mass marketing would be difficult if not impossible. Every consumer must get both the same item as every other and something that is somehow unique, something set apart from local self-generated music:

The process of the selection and emergence of stars in the popular song of the eighteenth and nineteenth centuries relates to the same dynamic of musical, cultural and economic centralization. Up until that time, popular song found expression mainly in the street, the traditional domain of the jongleurs. Its confinement and pricing, first in the cabarets, then in cafe concerts, was the precondition for its entry into the commodity market and competition.

Jacques Attali, *Noise*, p. 72.

With regards to art music, the concert circuit provided advertisement for the connection between the artist and the musical exchange value controlled by the publisher. In both high and popular culture the printer-publisher was a primary source of sponsorship of performance.

Royalties provided to the artist are fixed by law or by contract. They in no way reflect any costs or labour of the artist or any value judged by the artist. Royalties buy out the artist, force any of her / his hope into a dream of a mass audience, and if bought, exchange

the artist's control for a form of payment that is such a small portion of the cost of the commodity it carries no real leverage. For instance, the common recording contract involves the following royalties: \$0.10 per record for the performing artists (the band, title artist) and \$0.10 per record for the songwriter and/or publishing interest. Though this may look promising, the artists must first pay back the advance made to them prior to production and, in addition, the record company will recover all recording costs before royalties are paid. In addition, the writer / publisher receives a radioplay royalty when a piece receives radio exposure. However, royalties are calculated by monitoring 'representative' radio stations. Because the monitoring is selective, only those artists with broad appeal will benefit. There are therefore enough preconditions to the distribution of royalties to ensure that only those artists capable of fungible commodification on a grand scale receive any substantial reward.

Royalties license the seller to use whatever personal value, inspiration or genius the artist hopes is in their art that might transcend this debased transaction. The sellers are modest. They appear only to facilitate the transmission of cultural meaning. However, the buying and selling of art has never been an innocent exchange. In fact, we shall see that buyers and sellers are formative with regard to cultural significance and that those transcendent values implied by the concept of 'original art' are actually used to cover up the real functions of the art market.

Cultural commodities are represented in cultural theory as pure transcendent value, and as such, are open to wild speculation. Art is said to be priceless. This is ironic since it always carries a price tag. Whether a cultural commodity is a unique original or a mass produced item, its 'artistic value' is always liquidated, cashed in. The 'original art' market, in its crassness, provides the key to understanding the political economy of mass-produced culture.

The idea of artistic originality is a necessary precondition of art market speculation. Speculation would be difficult, if the art market could be reduced to the buying and selling of, say, oil paintings, since they are abundant. An artificial scarcity is created by their supposed originality. The functions of this speculation are to create finance capital through rapid amassing of assets or laundering money.

It is established that the historical development of a secular culture required usurping some of the sacred value that religious art

monopolized. The bourgeoisie's original interest in art was perhaps an attempt to outdo the aristocracy by appearing forward-looking and modern. However, it rapidly became evident that these cultural commodities could be manipulated as investments.

For instance, it is now a well-documented fact that purchases of 'great paintings' are more often than not, fraudulent. Owners of large collections of a particular artist will place a single painting on auction and will pay someone to stand in as a purchaser and have them buy it at an inflated price. They may even pay for phony bidders or manipulate the preconditions of the sale in some other way. The end result is that the perceived value of the collection rises and so therefore does the financial leverage of the owner. Even in the case where the auction is not tampered with, the common economic interests of buyers produce similar results.

Market value, however, does not remain separate from cultural value. Either as a result of the kind of sale mentioned above or as a preparation, books are published. Major monographs rarely, if ever, have sales that justify the enormous printing costs, fine reproductions and luxuriant paper. Reputable critics and historians are hired to write copy for these coffee table advertisements. The large expensive monographs seem to create a need for more inexpensive books. Museums and art galleries organize shows and retrospectives. This can make a hitherto unknown artist famous or revitalize and confirm a major artist's status. The new art histories will be compelled to take into account these developments. Many of those involved in this process may see what they do as making art more accessible to the masses, but what motors all this is money, and the art-historical process is a legitimation of this profiteering.

Copyright is not really a central issue for producers of original art work who usually only receive the first paid price of their work, except as it bears on forgery. Forgery is actually a very telling activity since it bears on all the issues surrounding the concept of originality. In order to command attention, great art must be, it is said, truly unique, a work of extraordinary genius. However, by simulating a masterpiece the forger puts that uniqueness into question since the same effect can be duplicated 'inauthentically.' The forger is a theological problem. The question, 'If art is transcendent how can it be simulated?' parallels, 'If god is all good, how can evil exist?' In a sense, the forger is a devil who attempts to confuse the faithful. The forger is an inverted genius, and the exposing of forgeries is a

process that merely reconfirms the concept of originality because it seems to prove the existence of the expert knowledge of the art police.

The basis of copyright is the notion of transcendent uniqueness in cultural productions and is fundamental to the understanding of the spheres more directly affected by copyright.

Copyright affects duplicating media. It pertains to books, records, photographs, printed matter, radio-play, video, film, as well as the performance rights of music, theatre, dance, performance art. It declares ownership of such nebulous things as language, image, style. The new technology, though engendering many problems for copyright, has also created its own areas of authorship and ownership: computer programs, software and hardware, synthesizer patches and even the formulae and hardware for creating synthesis and now, because of the verisimilitude of digital sound sampling, copyright wishes to claim the 'sound' of an instrument as performed or recorded. Copyright attempts to restrain the free play of the imagination just as the church, via the Index, attempts to control the free exchange of ideas. One is made wary of trespassing upon someone else's intellectual or cultural property. In school we are prompted to put into 'our own words' what we understand from what we read. This to a child seems utterly inane but we will be punished if we don't try. In university, plagiarism is punishable by expulsion. A cottage industry is therefore created so those students who care about their marks can limit their level of boredom by purchasing essays that best mirror the mediocrity of their professors. Finally, in the 'real world,' trespassing against the laws of authorship becomes, with copyright, criminal.

The irony, of course, is that the ideas, images and language protected by copyright are rarely 'original' at all. The boring mediocrity of most modern culture contradicts the ideology of copyright said to provide the author with protection against unscrupulous exploitation. A tame, safe culture of the most simplistic, inane and tedious commodities, easily packaged, trademarked and identified, as well as most amenable to corporate control, is that which is most vigorously protected by the watch-dogs of copyright. Whatever of value resides in this culture, and there is value here, is not protected from exploitation by copyright. In fact, copyright is one vehicle for exploitation.

The bootleggers who provide 'more of the same' for sale, are

easily contained by their own greed which they share with the corporations. They admit too easily to being illicit and thus confirm copyright rather than challenging it. However, it is those who provide copies of any or all materials for free who the corporations fear and who provide the real threat.

Copyright is theft because it claims ownership of a common cultural heritage. It loots ideas, images and sounds from the naturally free-flowing cultural milieu. To copyright something is to deny sources. Copyright presents as the property of one, that which is taken from the lives of many. Authors imperialize their influences when their work is copyrighted.

This imperializing of common culture is made evident by the legitimatizing machinations of modernist historiography. We have already seen how cultural values are driven by cultural exchange. This certainly goes some way in explaining why artists such as Picasso, Joyce or Stravinsky have the particular historical position that they do. Though this pivotal position may have been established and secured by economics, its historiographical significance goes beyond mere economic clout.

Picasso with regard to his own contemporaries is historically transcendent. Picasso seems to be forever prior to even those closest to him, such as Braque. Even though many movements similar to Cubism, such as Futurism, Vorticism, Suprematism and Constructivism were virtually simultaneous with Cubism, it is always read as historically first. This is because Picasso is first, the original, the cubist among cubists. All others are derivations, and therefore of lesser value. This of course more or less corresponds to the dollar value of the various lesser lights. They may jockey somewhat for position but Picasso is basically secure.

The justification for Picasso's position is his supposed originating genius. But why is Braque less than Picasso? Has the money sought out a truly higher value when it pays more for Picasso? It is difficult to argue this point because all art history has faith in the transcendence of Picasso. Braque is less than Picasso because Picasso is the standard by which Braque is measured. Circular logic has never troubled the faithful. Picasso, as the great god Pan, is a little less than ironic. The humble Basque beginnings of this art star only make him more like the carpenter's son.

Good art historians will point out many influences Picasso brought to his work, but the flattery really only works one way. The

influences are important only because they are influences on Picasso. Thus the cultural value and exchange value of Cezanne and African Art are enhanced by their relation to Picasso and not vice versa.

Picasso comes before African Art because Picasso made African Art a commodity. This recalls the broadsides that sold the new proletariat their own prior peasant culture. African Art could not be sold back to the Africans until they were separated from their culture. Generally speaking, the trinkets pilfered by colonialists have been elevated from exotica to great art not by a realization of the value of primitive culture but by a greed, fulfilled by the opportunity for exploitation, provided by Picasso.

This commodification of primitivism wasn't solely the responsibility of the Picasso cult, but the way in which Picasso, the original, usurps his influences is exemplary. The same is true, say, of Joyce, who used techniques which predated him. Laurence Sterne's *Tristram Shandy* is often given as an example though Sterne's importance is always read from Joyce's vantage point. Sterne becomes what Joyce makes of him. Joyce seems to derive less from Sterne than vice versa. Similarly, it doesn't seem to matter whether Virginia Woolf is doing the same thing Joyce was doing. She will nevertheless seem derivative.

Another denied source is everyday life. It is well documented that the source of Molly Bloom's monologue at the end of *Ulysses* is Nora Barnacle Joyce. It is also said that D.H. Lawrence read his wife's diaries and that this provided the basis for his ability to write from a woman's viewpoint in some of his novels.

The fact that both these cases involve women is undoubtedly not coincidental. Certainly this is part of the process described by feminist cultural historians whereby women's writing is submerged. However, in addition to this, it also may show that authorship is the real area of male control since much of the content is stolen and therefore belongs in some way to the history of women's culture. Of course, it is not only women's culture that is usurped. Zola's portrayal of the new proletariat belongs certainly to the latter, despite distortion or whatever. The idea that the portrait belongs as much to the portrayed as the portrayer is anathema to modern culture. It is, however, accepted in feudal and sacred cultures and is the very basis of oral culture.

By examining the legitimating processes of modern culture we

find a curious dilemma. The culture that bases itself upon authorship and originality is in fact stolen from those without a voice. It is ironic that plagiarism is the sin that modernism is most guilty of. Copyright allows the thief to claim ownership and make those who were robbed pay to get back their property.

Popular music is the ultimate example of this hypocrisy. In terms of American popular culture, the main source of exploitation was Black folk culture. Certainly Native and European peasant cultures formed integral parts of the mix but what makes American culture unique is the Black influence. With recording technology this common, free, Black culture was sold back to the Blacks in race records and whiter hybrids were sold to both Black and white. Because of the association of ragtime, blues, jazz, rock'n'roll, rhythm'n'blues, soul, funk, rap, with Blacks, these musics were considered somehow dangerous, sexual and forbidden. Hence the source of the subversive element of many musical subcultures. White musician's association with the 'primitive' Black culture implied promiscuity. However, for the audience it became symbolic of their defiance of the established culture. From the Berlin cabaret through beatniks, hippies and punks, musical subcultures provided an image of sexual and other freedoms.

In general, the popular music industry is involved in fans exchanging this image of hedonism (sex, drugs and rock'n'roll) for records, ultimately commodity exchange. From the elaborate network of T&A videos to the incessant repetition of the hits on radio, the pop music industry is fundamentally about selling the idea of exchange value. We only accept this exchange because of the unfulfilled promise of guiltless sex and endless intoxication. However, this enticement runs counter to our everyday lives and the price we pay is the interminable boredom and physical pain of work. It is certainly a sick trick that we pay for a simulation of freedom and ecstasy with lives which are insufferably boring. This is undoubtedly why we try very hard to intensify the rock'n'roll experience and why the audience threatens to get ugly and sometimes does. This is why we very much want to riot and loot the streets after the concert and sometimes on the weekend. We realize we will soon enough have to bear the indignity of wage slavery.

All these musical subcultures contain within them the seed of revolution. Not a *coup d'état* but a constantly shifting movement to create more space from the working life. What we discover as we

look at some of the recent musical subcultures is an attempt to create a shadow economy outside of the culture industry. And with this unfolding, we may see more space for the pleasure we lust for, subverting the distortions of the culture industry.

The 'sixties,' as that conjuncture of rock and radical politics is called, did generate a fairly extensive network referred to as the 'underground.' A wide proliferation of psychedelic garage bands was supported by local, national and international networks that fell outside of regular corporate culture. Certainly much of the 'underground' was recuperated by mainstream culture, however, it did demonstrate that other socio-cultural relations besides those made pervasive by capitalism were possible. The punk movement in the late seventies initiated a new underground, which has had more lasting results. Here a whole sub-culture was built outside of the culture industry's hegemony.

The punk movement maintained an overt critique of the culture industry and the aging dinosaurs of arena rock. The music itself propagandized the do-it-yourself (d.i.y.) attitude and a rejection of the seventies fetishization of technique. This devaluation of musical expertise made the form available to any number of participants. Even though many of its most famous artists were co-opted by the music industry (they were famous because they were co-opted), the punk scene remains intact over ten years later. The punk movement has remained open and regional with questions of musical quality bracketed in favour of group concerns and ritual behaviour.

In the beginnings of the punk movement, a divergent musical subculture was created by combining elements of the punk aesthetic with a more sophisticated political and cultural viewpoint. In a way similar to the sixties, the late seventies brought about a meeting of the art world and popular culture. The Glass-Anderson-Byrne-Eno connection is merely the most superficial aspect of this cross-over, though Eno's anti-musician stance and many of his poses were very influential. Besides this rather staid group, the new musical subculture drew upon those new forms of art that attempted to by-pass the gallery / museum matrix just as the punks attempted to by-pass the corporate music industry.

The heritage of art practice from the late sixties that eschewed art objects, was a primary influence. Mayo Thompson, for instance, of the Art & Language Provos associated with the influential *Fox* magazine, became a member of Red Crayola, an experimental punk

group that at one point fused with Pere Ubu. As one moves away from the most recognizable art world to the nether regions of industrial culture, the distinctions between High and Pop cultures disappear. The members of COUM Transmissions, extreme mail artists, became Throbbing Gristle, which became Chris and Cosey and Psychic TV. Despite their attempt to move from the obscure to some sort of pop cult status, this connection between mail art and music is very important to later developments.

Taking cues from many of these figures a new group of sound artists came to the fore in the early eighties. At this point, with the new advances in cassette technology, it was possible to make very high quality duplications at home very inexpensively. By the early eighties, a miniaturization of tape recording technology allowed for four track mini-studios complete with mix-in, mix-down and overdub capabilities. Now there are units with these features selling for under \$500 Canadian. As well, many expensive features of recording studios, such as reverbs, delays, compressors, noise gates and equalizers, have all been made available in inexpensive home versions. With the low cost dubbing decks now available, the means of production for audio is well within the grasp of many. This facilitates the developments to be discussed below. However, the technology did not determine the course of events. These 'toys' have just as much diversionary potential as any other consumer product.

Arising simultaneous with these developments was a magazine called *OP*. *OP*, the organ of the *Lost Music Network*, reviewed all records, cassettes and magazines that were sent to it. This magazine drew from the punk fanzine but its editorial direction was more in the spirit of mail art networking with a strong populist bent. *OP* made available to the reader hundreds of addresses of people looking to contact like minds. Many new forms of distribution were created to meet the needs of the network.

The magazine's open format facilitated the intermingling of approaches and genres. The 'audio artists' were indistinguishable from the punk industrialists. Tape collage, improvisation, *musique concrète*, sound poetry, polemics and other forms of extreme sound were made available to a non-passive group who would respond with their own work rather than applause.

This odd-ball grouping of punks, students, poseurs, radio programmers, audio artists, poets, writers, anti-authoritarians and other marginals shares a common distaste for the culture industry's proto-

col. They have no mainstream distribution and the vast majority are not available at the retail level. Trade of tape for tape is a very popular form of distribution, though others make their tapes available for a modest sum, which usually covers no more than the cost of a tape and postage.

This new model of cultural interchange is reflected in the form and content of much of the sound. As the culture industry's methods are eschewed, so are values of modernism. If the music is instrumental it shows little respect for musical technique whether in performance or composition. Much of the music is made of sounds derived from recorded music or the ubiquitous media barrage. These sounds are lifted from their sources without regard for copyright or politeness. However it never simply apes its sources, nor does it attempt to generate a commodifiable style out of its processes. This method of direct appropriation of cultural material, through tape dubbing, sampling or simulation, was conceptualized as 'détournement' by the Situationist International, a political-cultural group from France in the fifties and sixties. Their short piece *Definitions* includes the following passage:

Détournement: Short for: Détournement of pre-existing aesthetic elements. The integration of present or past artistic production into a superior construction of a milieu. In this sense there can be no situationist painting or music, but only situationist use of these means. In a more primitive sense, détournement within the old cultural spheres is a method of propaganda, a method which testifies to the wearing out and loss of importance of these spheres.

Situationist International Anthology
Ken Knabb (ed.), 1958, pp. 45-6.

Certainly there have been other notions such as *musique concrète*, *l'objet trouvé* and ideas in Dada, Surrealism and Pop Art that describe something similar. The primary distinction here is the subversive political emphasis, as opposed to the more formal concerns of the other concepts.

Many situationist ideas have filtered through to popular culture via May '68, which the Situationists anticipated, participated in and, finally, condemned. May '68 of course had impact throughout the world but particularly in England and in the U.S. student movement. Recently Malcolm McLaren has spouted half-digested Situationist ideas. His early confrontational ideas were no doubt derived from

the Situationists. More generally, Situationism has infused the British and American anarchist movement and, through that, the punks. The Situationist's analysis of the Watt's Riot as the appropriate response to commodity society and as precursor to the revolutionary street festival, as well as their critique of contemporary culture referred to as *The Spectacle*, would endear them to the punks. The Situationists decried copyright citing Lautréamont's infamous axiom, 'Plagiarism is necessary, progress implies it.'

In that this sound exchange network offers its product freely, or at least, in a shadow economy outside of the capitalist marketplace, in addition to challenging the ideology of copyright, it represents a potent political threat to the culture industry's hegemony. Whether the individual's own position is for or against copyright and the industry, their practice is in conflict with it.

This practice has more success in resisting co-optation because of its polymorphous eccentricity and its acceptance of dilettantism and fakery. It provides no easily identifiable sound or image with which it can be co-opted and marketed. Any practitioners who move from the 'underground' to commodification do no serious damage to the existing network since the form of exchange is so different. Since this new product is available in a completely different space it cannot overshadow the network. Those involved in the network have other forms of access, and those who are not will possibly become involved in the network, and if they don't, so what?

This new cultural practice is not another style on the modernist fashion runway. Though it may be post-modern it is not Postmodernism. Postmodernism, as an art movement, is sometimes infatuated with commodities and at other times a pose for the art gallery and the museum. Although Postmodernism, as a theory, may partially understand the critique of Modernism and Postmodernism, as an art practice, may attempt to play tricks with modernist historiography / hagiography (for example, Sherry Levine), this is all directed toward the sacred emptiness of the chapel of art, akin perhaps to mouth-to-mouth resuscitation on a corpse. In a similar way, a distinction can be made between this cultural practice and 'Audio Art.' Though really influential on this new practice, 'Audio Art,' by definition involved itself with the official culture of museums and galleries. However, many audio artists got directly involved in the new network and despite their high culture connections, this involvement is not inauthentic.

This new harmony of form, content and socio-economic relations seems to confirm many of the visionary utopian aspects of Jacques Attali's book *Noise*. Attali divides the history of musical economics into four phases, each phase having corresponding social structures:

1) Sacrificing: The organization of noise into music is homologous with the stabilization of violence within society by ritual; 2) Representing: The notation of music allows the representation of musical surplus-value in abstraction just as money allows for the representation of economic surplus-value; 3) Repetition: Duplicating mediums allow for the stockpiling of musical surplus-value thus allowing a greater frequency of exchange and corresponding devaluation of musical use-value. This is reflected in mass culture's economy saturation. In order to maintain a constant increase in profits, larger and larger markets are required for a single commodity which homogenizes cultural commodities as they try to approximate the ultimate commodity; 4) Composing: Self valorised activity generates non-exchangeable musical value. Everyone becomes the composer of their own culture.

Repetition is the phase we are presently in and Composition is the phase we are moving into:

We are condemned to silence – unless we create our own relation with the world and try to tie other people into the meaning we thus create. That is what composing is. Doing solely for the sake of doing, without trying to artificially recreate old codes in order to reinstate communication into them.... Playing for one's own pleasure, which alone can create the conditions for new communication. A concept such as this seems natural in the context of music. But it reaches far beyond that; it relates to the emergence of the free act, self-transcendence, pleasure in being instead of having.

Noise, p. 134.

This does not constitute, therefore, a new form of popular music, but rather a new practice of music among the people. Music becomes the superfluous, the unfinished, the relational. It even ceases to be a product separable from its author. It is inscribed within a new practice of value. The labour of music is then essentially an 'idleness' (D. Charles) irreducible to representation (to exchange) or to repetition (to stockpiling). It heralds the negation of tool-oriented usage of things. By subvert-

ing objects, it heralds a new form of collective imaginary, a reconciliation between work and play.

Noise, p. 141.

Attali's book seems to suggest that this new cultural practice foreshadows a new society. Certainly the activities described in the latter part of this essay are prototypes of new social relations. They clearly attack the separation of art and life, for which copyright is the legal watch-dog. Copyright depends on the separation of art and life because in order to sell art the lives of the many must be impoverished. If art is realized in the everyday activity of all, then the attempt to sell art becomes a joke. The cultural spectacle flaunts an inverted image of pleasure while we live to work. In order that we keep paying for our passivity we must believe that art is created by the few:

But what people officially do is nothing compared to what they do in secret. People usually associate creativity with works of art, but what are works of art alongside the creative energy displayed by everyone a thousand times a day: seething unsatisfied desires, daydreams in search of a foothold in reality, feelings at once confused and luminously clear, ideas and gestures presaging nameless upheavals.

R. Vaneigem, *Revolution of Everyday Life*, p. 147.

Copyright identifies artistic property and in doing so wrenches an event from the flow and creates a window through which we can look upon 'the world.' This side of that window is a prison. What we say and do is always in reference to it. We can look at it but we can't eat it or live it. Art is a display of food to the starving. Our own lives pale by comparison. On the other hand, that endless stream of originality does seem to protest too much. These artists and commodities do seem to decorate the lives of the most sleazy scum on the face of the earth. Art has always been patronized by some of the most vicious people. Copyright protects those who own the factories and the banks. And art in this role is a jester.

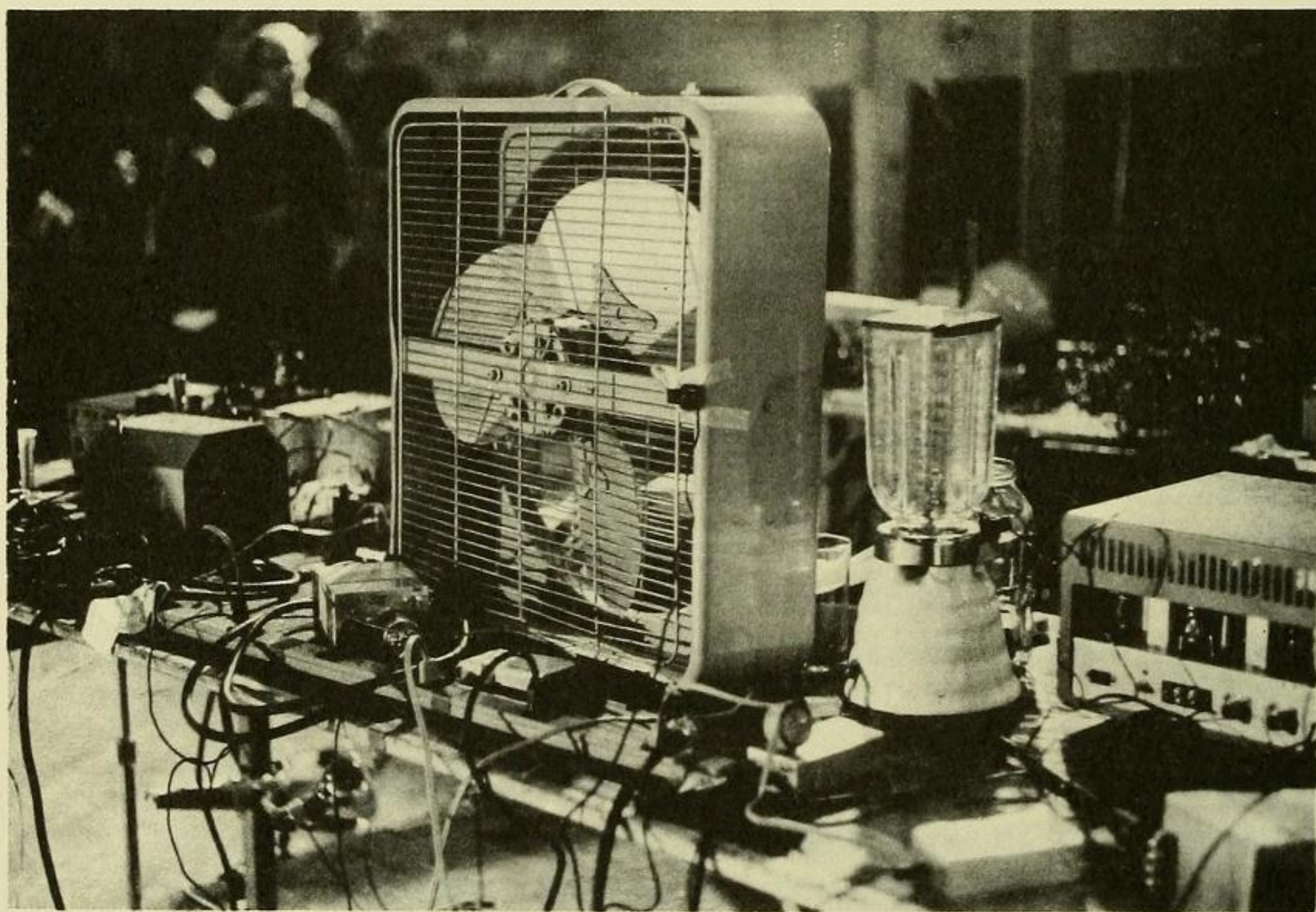
Whoever pleads for the maintenance of this radically culpable and shabby culture becomes its accomplice, while the man who says no to culture is directly furthering the barbarism our culture showed itself to be.

T. Adorno, *Negative Dialectics*.

The masses, that is, the non-ruling classes, have no reason to be concerned with any aspects of culture or an organization of social life that have been developed not only without their participation or their control, but even deliberately against such participation or control. The time of art is over. It is now a matter of realizing art, of really building on every level of life everything that hitherto could only be an artistic memory or an illusion, dreamed and preserved unilaterally. Art can be realized only by being suppressed. However, as opposed to the present society, which suppresses it by replacing it with the automatism of an even more passive and hierarchical spectacle, we maintain that art can really be suppressed only by being realized.

‘Response to a Questionnaire from the Centre for
Socio-Experimental Art,’ *Situationist International*, p. 143.

Perhaps it is with this cassette culture that we move in the direction, of art as an activity available free to all. It is for certain that to ‘realize’ art we must move to eradicate ‘work.’ Art as symbolic of ludic activity points to a life free of work and those who speak of breaking down the boundaries of art and life must also call for the tearing down of the work houses.



John Cage, detail from *Variations VIII*. Photo: Peter Moore.

Notes of a Listener

Max Bruinsma

Sound is not a medium, nor a mass medium. It is a neutral presence, silent and speechless, so long as you do not actually listen.

Sound is our immaterial environment, just as undeniable as the material, the visible, and just as reticent, so long as we do not project meanings onto it.

In a certain sense the modern sound media – radio, record and tape – have made us conscious for the first time of the self-evidence of sound, by isolating from their natural environment the omnipresent but mostly nondescript sounds that surround us.

Only then, heard within the safe confines of the listener's room are they conspicuous – the sounds of footsteps, traffic, far away birds, softly rumbling machines – and they lose their self-evidence.

A tape recording deforms, just as records and radio do. You hear a sound that is not created by the medium that appears to produce it. By transporting sound from its original environment to the neutral space of the loudspeaker, these media, disposing of the visible relationship between the sound and its source, alienate the listener from the sound. Everything sounds the same on the radio: tape noise or a waterfall, violin chord or electricity generator. What connects the sounds is neither origin, nor their possible similarities, but the fact that they emerge together from the loudspeaker in the listener's living room. The medium creates its own reality.

When artists become involved with the reality of the medium, that of electronically transmitted sound, they step into a world that differs fundamentally from the 'real' one. A world that is already artificial.

Recorded sounds by their nature are different from 'real,' original sounds; they are representations, despite the high degree of reality they suggest. It is precisely the suggestion of authenticity inherent in recorded environmental sounds that often makes artists'

sound works so ambiguous. The 'precisely real,' which to a large extent pertains to the media, becomes 'real' through the artist's intervention, but on a completely different level: an artwork, whether consisting of paint or of sounds, requires a different sort of attention than the absent-minded way we habitually absorb our daily environment. We listen differently to music than to sounds from our surroundings.

A musical artwork confronts us. Our acoustic environment surrounds us as passers-by. Though music often shifts from its own category of a consciously experienced work of art to the realm of the acoustic unconscious, (through the sheer abundance of musical information via radios, TVs, CDs, ghetto-blasters and the like) the contrary movement, the use of purely environmental sounds as music, as art, rarely takes place. Yet it seems as simple as John Cage once put it, 'Open up your window and listen: music!' But Cage's open-mindedness is still rare amongst listeners. We demand structure.

The current use of the media is linked to this strict separation between musical and other sound, which is also maintained in everyday life: on a record you hear mostly music, on the radio there is music or speech, and if you happen to hear environmental sounds it's like a representation of the reality presented to you via the radio.

But what is the sound of splashing and rippling water combined with that of twittering birds, a howling dog and two pile-drivers? Music? A representation of reality? At least it was a composer, Alvin Curran, who arranged these sounds in an exquisitely musical way, structured like a classical four-part sonata or sinfonia. I once asked him about the origins of the different recordings that he had used. He told me where they came from but that it wasn't of more interest than, say, the origins of the violin:

I am a composer. I arrange sounds, and to me it doesn't matter if I use a piano or ship-horns and fireworks or recorded environmental sounds. They're the instruments. The music is what you hear, what you feel.

Although Curran stresses the fact that he is a composer – and rightly so – there is still a significant difference in instrumentation. The sounds he uses in his tape compositions are clearly identifiable as coming from our daily acoustical surroundings. They are not intended to be musical in the first place.

The use of sound media by artists has created a new context for

these and suchlike sounds, an artistic space that unites the properties of both musical and everyday contexts. This space is in most cases the listener's room, the space between the speakers.

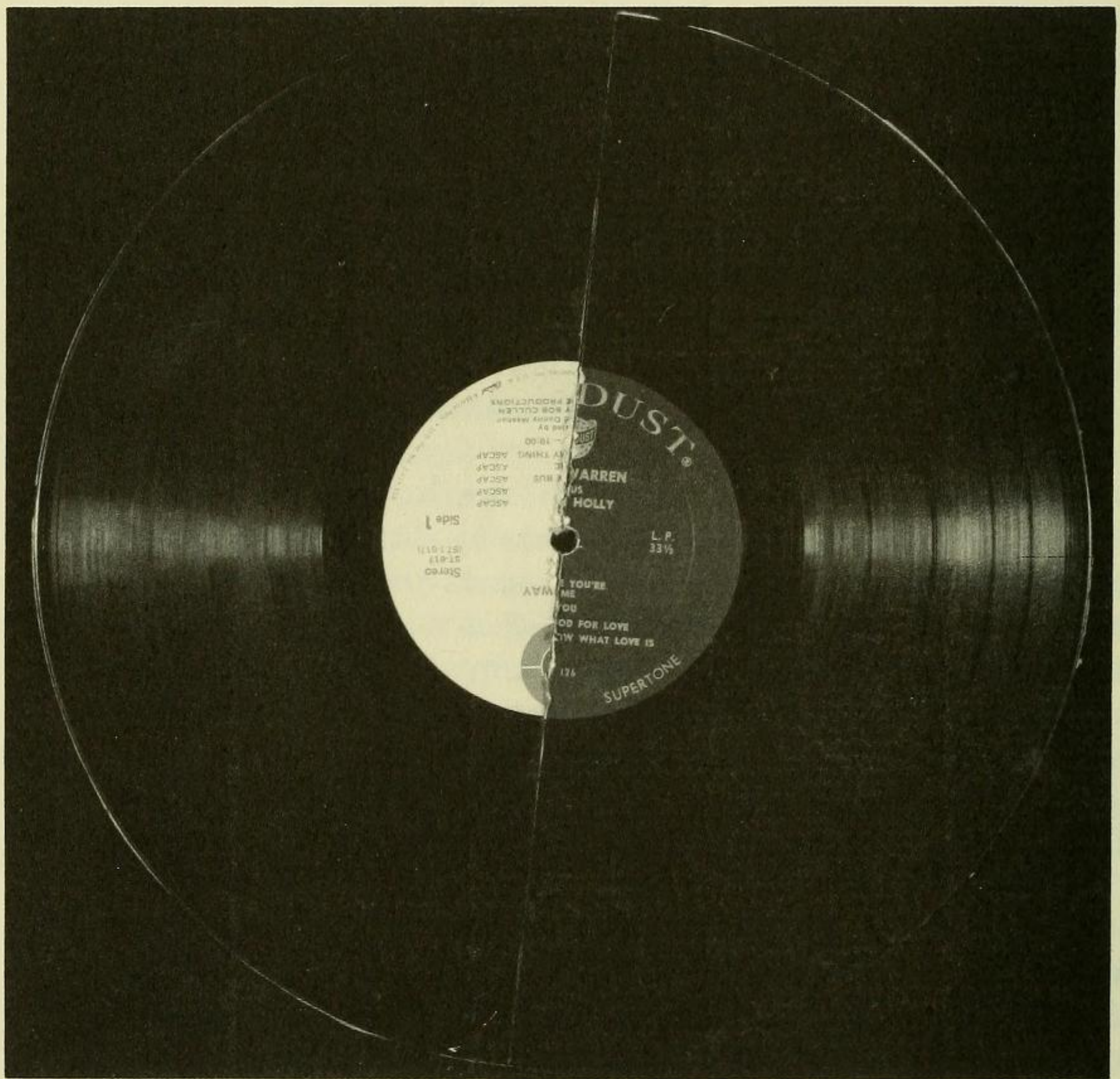
And it's only natural that, when using environmental sounds, composers and artists take the regular output of radio and records as raw material and reintroduce it through the same channels. The sound, especially when derived from the 'reality' of the mass media and not recorded at source, has, when returned via these same media, undergone a transformation. The trusty clichés of radio and record, ridiculed, deformed, treated or simply copied but divested of their banal context, can start to function as artwork and exchange their original meaning for a new one supplied by the artist.

Thus the insipid theme of all those old favorite songs that refer to a timeless dream of ideal love becomes, after Bob George's treatment, a symbol of hard, unfeeling reality. In a sarcastic interpretation of the theme of *Talking Back to the Media* he sawed two records in half, one with a male voice, the other sung by a woman, both in the same sweet mainstream style. He then glued the halves together to create a 'classical duet about modern love: androgynous, hasty, direct and unfinished.' This is a work that, for all its simplicity, immediately undermines the high ideals about communication via the media.

Through continual technical manipulation sound acquires the character of material matter. Sounds, like those on the tape loops used by John Cage in his *Rozart Mix*, become palpable objects. Noises like the crying of a baby, a speech by Hitler, a barking dog, symphonic music and environmental sounds are literally ready at hand, as short repetitive events captured on tape. Events can take place on the tape that without this vehicle would be only imaginable, not audible. Whoever has access to the world of audio equipment can profoundly influence the world of natural sound: amplification, slowing-down, weakening, distortion, reversal. Through the manipulations that can be achieved in the studio, sound acquires qualities it never had before.

Sound as object, sound identified with the technical equipment that creates or transmits it, is also inherent in the work of Julius. His delicate networks of wires, plugs, different sized speakers, batteries, buzzers and walkmans, spread over the floor of a gallery, are the perfect image of the sound they produce.

A specific example is the installation that Julius made for *docu-*



Bob George, *Duet*, 1977. Photo: courtesy the artist.

menta 8,, on the walls and under the neo-classical portico of a large building adjacent to the Kassel Museum Fridericianum. Unemphatic but clearly discernible, a cloud of chirping, grinding, rustling sounds came from the sandstone wall and from under the portico. It gave the impression of a modest swarm of electro-acoustical birds that had settled on top of the columns.

The sound produced by a record by Köpke is tangible in a more ironic sense: drops of molten plastic bring about a broken sound both visibly and audibly. Or listen to *Broken Record* by Milan Knizak who broke a record into pieces and glued the bits back together creating sharply severed snatches. Just as the cracks in the record are visible, so too, the borders between the fragments of sound are audible.

Both of these records show that the medium is not an ethereal, immaterial concept but literally a carrier. More than that, it is solidified sound that can be handled, conveyed, and made to sound in any place.

Here too, as in the listener's room, there is alienation. Sound objects arbitrarily have been collected and assembled according to rules that seem to deny the original environment of the sound. What meaning does a single word still have when it is intercepted by a tape recorder and re-worked into a long series of other words? It becomes a concatenation without semantic logic; a music without harmonic structure.

In a work entitled *Parole*, by the Italian audio artist Maurizio Nannucci, the audible content of the record is a collage of the answers to his question: 'What is the first word that comes into your mind?' All these words from passers-by give a picture, not so much of language or speech but of the human voice, puzzled. It's the sound – hesitating, abrupt, absent-minded, hasty – of men, women and children speaking while still thinking. The timbre of bewilderment links all the words and after a while one forgets their meaning, hearing only the rhythm and the sound motivated by a single association.

In a piece by the British group Audio Arts, a game is played with a cherished tradition in radio-making: the removal of pauses for thinking from recorded interviews. The tape consists of an endless litany of 'ums' and 'ahs' uttered by various people in the course of street interviews. Here, too, fragments of speech are assembled, not to convey a clearly defined meaning, but rather an idea. As the

artists put it, 'Ums and ahs could be regarded as succinct audio equivalents to thought outside of language.' Through the medium of tape recording, pre-existing sounds can be used in a way that denies, distorts or condenses their origin. What remains is just the sound, an object, salvaged from the significant chaos of the everyday decor of sound and functioning as a work of art, provided with another meaning.

'No question of making, in the sense of forming understandable structures, can arise (one is a tourist).' Thus John Cage formulated the idea of a seemingly chaotic, but real, environment to which the artist does not have to add anything and that, at most, can be instilled with the codes of the artwork. According to this view, the media are nothing more than instruments, like any other, for producing sound. This is yet another demonstration of the total availability of sound, musical or otherwise, an availability initially made possible by these same media.

When the codes of the artwork are projected onto the medium, as in Cage's *Imaginary Landscape IV*, in which twelve radios are played, regardless of what there is to hear on the given frequencies, the mass medium becomes an instrument, alienated from its own premises.

Radio addresses itself to an infinitely expandable public, taking no account of the circumstances under which each individual is listening, but unites them all by playing the same thing to them. Radio is, in the most literal sense, a mass medium, and at the same time, one of the most illusory. Radio suggests closeness and participation. Just as with the telephone, radio makes direct communication possible between people and places existing far apart from each other. It is no accident that the ritual of communication is often expressed in the combination of telephone and direct radio broadcast: now you can say something live on the air, take part. But there is still a clear hierarchy; the presenter's sonorous tone of voice and power over the medium contrasts violently with the crackling, dry-sounding interlocutor who, far away, is thrilled by her or his participation.

In practice both the closeness and the participation suggested by radio are, strictly speaking, illusions. The impossibility of communication, of contact via the media, is illustrated by Herwig Kemperer on the tape *In Hörweite*. The words, 'I am within sound ...,' are followed by a long silence. With dramatic scrupulousness Kemperer's tape points to the tragedy of sound media: no matter how perfectly

the suggestion of acoustic presence and proximity can be simulated, it remains a model, not a reality. 'I am within hearing range,' but invisible and absent. Thus, the absurdity of a medium that promises closer relations and communication while at the same time exposes how far we, as lonely listeners, are removed from one another.

Radio can function as a comforting presence, be it in a rather adverse way, as in a piece by the Yugoslav artist Vladan Radovanović. He is describing a room and his movements in it in the minutest detail, using a fixed microphone. Coming closer and walking away again, speaking softly, then louder, he transforms the loudspeaker into a window through which we clearly see his room. It is comforting when we hear this piece broadcast to imagine ourselves together with a thousand other listeners in their own rooms, peeping through the same window into Vladan's room: mute listeners, yet together. However it is discomfoting that the suggestion of real space can as easily be a purely technical fake, as Radovanović shows in the same tape when he is again 'walking away' from us, this time merely by slowly turning down the controls until he is no longer understandable, hardly audible and definitively out of reach.

One of the few composers who tries to fulfil the model of communication between independent and far-removed sources as implied by radio, is Alvin Curran. On January 1st, 1985 he carried out a wide-ranging project, bringing together in a live broadcast, music and environmental sounds from various locations in Italy, West Germany and Holland. Independent, uncoordinated contributions – without any question of conscious collaboration between the locations – formed a sea of sound that flooded much of Western Europe. The only cooperation consisted in the intention of all the contributors, whether as individuals or as groups, to make something beautiful, on the basis of a score by Curran. As the title, *A Piece for Peace*, indicates, this attitude implied for the composer a political ideal; the ideal of people of good will. However, the cynic could point out that, after all, the artwork was guided by a supreme being: the artist-technician directing everything from behind the mixing board.

The relationship that artists have with the mass media is an ambivalent one. The temptation of direct communication with a very wide and very dispersed public is great, but at the same time the medium throws up a barrier: the communication is not as direct as most artists would wish. Radio, which imposes its codes on the

listener as well as the producer, informs both how we listen and what we are listening to.

Walter Benjamin's concept of 'Rezeption in der Zerstreuung' originally conceived for film, is as valid for radio and records. According to Benjamin the mass reception of art is accompanied by a steady decline in the attention given to the individual work of art: music has become environmental sound, the radio produces ambience, the quality of which can be measured by the ease with which it goes in one ear and out the other. Continuous and omnipresent, radio generates habituation and demands no more than an absent-minded attention. With radio it's often less a matter of what there is to hear than that there is something to hear. The radio is on. The question is whether artists are satisfied with this and, imitating Brian Eno, will make 'ambient music' ridiculing the dispersal of attention.

The problem of a mass medium like radio is that it is not just a tool but an institution that creates its own reality, even when referring to reality at large. Within this context, the medium can absorb almost anything without being affected by it. Radio, like television, is illusory; if reality can be simulated through the medium, then any sound ejected by it will be listened to as being simulation. Because of this illusory character of what the listener hears, radio reduces the most disparate sources and contexts to the one feature they have in common: sound. After all, sounds arranged according to musical, documentary, journalistic, literary or artistic principles remain sound and are transformed into radio. Or is the transformation of the daily radio-background into a work of art strong enough to penetrate the codes of listening? The alienation is two-sided. Only when the codes and categories of the medium are blurred and mixed up will the listener become aware of the simulatory character of the medium. Who is accustomed when hearing radio static to experience it in the same way as a murmuring stream, provided the sound is noticed in the first place? And who would put these sounds on the same level as Bruckner's Ninth? Yet, for the one who paints with it, all this audible material is of equal merit. In the context of the sound work the original context of the treated sounds will only play a role as a reminder, as a reference to a reality somewhere else. What we hear then is not radio, but a story that the artist is telling us.

This essay first appeared in *Talking Back to the Media*, Amsterdam, 1985.

Wisdom About Audio Art

Compiled by Richard Kostelanetz

Sound permeates and penetrates my bodily being (with varying degrees of articulateness). It is implicated from the highest reaches of my intelligence, which embodies itself in language, to the most primitive needs of standing upright through the sense of balance which I directly know lies in the inner ear. Its bodily involvement comprises the range from soothing pleasure to the point of insanity in the continuum of possible sound in music and noise. Listening begins by being bodily global in its effects.

Don Ihde, *Listening and Voice* (1976)

Since the inception of the soap opera in the early 1930s, nearly one hundred thousand hours of (such) text have been broadcast on radio and television, and each year some twenty-six hundred hours of new text are added by network soap operas alone.

Robert C. Allen, *Speaking of Soap Operas* (1985)

I love the way radio allows us to imagine the visual element (which television so imperfectly realizes), providing us with a literature which one can experience while doing something else, while driving a car, for example.

Dick Higgins, *Horizons* (1984)

Give 'em the right sound effects and music, and their imaginations will work for you. A man in his armchair can picture all kinds of fantastic scenes: a fly crawling up the Empire State Building, scenes in outer space or under the sea. These are things radio can do best: better than the movies.

Fred Allen, *Treadmill to Oblivion* (1954)

Mine was a New Hampshire childhood of creek-floats, canoe trips (pungent experiences of wave motion), mountain hikes and woodland walks. Coupled with early readings of Robert Frost's poems, in which natural phenomena stand for states of mind, these experiences drew me toward the exploration of these phenomena for musical purposes. (Frost also believed that the penetration of matter by science was the single most important activity in his part of the twentieth century.) Later, readings of Hemingway's works led me to the minimalism my pieces exhibit time and time again. Hemingway felt that if you knew your subject well enough, what you chose to leave out would still be present in the work.

Alvin Lucier, *The Tools of My Trade* (1985)

Baseball of all sports alone thrills me. I mean daily professional baseball, not Opening Day, the All-Star Game, the Play-offs, the World Series or the New York Yankees. They are inessential, for politicians and brokers. The strength of the imaginative function is so great for the baseballist that radio retains its power only in the broadcasting of games.

P. Adams Sitney, to R. Kostelanetz (1979)

The kind of acoustical fascination, even provocation, the *New Hörspiel* affords has pulled the genre out of stagnation by offering radio listeners an esthetic experience different from that available to readers of literature (including printed radio drama) and viewers of film or video. In treating language and sound effects as concrete material, it made possible the same kind of esthetic reaction associated previously only with music.

Mark Ensign Cory,
New Radio Drama as Acoustical Art (1988)

Radio, more than any other sonic medium, conditions listening to disconnect-
edness. The invention of magnetic tape permits radio to organize its continuity
by montage technique whose sequence is determined less by a logical order
than by the abrupt, discontinuous 'eventism' of surrealist change. To examine
the historical development of radio is to trace a change from isolated broad-
casts surrounded by silent station breaks to the current situation where the
entire day is filled out with a constant sound loop. One important consequence
of this strategic incessance has been to render programming of secondary

importance to the arbitrary presence of sounds. Nowadays, one tunes in to whatever's happening rather than paying a calculated visit to the radio.

Steve McCaffery, *McLuhan + Language x Music* (1982)

Conversely, the sudden absence of sound can disembody a scene. In the movie *The Battle of Britain*, a Technicolor reenactment of the air battles over England during World War II, at the height of the decisive battles Spitfires and Hurricanes dance in the air in combat with Messerschmitts and Junkers. Amidst the loud chatter of the machine guns and the roar and sputter of the airplanes the sound track is suddenly and deliberately silenced. At the instant of the disappearance of animating sound, the scene becomes eerie, a moving tableau which becomes more abstract and distant. This momentary irreality of the disengagement of sound allows the battle to be seen as a strange dance without music. Emptiness which can be uncanny is silence in the auditory dimension.

Don Ihde, *Listening and Voice* (1976)

When the chips are down, virtually all Western philosophers of distinction have taken the same art form (painting) as the subject of inquiry. There are exceptions to that rule, notably Friedrich Nietzsche.

Leslie Birch and Ingrid Stadler,
Art for Art's Sake: A Paradox (1987)

Many experimental *Hörspiel* of the sixties can be viewed as extended forms of concrete acoustical poetry. Typically this acoustical poetry has in fact a full measure of acoustical necessity; that is, it must be articulated (either by a performer or by the reader himself) before the experience of the text is complete. These poems explore tensions within the word, between its phonemes and the semantic value of the complete word. They assign individual phonemes roles in the communication of the aesthetic message which the grapheme for that sound cannot fill. Sometimes in fact the letters will interfere with the information conveyed by the sound, so that the tension is one between grapheme and phoneme, rather than between word meaning and sound.

Mark Ensign Cory,
The Emergence of an Acoustical Art Form (1974)

At least as late as the twelfth century in England, checking even written financial accounts was still done aurally, by having them read aloud. Even today, we speak of 'auditing,' that is, 'hearing' account books, though what an accountant actually does today is examine them by sight.

Walter J. Ong, *Orality and Literacy* (1982)

I think that the contrapuntalists, especially the Renaissance contrapuntalists, and Bach as he represented them historically in a sense, were the first people who recognized that it was possible and feasible and realistic to expect the human mind and the human ear to be aware of many simultaneous relationships, to follow their diverse courses and to be involved in all of them. Not to expect a particular precedence according to any one of them, not to expect any bowing or scraping on the part of the two or three remaining voices to one that was uppermost or lowermost, or *cantus firmus*-most, or whatever. I think these were the first realistic people in the sense that they understood some aspects at least of their environmental compote which were to become music and which are now, perhaps for the first time, truly becoming music.

Glenn Gould, in an interview (1970)

Radio has solved a problem that the church itself was unable to solve, and has thus become as necessary to each settlement as a school is, or a library. The problem is the celebrating of communion of humanity's one soul, one daily spiritual wave that washes over the entire country every twenty-four hours, saturating it with a flood of scientific and artistic news: that problem has been solved by Radio using lightning as a tool. Thus will Radio forge continuous links in the universal soul and mold mankind into a single entity.

Velimir Khlebnikow, *The Radio of the Future* (1921)

In communications we tend to become aware of the basic characteristics of a medium only after a new one has replaced or coexists with it.

Tony Schwartz, *Media: The Second God* (1981)

Radio is one-sided when it should be two. It is purely an apparatus for distribution, for mere sharing out. So here is a positive suggestion: change this apparatus over from distribution to communication. The radio would be the finest possible communications apparatus in public life, a vast network of pipes. That is to say, it would be if it knew how to receive as well as to transmit, how to let the listener speak as well as hear, how to bring him into a relationship instead of isolating him. On this principle the radio should step out of the supply business and organize its listeners as suppliers.

Bertolt Brecht,

The Radio as an Apparatus of Communication (1926)

The new media are egalitarian in structure. Anyone can take part in them by a simple switching process. The programs themselves are not material things and can be reproduced at will. In this sense the electronic media are entirely different from the older media like the book or the easel painting, the exclusive class character of which is obvious. Potentially the new media do away with all educational privileges and thereby with the cultural monopoly of the bourgeois intelligentsia.

Hans Magnus Enzensberger,

The Consciousness Industry (1974)

The three most revolutionary sound mechanisms of the Electric Revolution were the telephone, the phonograph and the radio. With the telephone and the radio, sound was no longer tied to its original point in space; with the phonograph it was released from its original point in time. The dazzling removal of these restrictions has given modern man an exciting new power which artistic intelligence has continually sought to render more effective.

R. Murray Schafer, *The Tuning of the World* (1977)

The art of radio, its very special art, was lost. The art had stimulated imagination more intimate than the eyes of a vampire in close-up. No other art could draw one so completely into the scene itself. Reaction to a book was slower and required more concentration. There was a relaxed immediacy of identification for the radio listener. His mind drew the picture automatically. He laughed because Jack Benny's Maxwell and the crazy people of Allen's Alley and the avalanche of possessions tumbling from Fibber McGee's closet existed in his

own imagination. He was thrilled because the squeaking door of *Inner Sanctum* and the galloping Silver lived in his very own images. In his head, he carried his own Amos and Andy, and Marge of *Easy Aces*, and Ma Perkins and the members of *One Man's Family*. They were all his own, evoked by the suggestive artistry of creative radio. Artistry today was all the records; creativity went into commercials.

Dick Osgood, *Wyxie Wonderland* (1981)

In a sense, the real medium is the recording studio, the essential elements of which are the mixing board and the tape recorder. Sound elements of any type, recorded in or outside the studio, 'live' or synthesized, are mixed in a natural acoustic or mixed during recording or left unmixed on between two and twenty-four tracks recorded simultaneously or sequentially. Everything is stored on tape through either analogue or digital process.

Eric Salzman,
Reflections on Loudspeaker Culture (1982)

Here's the dilemma. You get an extraordinarily beautiful take of a movement, but there are two or three flaws, a horn didn't quite make it, or the pizzicati weren't together, or something. Now you go back and retake the movement, but somehow the man and the conductor can't recapture the same peak of expression. What do you do? If you're sensible and not involved in moral issues, you fix those few mistakes in the first take with inserts from the inferior take, using as little as possible, to be sure, and what you end up with is something far beyond what is normally possible at a concert.

John McClure,
as epigraphed in Glenn Gould, *The Prospect of Recordings* (1966)

Hörspiel can be many things; a great deal merges in the concept of *Hörspiel*, traditional categories run together in it. *Hörspiel* merges literature, music, the art of acting. It merges lyric, epic, essayistic and dramatic aspects. It merges language, sound, music. Nowadays a *Hörspiel* can consist of components that are oral-preliterary (elemental sounds), oral-literary and written-literary in technical-acoustic.

Klaus Schöning,
On the Development of Acoustic Literature in Radio (1986)

What I demand of the radio play is that it be acoustically satisfying, fascinating, exciting; that is, the acoustical proceedings must evoke a very definite response from the listener, something akin to musical enjoyment, but released by words and sounds effects, not by notes.

Friederike Mayrocker, in an interview (1969)

As for the future of electronic music and, by extension, of audio art, it has shifted the boundaries of music away from the limitations of the acoustical instrument, of the performer's coordinating capacities, to the almost infinite limitations of the electronic instrument. The new limitations are the human ones of perception.

Milton Babbitt, as epigraphed in Glenn Gould,
The Prospect of Recordings, (1966)

As film demands the visual artist who has also a feeling for words, the wireless on the other hand needs a master of words who has also a feeling for modes of expression appropriate to the sensuous world.

Rudolf Arnheim,
Radio: The Art of Sound (1936)

During the broadcast they, Freeman Gosden & Charles Correll, sat at a table opposite one another. The microphone was placed near Correll's right elbow, and to imitate Andy the actor spoke in a low voice approximately one inch from the mike. When he was impersonating Amos, Gosden sat about two feet from the microphone using a high-pitched voice. To do Sylvester, another character, he inched closer to the microphone and spoke in an extremely soft tone. Gosden not only did the Kingfish but also Lightnin' and other minor parts. Correll played Henry Van Porter, Brother Crawford and most of the white characters. On one show they had to pretend that Amos and Andy were being chased by robbers, so before air time they ran around the studio for three minutes until they were out of breath. For the closing fadeout the two slowly walked away from the table as they said their final lines.

Arthur Frank Wertheim, *Radio Comedy* (1979)

Around that time the Studio Fonologia at the Italian Radio in Milan, which had been so active under Luciano Berio, was still accessible to composers, and I got permission through the Fulbright office in Rome to work there for two winter weeks in 1961. The accepted working procedure in that studio was to record on tape a vocabulary of sounds, which you would then cut into five or six-foot lengths, label and paste up on the walls around the studio. As you needed sounds for your compositions you would cut off various lengths of desired material, so many centimetres for so much time, depending on the speed of your tape recorder, splice them together and mix them into a final product. I will never forget the excitement of working directly with sounds on tape for the first time: the physicality of that activity.

Alvin Lucier, *The Tools of My Trade* (1985)

Audiotapes make it possible for us to edit a single song from many musical 'takes' recorded at different times and places. The artist can manipulate his temporal-spatial relationships within the song during editing sessions. The final project is not a recreation of a previous creative performance but rather a unique creation onto itself, an original performance. Because we can now manipulate time and space during editing, the artist is no longer confined within time and space boundaries.

Tony Schwartz, *Media: The Second God* (1981)

The experience of working for the radio, where the sound qualities of language predominate, leads one to consider the text of a broadcast as a musical score. One is compelled to note not only the sequences of words but the ways in which these words follow and overlap each other; and one must refine one's sensitivity, much more than traditional theatre required, for intonations, tempi, intensities, pitches. Through the ages musicians have done an enormous amount of work in this respect; Mallarmé thought that it was time for literature to retrieve its own from music and attempted himself to do a score-book, the ancestor of our own experiments.

Michael Butor, *Repertoire III* (1968)

Stockhausen has told me how he made precise working drawings of his electronic compositions, even the most complicated of them. To a great extent

these took the form of an attempt to describe precisely what had been done. Such documents are progress reports for the present and for the future, preponderantly destined for the attention of composers. Thus the score is something more than a mere aid to realization; it is a textbook for composers.

Karl H. Worner, *Stockhausen: Life and Work* (1973)

Records, wax cylinders and wire recorders, the predecessors of audiotape, did not lend themselves to editing. (They were essentially *transcribing* media.) The ease with which wireless can present occurrences at various places and times as a unity and in spatial juxtaposition is especially suggestive if it deals not only with imaginary themes, but also with genuine ones taken from reality. If, for instance, sound-shots of various episodes from the life of a politician existed, they could be put together in a sound-picture and so a whole life could be concentrated into a single hour.

Rudolf Arnheim, *Radio: The Art of Sound* (1935)

It has occurred to me in the last five years that it's entirely unrealistic to see that particular kind of work, that particular ordering of phrase and regulation of cadence which one is able to do taking, let us say, the subject of an interview like this one, to a studio 'after the fact' and chopping it up and splicing here and there and pulling on this phrase and accentuating that one and throwing some reverb in there and adding a compressor here and a filter there, that it's unrealistic to think of that as anything but composition. It really is, in fact, composition.

Glenn Gould, in an interview (1970)

I can distinguish three ways of composing music nowadays. The first is well known, that of writing music, as I do. It continues. A new way has developed through electronic music and the construction of new sound sources for making music by performing it, rather than writing it. And a third way has developed in recording studios, which is similar to the way artists work in their studios to make paintings. Music can be built up layer by layer on recording tape, not to give a performance or to write music, but to appear on a record.

John Cage, interview with Ilhan Mimaroglu,
reprinted in *Conversing with Cage* (1987)

Now the theatrical, as opposed to the dramatic, is full of experiment, finding its way to audiences by their quick responses and rejections.... Its measure is human, not literary.

Constance Rourke, *American Humor* (1931)

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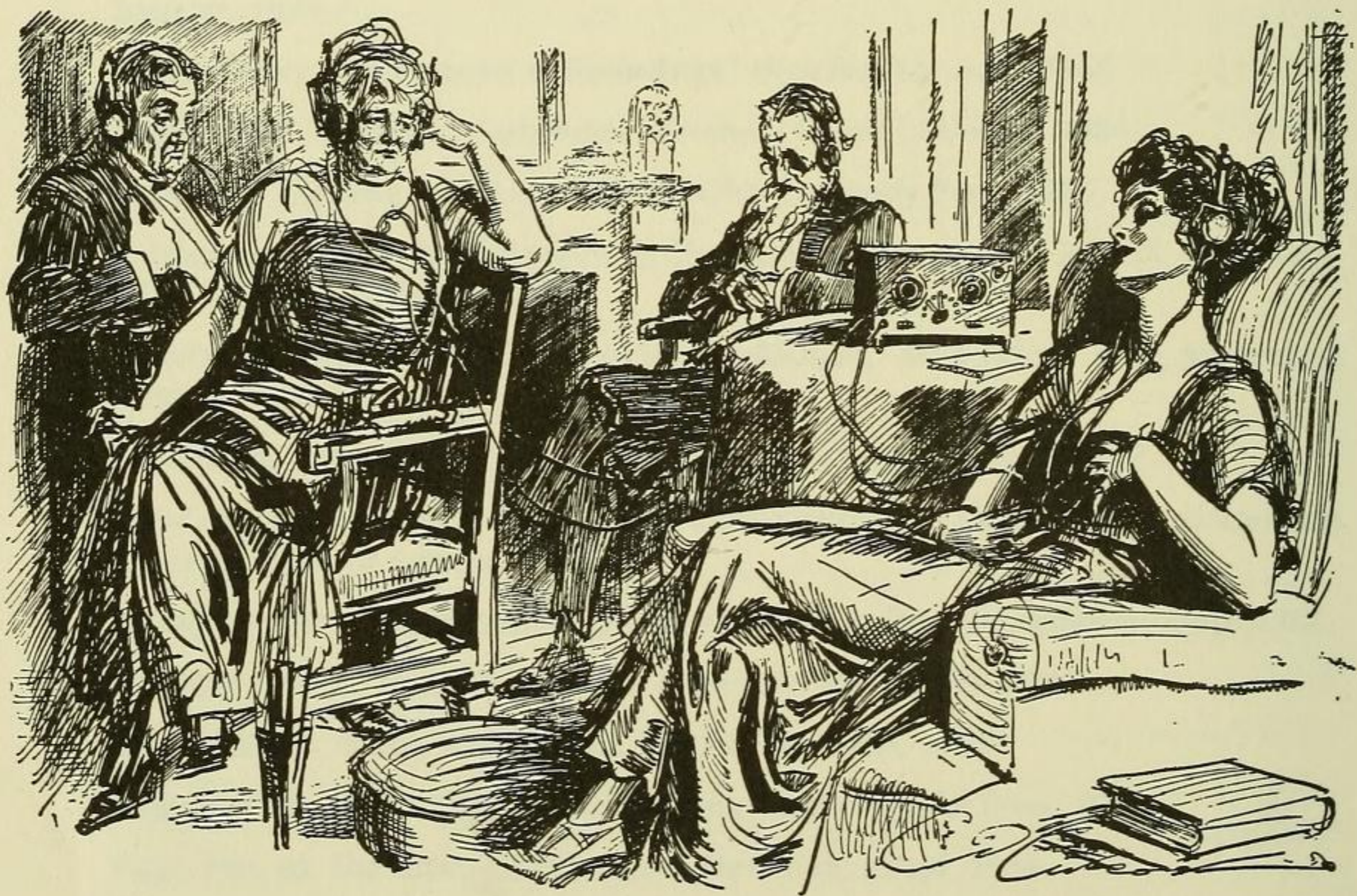
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'What are the wild wires saying?' Charles Dana Gibson, *Life*, 1922.
Courtesy of Rockwell Associates Inc.

Radio: Audio Art's Frightful Parent¹

Bruce Barber

I

No matter how different from television the works of individual video artists may be, the television experience dominates the phenomenology of viewing and haunts video exhibitions, the way that the experience of movies haunts all film.²

Among the many media theorists on the left who have realized the inherently undemocratic and undialectical nature of radio (and television) communication, we owe to Bertolt Brecht, the seemingly self-evident notion that neither the emancipation of the (tele)communication systems, nor the emancipation of the listening public can occur independently of the other; they are, in fact *mutually* dependent.

Radio must be changed from a means of distribution to a means of communication. Radio would be the most wonderful means of communication imaginable in public life, a huge linked system – that is to say, it would be such if it were capable not only of transmitting but of receiving, of allowing the listener not only to hear but to speak, and did not isolate him but brought him into contact. Unrealizable in this social system, realizable in another, these proposals, which are after all, only the natural consequences of technical development, help towards the propagation and shaping of that *other* system.³

A year before the invention in Germany of the *volksempfänger*, the 'people's wireless set,' named model V.E. 301, after the 30th of January, the date of Hitler's assumption to power, Brecht had realized the extent toward which radio could become an ideal apparatus for control. How different indeed is Brecht's critical understanding of the uses of radio technology in the indoctrination of the masses than that of Hans Bredow, the reputed 'father of German radio,'

who in 1927 enthusiastically endorsed its 'general communication and educative possibilities' or Albert Einstein, who upon opening the seventh German radio exhibition, August 1930, enjoined his audience to:

remember that it was the technicians who made *true democracy* possible. They have not only simplified daily work they are also disseminating *true thought and art* to the public at large. Radio, furthermore, has a unique capacity for recording the family of nations. Until now, nations got to know one another only through the distorting mirror of the daily press.⁴

'Radio' he reminded his listeners at this exhibition, oblivious to the neo-colonialist pretensions of his statement:

acquaints them in the most immediate form and from their most immediate side.⁵

Three years later Einstein's eulogy on radio as the putative technological vehicle for democracy was destroyed. The appearance, under the direction of Goebbels, Hitler's minister of propaganda, of wireless wardens in villages and towns in the rural areas to ensure that communal wireless sets were installed (and listened to) in the correct fashion, dispelled the identity of a radio system with the 'capacity for reconciling the family of nations.' Leading members of the National Socialist Listeners' Union realized the extent to which party unity and, further, the education of the whole German people to the ideologies and ambitions of the Third Reich were to be obtained:

The German radio programs must shape the character and the will power of the German nation, and *train a new political type*.⁶ [my emphasis]

From a relatively privileged middle and upper middle-class clientele in the mid-1920s, radio by the mid-1930s, was being purveyed to the masses on individual receiver sets. During the five years between 1933 and 1938, German radio purchases, particularly of the 'people's set' grew nearly 50% from 4.5 million to 9.5 million with some 3.5 million 'people's sets' being sold at this time.⁷ With the careful administration of the daily programming the scene was set for authoritarian control. The emancipatory potential of the new communications medium had been denied in favour of its limitless

capacity to order information in such a manner as to ensure the unilateral demonstration of power. It must have been of little comfort to Einstein in America to realize that these same technicians whom he was suggesting were responsible for democracy, could be similarly responsible for the formation of fascism.

Of course, German technicians and government bureaucrats were not the only ones ordering their communications systems or programming in such a way as to guarantee the sovereignty or omnipotence of the state. Britain, U.S., Japan, Italy and the U.S.S.R., along with many of the other countries involved in WWII, were promoting partial or full government control of their communications systems, either through direct intervention or by proxy through control of the corporate boards.⁸ A noteworthy characteristic of the behaviour of both autocracies and democracies, during times of actual or incipient crises, wars or civil conflict, is that laws ensuring democratic or quasi-democratic processes in times of peace, are revised, suspended or, as in the case of the Third Reich, totally eliminated. War Measures Acts, enacted by parliamentary or congressional bodies, placed central importance on the control of the presses and other communications systems. During WWII radio was of crucial importance, both internally, to reinforce government control and minimize dissent, and externally, for morale boosting and direct propaganda purposes. Since its invention, the power of radio has been revealed, in one simple yet crucial sense through the manner in which transmitters and radio stations become prime military targets for sabotage and take-over. In contemporary terms, the superpowers' communications satellites would be high on the 'hit list' during the early stages of increased tension and potential for war.

II

An interesting aside to the control of the public airspace and the power of radio and other telecommunications apparatus was the rather haphazard approach taken to the distribution of frequency bands in the early years of telecommunication. In his book, *Electronic Colonialism*,⁹ Thomas McPhail has drawn attention to the manner in which the technologically advanced countries gained extended use of the major frequency bands in the first decades of the

twentieth century. His text details some of the major concerns of the less developed countries at the infrequent meetings of the World Administrative Radio Conference (WARC) which meets every twenty years. WARC's last meeting, in 1979, witnessed the tabling of a number of non-aligned countries' concerns regarding the increasing trans-national control of the media, the concentration of ownership generally, satellite access for direct broadcasts and the controls established over the use of the frequency bands. This last issue has proved the most difficult to confront, for the frequency bands have been virtually at the total control of the developed countries since the appearance of international telegraphy and radio navigation at the turn of the century.

McPhail underlined the less developed countries' fears about cultural imperialism. Quoting statistics from the international communication regulation bodies, he reveals that the developed countries with less than 10% of the world's population have the use and control of 90% of the frequency bands.¹⁰ He cites the proceedings of the Berlin (1960) and Washington (1927) meetings of the International Telegraph Union, which set the stage for the allocations of the sections of the frequency band most in demand. The frequencies were distributed to users virtually on a first come, first served basis which 'did not take into account the limited nature of the resource.' McPhail suggests that a form of 'squatters' rights prevailed' and during the 1920s this open policy allowed countries to 'footnote' or reserve certain uses for various frequency bands as these became functional. For the technologically advanced countries in Europe and the United States, this ensured their control over almost the entire communications system. In the post-war years, as capital, industry and communications were further concentrated in the West, the spectre of almost total control through the use of direct broadcast satellites has become a distinct possibility.

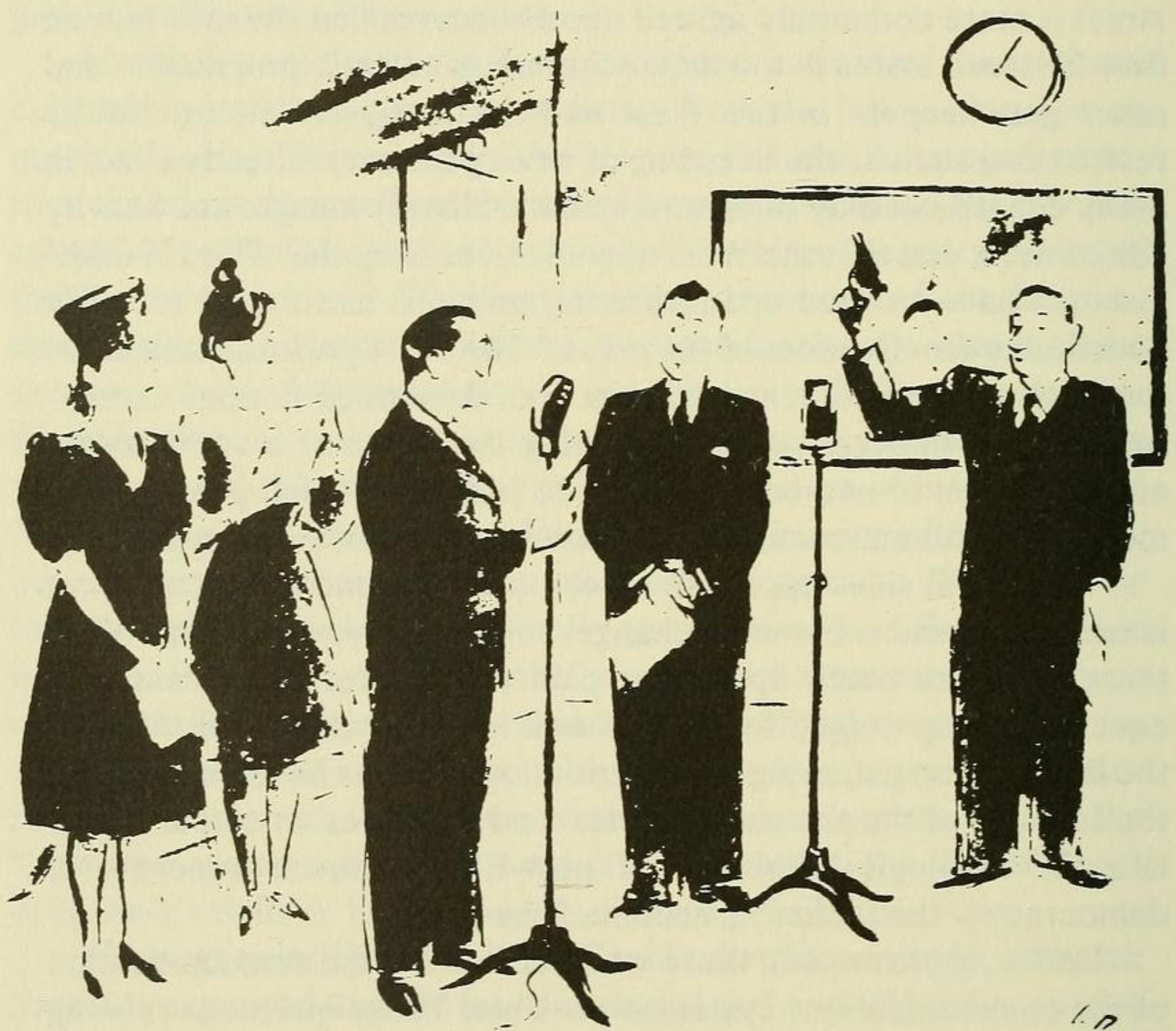
The next meeting of the WARC will take place in 1999, at which time it is expected that the less developed and non-aligned countries will continue to press forward their claims – that the West relinquish its control or at least consider restructuring, on a more equitable basis, the frequency allocation system. Like the world banking 'crisis,' incipient or actual, depending on which economist one believes, the onus, from the perspective of the less developed countries, is on the West, particularly the 'Big Seven' economic leaders, but also the Eastern Bloc countries to recognize their colonialist intentions

and to alter their behaviour, or at least the rules of the game, accordingly.

While discussions have been underway with respect to formation of the more equitable designs of the so-called New World Information Order (NWIO), these may be too late to alter the formation and determination of a communications system worthy of a *Brave New World*. However, McPhail also suggests that critics who characterize the communications system as a behemoth with Big Brother (usually Uncle Sam) holding the reins, are far from the truth. In reality, he argues, the international communications systems are (proverbially) as 'leaky as an old boat.' However, these critics also stress a more commonly agreed upon concern; that the information flow between states is too dependent upon editors, programmers and other gate-keepers in the West and the suggested future NWIO restrictions such as the licensing of news gatherers (already a fact in many countries), may further reduce the already meagre and heavily edited news diet that the West now receives from the 'Third World.' Debates have centred upon differing opinions as to what properly constitutes the 'freedom of the press.' The West presumes this to be the basis of *Democracy*, while the less developed nations contextualize their understanding of existing inequities as a continuation and extension of neo-colonialist trade practices which privilege the more powerful economies at the expense of the weaker ones.

What both sides appear to agree on at this juncture is that there is need for some substantial changes in the delivery systems. While there has been much lip-service paid to the 'free' and 'balanced' equation of reportage, the difficulties inherent in the organization of the information gathering and distribution systems have undermined the capacity of the primary agencies' and the states' attempts to sustain the ideological linchpin of post-Enlightenment concepts of democracy – the (actual) freedom of the press.

Today, there are still those who believe that the democratization of the communications system is possible. Those questions relating to production and reproduction, and the 'shaping of other systems' remain central to debates about the nature and extent to which emancipation is realizable, both within the media and the society to which it 'conforms.' The questions, as they were presented by Brecht, in 1932, may be irresolvable within the present conditions of actual or incipient control and may best be explained by the abstract, yet totalizing concept of hegemony. While the issues besetting



'At this point, we interrupt the performance to inform the radio audience that the script of our play now calls for a revolver shot. We wish to assure all who may be listening in that the shot will be fired by our sound man, using an ordinary prop revolver and blank cartridges. There is no cause for alarm.' Drawing by Carl Rose, © 1938, 1966. *The New Yorker Magazine, Inc.*

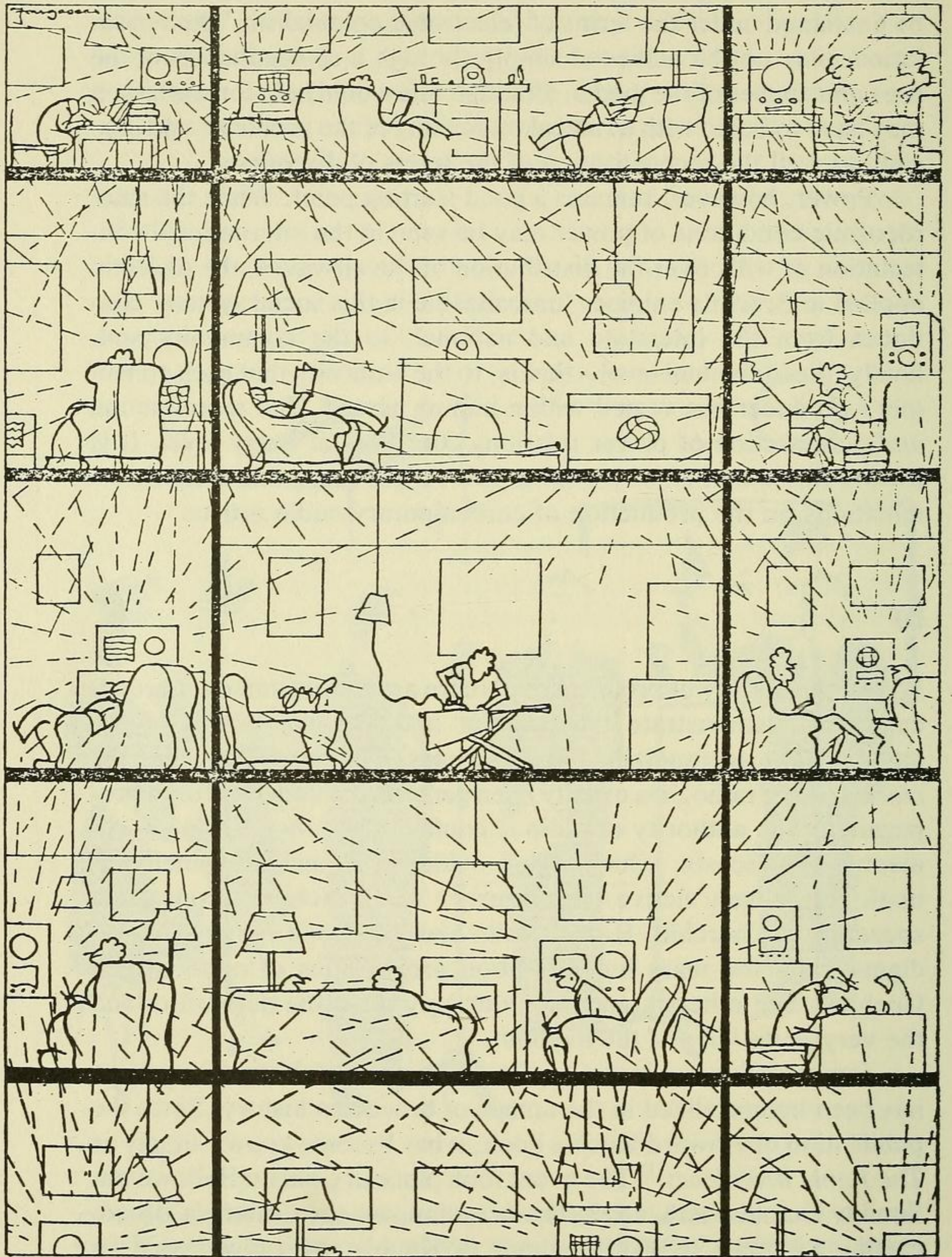
inter-community information exchanges and control therefore can be examined under the terms of 'electronic colonialism,' their resolution, may not be achieved simply through a re-negotiation of the uses *and* abuses of the media, although this would help for starters; it may have to begin with a radical refocusing of the problems and possibly as well the reconstitution of the terms of discourse.

Power, however, remains a good starting point. While the macrocosmic conditions of power may be seen in the international contestation of wills over the distribution of the airwaves, the dialectic implied in Brecht's enjoiner 'unrealizable in this social system' continues from the interstate and national, to the community and, finally, the individual level – that is, to the authority that each consumer / producer has vested within him or herself. The reproduction *and* contestation of power relations continues at every level. It is toward this examination we must now turn to recognize these determinations on the production of contemporary audio artists.

III

Within the history of broadcasting, there are few instances of broadcasts that demonstrate the peculiar and absolute power of the medium. The aggrandizing public address, what might be called the *classic* use of radio, has usually been generalized under the term propaganda. The authority of radio is confirmed by the wartime documentary newscasts, which today evidence a peculiarly melodramatic and even fictive character.¹¹ The powerful propaganda speeches of Churchill, Hitler, Stalin and Roosevelt represent paradigmatically the mass indoctrination propensities of radio, which Goebbels and others argued convincingly were the necessities and the very *actualities* of the medium.

One very famous instance of radio's peculiar ability to *convince* has been immortalized in the annals of broadcast history. Since the publication of Howard Koch's book, it has become known simply as *The Panic Broadcast*.¹² The event took place at 9 pm on Hallowe'en, Sunday October 30th, 1938. The occasion was the Columbia Broadcasting System's (CBS) broadcast of Koch's radio play based on H.G. Wells' novel, *The War of the Worlds*. Produced by Orson Welles and the Mercury Players, the play documents the 'landing' of hundreds of Martian aliens to an obscure New Jersey town called



'The Disturber of the Peace,' Fougasse, *Punch*, 1948.
Courtesy of Punch Publications Ltd.

Grovers' Mill. The Martian's establishment of their destructive machines, the total disruption of communications and the defeat of thousands of 'defenders,' took the listening public by surprise. For a total of 40 minutes hundreds of thousands of demoralized listeners believed that Martians had occupied whole sections of the country, indiscriminately mowed down hundreds and incinerated whole villages with their 'heat rays.' The CBS network listeners reacted accordingly. They panicked.

At the program's end, Orson Welles concluded with a statement suggesting that the broadcast had been a Hallowe'en prank but this did little to dispel the fear of those caught off-guard by the totally convincing character of the first half of the program. According to one of the many studies undertaken after the event, these were the people who subsequently lobbied for legislative powers to prohibit 'such pranksterism' on the airwaves. It is unlikely that a similar program could spark the same response today. Sociologists and others who conducted 'post-invasion' studies suggested that the responses of the approximately six million people to the broadcast, and the estimated one and a half million who took the story literally, were the result of a number of factors, including the approach of conflict in Europe, previously reported sightings of extra-terrestrial visitors and the traditional effulgence of paranoia associated with 'al' hallow's eve.' However, the fact that one radio program could have such extraordinary effects gives some pause for reflection on the power of radio in general and art in particular.

Within popular culture there are many representations of radio as 'the disturber of the peace,' the public intruder, invading the sanctity of the domestic space, filling up warm and intimate rooms and substituting the natural sounds and harmony of everyday life with *noise*. In marked contrast, revealing the public representation of the schizoid nature of the medium, early newspaper and magazine advertisements for radio tend to emphasize its intimate qualities, or at least its *capacity* for providing intimacy and companionship. The wireless is often illustrated in the 1920s as a piece of furniture amid the other material possessions of the petit-bourgeois interiors in which it was most often found. The radio's function and its existence as a technological apparatus was de-emphasized in favour of its decorative (aesthetic) values which were in keeping with those of other objects in the household. The radio is represented as the substitute for the absent friend on those cold and lonely winter nights, or

alternatively, as the additional (indispensable) 'family member' surrounded by adoring siblings, parents and household pets, exuding its 'warmth' like a coal fire.¹³

These familiar conditions of radio-as-friend, or surrogate 'love object,' in a multiplicity of images, has provided the lyrical content for many musical performers as diverse as Bing Crosby, Dolly Parton, the Beatles and Queen. It has provided the necessary reflection and nostalgia base for 'when I was young movies,' like Woody Allen's *Radio Days*, and it has reproduced the stereotypical images and sounds of Americana: Vaudeville's 'Oh, de doh doh's' (via megaphone); the 'movin' on out 'n' up' of Nashville; the Motown refrains of 'turn on (off) that radioooo;' and the post-ghetto blasted hip hop 'ra, ra, ra, dio, dio, di, di, di, io, o.' The extent to which these cultural representations have become social and ideological indicators of some significance has begun to be explored by a growing number of popular culture researchers examining the *soundscapes* (R. Murray Schafer's term)¹⁴ of contemporary societies.

Some of this work on the social effects of radio, which includes the examination of sound imaging and audio / cultural analysis generally, has taken its theoretical cues from recent debates within post-structuralism and Marxism. The Marxist interpretation / analysis of culture (and society), and contemporary post-structuralist and feminist film theory, has been particularly useful for those exploring the psycho-social and socio-political aspects of audio production / consumption. During the past ten years the locus of debates within film theory and analysis has tended to revolve around the nature of sexual sublimation, voyeurism and filmic pleasure. The work of the *Screen* group, Laura Mulvey, Peter Wollen and others, who have based their theories on the work of Christian Metz (*The Imaginary Signifier*),¹⁵ Jacques Lacan (*Écrits* and *The Four Fundamental Concepts of Psychoanalysis*) and Julia Kristeva (*Desire in Language*) among others, have done much to isolate and identify significant aspects of *cinematic pleasure*, the construction of meaning and the production and the reproduction of ideology through the agency of the cinematic apparatus. Similar theoretical work ('textual' analysis) is beginning to be undertaken with respect to sound and has located its points of reference in psycho-social terms rather than in bio- or eco-social terms, as had previously been the case in the work of Schafer and others.

The desire for listening, which places emphasis on the passive

subject as recipient of the 'code,' has begun to be more widely understood in psychoanalytic terms. The *pulsion invocante*,¹⁶ so eloquently evoked by Jacques Lacan, is a process that involves the sublimation of sexual desire into the level of imagining(s). These imaginings, *reveries* or semi-conscious states allow feelings of pleasure (*jouissance*) to be obtained.

In (practical) audiophonic terms, Lacan's thesis allows us to understand a range of listening behaviours described by those studying the social behaviours of audio consumers: why, for instance, many people listen to the radio or other audiophonic equipment in darkened rooms, or just prior to sleep; why listening aids digestion; why muzak increases commodity production in factories and commodity consumption in shopping malls. The power of radio is more readily understood if we consider the less public concerns of radio listeners (and some television viewers) who use their listening behaviour to almost literally *stay alive*. For somewhat obvious reasons, little is understood about the behaviour of those who, fearing or nearing death, maintain a semi-alert, somnolent, often hypertensive state by keeping the radio on while they attempt (not) to sleep. In such cases, the intrusive presence of sound, of 'noise,' often regardless of content (although talk-show and phone-ins are favourites), is used as an analgesia. Radio, in such instances, acts as both an 'upper' and a 'downer.' This is far from a simple-minded behaviourism; rather, to use Raymond William's socio-analytical terminology:

The cheap radio receiver is (then) a significant index of general condition and response. It was especially welcomed by all those who had least social responsibilities of other kinds; who lacked independent mobility or access to the previously diverse places of entertainment and information. Broadcasting could almost come to serve as a *unified social intake*.¹⁷ [my emphasis]

This notion of 'unified social intake' can be likened to the manner in which ideology 'cements' and allows super-ordination to be subsumed, or better, *assumed* naturally within the hegemonic 'order.'¹⁸ In more opaque terms than is perhaps necessary here – control is always a function of something, its presence signals or manifests difference, inequity, which in the process of being contested or resisted on one side is reinforced by the other.

The split yet *interdependent* nature of listening, its intrusive yet

friendly character as well as its source of pleasure *and* unpleasure (distinguished from displeasure), finds its corollaries in the general problems associated with broadcast – the privileging of reception over transmission, consumption over production. There is a paradigm in the historical developments that link the first radio receiver with those of today. It is of some significance that the first speaker was in fact a listening tube placed in the ear rather like a stethoscope. From the first, the experience of listening was very much an *individual* one. Dr. Lee de Forest's invention of the vacuum audio tube hastened the development of the audio speaker, which became, simply because of its shape, size and power, a *communal* reception device. The wireless is aptly named in more ways than one. The intimate contact of the body to the machine was replaced in a short period of time with the instrument of collective listening. Previously connected to the body by a cord the radio soon became part of the furniture and, by extension, the architecture, or in Schaferian terms, taking his cues from McLuhan, the bio-sphere. During the past decade we have regained the intimacy of this vital umbilical contact with the audio apparatus. Although now it is Plato's *Harmony of the Spheres* stamped with the Sony Corporation logo.

Some seventy years after Forest's invention we have returned to savour the severely individualistic hyper-phonic listening on the 'new' equipment of the 1970s and 80s. The listening tube has been replaced by the umbilical cords representing the advanced generation of mini-phones and stereo headsets. And where, in the late sixties, Timothy Leary enjoined his followers to 'drop out and turn on,' we now have a situation of 'turn on and turn in.' It is particularly interesting to note that the machines marketed so successfully in the early 1980s were those focusing on consumption – play-back reception (AM, FM and mini audio tape players; the 'Walkman') and not the machines of production with multiple features including stereo recording and play-back, although recent indications show that the decrease in prices of such equipment has led to an increase in purchases. However, the equipment still maintains an emphasis on consumption rather than production in that the recordings made with such equipment are restricted to the passive duplication of records, tapes and radio broadcasts.

The history of audio traces a vector of listening behaviour from the extremely individualistic, to the family, the community and, prior to WWII, the masses. For the last twenty years we have been

reversing this trend, traversing the terrain of choice, which is actually less fully articulated than the advertisers of audio equipment would have us believe. The choice now is not so much between signal and noise or the sound and its source (Schafer's schizophonia)¹⁹ but between narcissistic withdrawal and self-imposed isolation or advanced commodity fetishism and hyper-consumption, the latter conditions associated with various states of alienation. The first involves a form of self-abnegation, the second self-aggrandizement. The rough terrain in the centre, which must be negotiated, includes a form of critical schizophrenia.

That radio has the capacity to both combat alienation and assist in its reproduction, is not yet fully understood in human terms. Within recent theoretical discussions acknowledging this fact the primary tendency has been to focus on programing and content as a means of engendering a more compatible information 'exchange' in step with contemporary social reality.²⁰ The fact that radio, in its active form, could be used to examine *and change* this reality has never become a major item on the agenda at any of the debates attending discussions about the role of public broadcasting services. Radio has been discussed as a 'social lubricant'²¹ which can assist in ameliorating the social impact of change. It has been suggested that talk-back radio shows give maximum opportunities for community input into crucial decision-making processes. However, it has often been demonstrated that most of the situations where public responses have been invoked, have remained on a superficial level. Listeners, potential social actors, remain isolated consumers. Domestic listening programs tend to domesticate the listeners.

IV

As Hans Magnus Enzensberger observed in his famous Brechtian inspired essay, *Constituents of a Theory of the Media* (1974),²² radio, since its raw beginnings in the minds of mid-nineteenth century technologists, has been reinforced as an apparatus for broadcast. While there is nothing intrinsic to the technology which privileged consumption at the expense of production, the interactive communication possibilities inherent to transmission/reception (radio-telephonic) technology became subordinated to a model of one-way distribution and passive reception. The value of

Enzensberger's work and, before him that of Brecht, Walter Benjamin and Theodor Adorno, is that they each questioned, in different ways, this emphasis on consumption:

It is wrong to regard media equipment as a means of consumption. It is always in principle also a means of production. The contradiction between producers and consumers is not inherent in the electronic media; on the contrary, it has to be artificially reinforced by economic and administrative measures.²³

While many of the examples Enzensberger used in his essay to demonstrate the undialectical uses of the media (network broadcast radio and television, satellite communications) still hold true, others used to illustrate his thesis: the telephone, the computer, electrostatic copiers, user / producer audio and visual equipment and services have been altered by (usually) subtle emphases and / or reconceptualizing in order to adapt to either the changing demands of the market and consumers, or the new determinations of the communications systems. The telephone, for instance, can no longer be considered primarily as a single line speaker / receiver apparatus, as Enzensberger argued in his essay. It must now be understood in terms of its dialectic potential as a multiple tele-conferencing system where, in its modem applications, a number of communications systems can interface simultaneously.

Within the past decade, theory has preceded the practical applications for the new technologies – technologists point to the 'education gap' factor; the fact that people are unable to adapt quickly enough to the newer generations of technological apparatus. However, the new technologies themselves have also demonstrated their fallibility as interactive systems. Information flow is often marked by conflicts, drop-outs or, to use a political metaphor that may become more instructive during the next few years, *anarchy*. The corollary to the AIDS virus among the human population is the 'computer virus' (system bug) and other associated 'new age' syndromes that have increasingly given new meanings to the nature of cybernetics and particularly the notion explored by Enzensberger: stochasticism – the randomness of interactive communications systems.

Stochasticism, while it reduces the Orwellian spectre of *total* control, is no reason to applaud the impending arrival of democracy. Neither does the late capitalist hyper-consumption of user / producer audio and video equipment, cam-corders, micro-wave video broad-

cast systems, citizen band and low frequency transmitters – none of which, in themselves, usher forth the emancipation of the masses. For as Enzensberger noted:

Until these instruments find their way into the actual *working lives* of people, that is into the schools and factories, farms and government bureaus rather than their *lives as consumers*, then their potential use as instruments of emancipation will remain unrealized.²⁴

Control and the undialectical use of the media will continue so long as the consuming masses are buying the ideology of autonomous production imbricated together with hyper-consumption. Mass production and mass consumption (as it is implied by Benjamin, via Marx),²⁵ is best assisted by the reproduction of the masses.

Even where it can be demonstrated by 'futuurologists' like John Naisbitt (*Megatrends*) that in the U.S., for instance, the increased number of radio and television stations is allowing greater flexibility in programing to ever increasing numbers of special interest constituencies, this does not offer cause for celebration. These constituencies are still composed of isolated consumers whose lives are, to a major extent, 'controlled' by the major media conglomerates and other institutions of capitalism. Their consumption of local media is limited and while they may own a camcorder, C.B. radio, VCR, stereo or four-track recording equipment, which allow production, they remain, at best, amateurs:

It has long been clear from apparatus like miniature and 8mm movie camera as well as the tape recorder, which are in actual fact already in the hands of the masses, that the individual, as long as he remains isolated, can become with their help at best an amateur and *not a producer*.²⁶

The emphasis given Enzensberger, in his essay, on the term *producer*, is derived from the importance given it by Walter Benjamin in his 1937 essay 'The Author as Producer' (1937),²⁷ in which he argues that the artist / author must relieve her / himself of the traditional stereotypical roles and class alliances and identify with the struggles of the proletarian and other disenfranchised groups of society. Enzensberger re-offers this problem of conscientization to those within the left as well as those liberals who wish to locate conditions that are ripe for change, including their own consciousness.

V

For the old-fashioned 'artist' – let us call him the author – it follows that he must see it as his goal to make himself redundant as a specialist in much the same way as a teacher of literacy only fulfils his task when he is no longer necessary.²⁸

Both Enzensberger's and Benjamin's positions encourage the articulation of a new role for the artist, one that is premised less on the production of aesthetic objects / events for exhibition or broadcast, than on the provision of objects or actions that have some kind of social and cultural unity. Their insistence on the artist relinquishing the exhibition (cult) and hence commodity value of his or her work carries with it the indications of alternative practices, at minimum the transposition or substitution of work beyond its service as a bearer of 'spiritual' or economic signs. The critique of the specialist role of the artist, as this identity has been historically constituted, is at base a critique of the institution of art.

The use of new technologies, the emphasis on developing critical strategies for the attack on the foundations of the status quo of conventional artistic practice, has been at the core of many so-called avant garde theories, from the Futurists of the first decade of this century to the conceptualists and contextualists respectively of the early 70s and 80s. And yet, often the attack on the status quo, the hegemony of bourgeois culture, merely resulted in what Peter Burger has suggested is a 'renewing of the stereotypes.'²⁹ Too often the works of contemporary artists, including those using audio technology, have capitulated to the production of discrete objects for exhibition and sale in the conventional manner associated with the dealer gallery system and its surrogates. This, or the aggrandizement of the artist's persona-as-star; the result is the same, the construction of a commodity.

An 'alternative,' which many audio and intermedia artists have intentionally adopted as a quasi-critical strategy, is the role enactment of the marginal (Wilsonian) 'outsider' figure. This role becomes *iterative* (in Eco's use of the term),³⁰ one which, in its played-out 'narrative scheme' ultimately reproduces the mid-nineteenth century ideologies subsumed within its sphere – identity(ies) – of the alienated artist figure.

The most compelling images of this role are represented in many of the major works of audio art, performance, theatre and film produced within the past 75 years, including arguably one of the most influential, Samuel Beckett's play, *Krapp's Last Tape* (1958).³¹ The narrative of the play is deceptively simple. As it progresses we learn that Krapp, Beckett's artist (writer) figure, has habitually recorded, on each of his birthdays, the principal events of that year. During the recording of his 'last' birthday, Krapp chooses to review and reflect upon some of the previous years' recordings, playing back significant portions of his tape collection.

As a few critics have suggested, the play contains one major theme – impotence. *Krapp's Last Tape* is informed by a kind of narcissism broadly represented in the deliberations of an old man whose creative impotence is coupled with his imagined (or actual) sexual impotence. His audio reminiscences reveal his lost youth and the mistakes he has made have been carefully chronicled in the stacks of tapes that have become his electronic diaries. Without these diaries Krapp would become the contemporary (Nietzschean) man-without-belief forced into the existential anguish of willing himself to power. His attempts to re-construct his (life's) identity from his remembered history (his tapes become his *aides de memoire*), even where his acts and those of others around him refute that his existence has any higher meaning, offers little consolation to those who have rejected the solace offered by religion. And to Krapp, art and sex provide necessary, yet ultimately poor substitutes.

The implicit materiality of crap, and the scatological references throughout the play further reinforce the existential aspect of Krapp's intellectual onanism. The cultural significance of shit or rather its purging – within literature, from Rabelais to Swift, de Sade, Jarry, Artaud to Beckett, and the visual arts, Breugel to Duchamp, Manzoni and Warhol – is too large a subject to discuss here. Suffice it to suggest that Beckett's representation(s) of social and cultural alienation through Krapp's body disfunctions, is a powerful trope, one that may also be found in the works of many contemporary artists. Krapp's ruminations on the identity of self through a focus on the body are the prototype for an artist like Andy Warhol:

Day after day I look in the mirror and I still see something ... a new pimple ... I dunk a Johnson and Johnson cotton ball into Johnson and Johnson rubbing alcohol and rub the cotton ball against the pimple. And

while the alcohol is drying I think about nothing. How its always in style.... When the alcohol is dry, I'm ready to apply the flesh coloured acne-pimple medication.... So now the pimple's covered. But am I covered? I have to look in the mirror for some more clues. Nothing is missing. It is all there. The affectless gaze ... the bored languor, the wasted pallor ... the greying lips. The shaggy silver white hair, soft and metallic ... nothing is missing. I'm everything my scrap-book says I am.³²

Warhol's mirror and scrap-book become his ghost, as do in a similar manner, Krapp's audio recordings. This image of narcissism engages the twin aspects of this syndrome – self-aggrandizement and self-negation (effacement or self-abnegation) – which is at the basis of the power dynamic presently under examination.

The power of radio, or more specifically, its undialectical condition, is reproduced in many of the audio works produced throughout the 1970s. There is a residue of this from the early uses of the medium, projected or actualized, by the historical vanguards of the first decades of the twentieth century. The Futurists, the Russian Productivists and later the Surrealists confirmed in their projects the unilateral and utopian nature of radio communication. The dominant concerns of these artists within these groups remained the aggrandizing of the author, their respective aesthetic theories (which at times coincided with social realities) and the critique of the established bourgeois order, which was more often than not passive and less opportunistic than their ideologies permitted. The reproduction of the control aspects of radio, subsumed under its educational possibilities, as well as the valorization of the new medium itself, underscored the beliefs and actions of these artists including among them: Marinetti, Russolo, Tatlin, Lissitzky, Picabia, Cocteau and Artaud, who projected, at various times in their individual careers, uses for the radio apparatus.

Beyond the historical avant garde, the neo-avant garde's attachment to the *absolute power* of radio, remains. It is evident in many of the works from the post-war period and particularly those from the late 1960s and early 1970s, a time that represents a watershed for the development of artists' audio.

Vito Acconci's works, *Recording Studio for Air Time* (1973) and *Other Voices for a Second Sight* (1973), are useful examples of productions from this period. Within Acconci's oeuvre they may stand as (paradigmatic) instances of what are described as the *residual*

effects of radio. Radio 'haunts' the exhibition of audio art in the same way movies 'haunt' all film. These effects become products of consciousness. They represent the ideological underpinnings of the dominant culture of this period, and perhaps, since the invention of radio and other technological apparatus of reproduction, all periods.

Acconci is acutely aware of the private and public aspects of his art. In his early performance work, his attitude of sitting in front of a mirror or camera often approached the condition of the self-abnegation of the individual at confession. Like Beckett's *Krapp*, the presence of an audience, albeit one distanced by technology (video and audio players) in a work such as *Air Time*, assists him in being 'honest' with himself. The videotape of the 1973 performance / installation, produced for Sonnabend Gallery in New York is arguably the most intimate of any that Acconci produced. It deals specifically with the ending of, and making public his decision to do so, his long term relationship with Kathy Dillon. The artist had himself locked in an 'isolation chamber' for three hours each day for two weeks. After each one and a half hours he would emerge for a 15 minute break and then return. A closed circuit video system revealed Acconci talking to himself, looking into a mirror and acting out scenes from his five-year relationship with Dillon. Audio tape players and speakers were contained in seven wooden boxes dispersed throughout the gallery. Stools were placed beside each tape box for the listeners' convenience. Acconci's voice, at low volume, could be heard from each box:

What I'm doing here may be hard for me to reveal to them (the audience) ... so my voice from the past (on the tape recorders) can be used to get rid of them, insult them, delude them, transport them.³³

Like *Krapp*, Acconci is ultimately ambivalent about his audience's presence in what is essentially a private affair between him and Dillon (and in *Krapp's Last Tape*, between *Krapp* and himself). Yet Acconci needs their presence to remain truthful to himself, even when this might place him in the position of acting 'something out for them.' He may wish to reproach (efface) himself and gain absolution for his sins by placing himself in a confessional, yet he also wants to make it clear that in some of the instances that he outlines he is above reproach. The isolation chamber, simultaneously reminiscent of cells in prisons, psychiatric institutions, confessionals and sound-proofed recording booths (the tape's full title is after

all, *Recording Studio for Air Time*), reveals Acconci's deliberate obscuring of the public and private. Although Acconci's audience, like Beckett's, may be indispensable aids for securing the proverbial 'whole truth and nothing but the truth,' the confessions are for the most part egocentric affairs. The audience members are not requested to be givers of absolution, witnesses, judges, nor even jury. Like the audience for the typical radio program, they are merely asked, like Peter Sellers' character Chauncy Gardiner in the film *Being There*, to be there. The audience members support Acconci to come to terms with himself. And arriving at some kind of resolution regarding the 'other' is ultimately a marginal operation. At the conclusion of the tape Acconci affirms his prior intention and admits, 'Maybe coming to terms with our relationship means ending our relationship.' And the parallel identification of the 'other' with the audience results in his ending his relationship with them as well.

The recording studio in *Air Time* was further developed in an exhibition the following year for New York's Museum of Modern Art. It represents an interesting comparison for later works by a number of other artists including Eric Bogosian's (and now Oliver Stone's) *Talk Radio*. Titled *Other Voices for a Second Sight* (1974), Acconci's performance / installation represents the self-writ-large aspects of a disc jockey or talk-show host moving into and controlling the hearts and minds of his listeners, while locked and hermetically sealed in a sound proof chamber with an audio projection device – radio: 'Like *building a life* on an all night talk show.' [my emphasis] Three spaces were used by the artist. The middle space contained a recording / transmission studio and on either side were the light room (right) and the dark room (left). The right room contained slide projections and films of the artist in various poses projected across thin fabric fields ... 'transcendence calls to me.' In the left room, slides were projected through acetate banners revealing the artist's naked body as well as a series of political figures. As Acconci has written: 'Like a room of the world – public life comes down to me' and the D.J. is 'the voice that drifts through the dark, that lulls you into the night *that makes you forget* ... yet the radio show is a final hour, a final program that seemingly may go on forever.'³⁴ [my emphasis]

And later, in a perfect description of the dialectic we have been attempting to describe:

it's a power dream, a dream of glory, yet my voice ... like a machine; the voice becomes an undercurrent, it sneaks in a frame of mind, installs a habit. Abdicate, it says; refuse, withdraw, don't make a move.³⁵

While he attempts to provide his work with some kind of socio-political use value, Acconci is frustrated in his attempts, because as he says, he may not 'believe anymore in the efficacy of art.' He is trapped, as surely as is Krapp, in the ineffectuality of his own actions. He is forced into a position of either aggrandizing his persona, renewing the stereotypes of the neo-avant garde and / or finally capitulating to the safety of the art market. In Benjaminian terms, he reproduces the conventional social powerlessness of the isolated author, acting out the behaviours, producing the products that will secure the autonomy of the institution art and deny its potential to achieve, through the aims of its authors as producers, a critical praxis.

The determination of alienation on the production of audio artists is a larger subject than there is space for here. Suffice it to say that the denial of art's social utility for the sake of transcendence, both social and cultural has always been subsumed under the avant-gardist's intentions. While a small number of artists have attained a truly praxiological condition for their art (Tatlin, Brecht, Heartfield, among them) this has usually been for a short time only. It is a well known function of the art world's institutions that they have the capabilities of co-opting that very work which presumes to announce their redundancy.

The one thing I've been convinced of is that the best thing to do in these shows (*Contemporanea*) is to hang something on the wall, because as it turns out, unless you're there to turn on the tape recorders, you don't have a piece in the show. I used the easiest kind of stuff, tape loops so they didn't have to rewind anything, and I had it all plugged in so that as soon as they turn on the lights, the tape recorders and slide projectors would automatically turn on. After setting it, I went the next day and everything was unplugged.³⁶

We have witnessed the power of radio and tape recording in other ways since the late 1940s when Pierre Schaffer began to manipulate audio recordings to produce some of the first electro-acoustic works. John Cage's celebrated work *Imaginary Landscape*

No.5 (1952) has been described as one of the first uses in the U.S. of magnetic tape to produce a musical work for radio broadcast. In keeping with the Duchampian ready-made aesthetic, this work by Cage and others, which quickly followed, were perceived as intrusions into the conventional ear and airspace of audio reception. The title, *Imaginary Landscape* is somewhat ironic especially given the technical aspects of the recording itself and the material objects, including hub caps and bottles, that produce the sounds. The broadcast of this work and other examples produced in the late 1950s and early 1960s by artists in the U.S. and Europe shocked their listeners with the non-musical form of the work. However, it did not take long for Cage's music compositions and their variants to be accepted as conventional high art practice. Like Duchamp's anaesthetic ready-mades, they have found their place as classics in the cultural hall of fame. An unanticipated result of this institutionalization process is the manner in which Cage's avant-gardist strategies have become a justification, in aesthetic terms, for a bio-social appreciation of the airwaves that, after McLuhan, has tended to obliterate cultural, class and ethnic boundaries in favour of a total homogenizing of the eco-sphere.

Murray Schafer's celebrated *Soundscape* projects place much significance on the reception analysis of periodized content. And yet the analysis is limited, providing material for the subsequent rendering of radio transmission into rhythmic confirmation of bio-harmony. The work of many Canadian composers and audio art producers has been influenced by Schafer's book *The Tuning of the World* – (even its title echoes McLuhan's global village) although most have neglected the salient criticism of the culture of consumer capitalism implied in his work and have opted for the grandiloquence (and aesthetic potential) of his metaphors. Montreal audio artist and composer Paul Théberge, for instance, produced a radiophonic work that uses as the basis for its structure an entire day (18 hours) of programming from the Radio Canada FM network. Brief extracts of music, news and cultural programs were montaged together on an eight-track recorder, then mixed down to form a one-minute to one-hour ratio of recorded time to transmission time. Théberge wrote that:

through this extreme compression of material, themes, juxtapositions and modulations characteristic of Radio Canada perhaps became, more

apparent and, hopefully, a certain *global rhythm* inherent in the programming structure begins to emerge.³⁷

A similar approach to radio broadcasting and hence audio composition is apparent in the work of many artists producing audio art. However, radio broadcast and tape recording technology, as we have seen, can be recognized and understood in more diverse ways. The naturalization of the technology in the hands of artists who believe in the neutrality of the media, can only hasten the depoliticization of culture and the further alienation of individual producers.

Postscript

During the past five years, artists using audio and video technology to produce their work have become increasingly aware of the problems associated with the traditional venues for distribution and broadcast. In response to these problems, they have adopted new methods of distribution, collectively produced programs for weekly broadcast and attempted to develop alternative audiences. A few community based radio and television stations, including many based on university campuses, as well as the more community service oriented galleries have allowed access to artists for alternative programming. However, even when they have the instruments and institutions of mass communication at their disposal, artists still address a limited, usually elite audience. They have done little to confront some of the intrinsic problems of the media, especially those associated with the power dynamic underscored in this essay, nor have they altered the content of their work accordingly.

At least distribution is now understood as a problem of some magnitude and with it a slowly changing orientation to the content of audio is discernible. Strategies for distribution have been varied. Audio artists have usually distinguished between three market models for the distribution and / or sale of their work.

The first may be dubbed the Hollywood option (Brian Eno and Laurie Anderson are good examples): artists emulate the marketing strategies of MGM, Warner Brothers, CBS – the major institutions of capitalism – developing styles, behaviour, packaging and marketing formulae that will address the conditions of the so-called free market. For the successful few, co-optation is the happy result.

Even as punk entrepreneur Malcolm McLaren demonstrated, the 'anti-capitalist' products and behaviours of the counter (sub-) cultures can, and in fact need to, conform to the capitalist models of appropriation. McLaren successfully adopted a *systems* marketing approach to the selling of punk products, fashion and behaviour: the Sex Pistols, the clothes, the jewellery, the food tastes, hairstyles, the language, the looks, the beliefs – all conforming to and reinforcing the sustaining ideologies of punk. Successful as his operation was, McLaren diminished his profit margins by not protecting his patents.³⁸

The second option does not exhibit the conventional extremes of the first. Artists adopting the second 'high culture' option usually follow the paths of least resistance and attempt to market their work through the museum system and the small scale alternative recording industry. Alvin Lucier is a good example of this, the preferred marketing model for most audio artists today. Artists from this group usually aspire to graduate to the first option, they produce work that tends to conform to the styles and tastes of a minority of a highly phonoliterate minority group of consumers who may also be artists themselves. World-wide, this market constituency is of substantial size and developing, and yet by the standards of album and tapes (video and audio) produced by the industry giants, it is minimal.

The third 'underground' option, is characterized by an extremely small market and a relatively closed system of production/consumption. Tapes and records are produced at the margins by groups subscribing to various left wing, right wing and occasionally liberal causes. Often the work produced within this category has the look and feel of that produced by political cells or cadres. It is produced in limited edition, often anonymously or under the cover name of a group and is sold, exchanged or given away. The most celebrated forms of this kind of marketing distribution strategy was that of the Ayatollah Khomeini before the Iranian revolution and the fall of the Shah. From his place of exile in Paris, Khomeini purportedly orchestrated a major religious coup by clandestinely exporting cassette tapes of his speeches, which were subsequently dubbed in the thousands for distribution among the faithful and disaffected in Iran, thus giving new meaning to the phrase exported revolution.

This third option is also the preferred one for alternative broadcasting. Airwaves piracy and microwave transmitting in urban areas has often become an alternative for those who feel excluded

from the dominant centre of production and distribution. Why run the risk of having your programming rejected or altered if one can operate successfully outside of the conventional marketing / broadcast systems? Around the world immigrant groups, religious factions, various left wing activist and lobby groups, environmentalists, anti-nuke groups, specialist producers, new wave musicians, poets and other artists of various denominations have often decided that the risks associated with operating outside of the law are worth taking, particularly given the saturation of the airwaves and the control exercised by major networks of broadcast stations.³⁹

The relationships between these three options are more fluid than the above brief description would suggest. There are so many permutations that allow for alternative distribution methods to develop. The third option is gaining in popularity for those who recognize their powerlessness within the present system. The *power* of recording and broadcasting is beginning to be understood through its agency – powerlessness.

In the past decade, the power of radio and particularly audio tape recording has been demonstrated in spectacular ways. The Khomeini example above, Watergate and Irangate all emphasize the importance of the magnetic recording apparatus. Each event has focused attention on the fidelity and fallibility of the technology; the manner in which wire-tapping / bugging can support and strengthen the existing institution or undermine *and* destroy it. The reel to reel and the humble cassette have come into their own, upsetting the primacy of the visual, which has subjected the aural to secondary status for hundreds of years, at least since the invention of illusory techniques of representation in the Renaissance and the subsequent development of photo-mechanical apparatus in the early nineteenth century. One of the classic audio image films of the 1970s, Francis Ford Coppola's *The Conversation*, accurately depicts the importance and power of audiophonic representation. While the plot of *The Conversation* is imaginary, its symbolic representations of the contestation of power ultimately give way to the real.

It is to the examples of Watergate, Irangate, *The Conversation* and Khomeini that artists must address themselves. For it is within these examples that both the actual and potential power of audio production, in all its negative and positive aspects, becomes intelligible. An extensive examination of the institutional conditions of production and consumption is also a precondition to the renegotiation of

the artist's role from author to producer.

Perhaps the most appropriate image of the power relations flagged in this essay – between the all powerful radio, the passive consumer and the alienated author / artist – is contained in Nam June Paik's *A Tribute to Andy Mannix* (1982). This performance / audio installation work was presented at The Kitchen (Center for Video and Performing Arts) in New York as a tribute to Andy Mannix, a stage carpenter who had converted the kitchen of the former Mercer Arts Center into The Kitchen. Paik's *Tribute* described by John Howell for *LIVE* magazine consisted of the following:

He (Mannix) put together a stage platform while Paik wandered around eating rice-cakes. As a classically trained / Cage student, Paik always wanted to work a burlesque house and so he played, smashing old Victrola records, banging out snatches of chords and scales and Beethoven, broadcasting recorded tapes backwards – as only Paik can 'play.' While onstage, Lois Welk performed a discrete strip to a Sony Walkman (so as not to be disturbed) by Paik's cacophonous, less than rhythmic score.⁴⁰

Notes

1. A version of this essay was presented at the Kunstradio / Radiokunst Art Symposium, Styrian Festival, Graz, Austria, in October 1988.

2. David Antin, 'Television: Video's Frightful Parent,' *Artforum* (December 1975), pp. 36-45.

3. Bertolt Brecht, 'Theory of Radio' (1932), *Gesammelte Werke Band III*, p. 129, requoted in Enzensberger, 'Constituents of a Theory of the Media,' in *Critical Essays*, The German Library (New York: Continuum, 1982).

4. E. Kurt Fischer, ed., *Dokumente zur Geschichte des Deutschen Rundfunks and Fernsehens* (Gottingen: Musterschmidt 1957), translated and quoted in Wolf von Eckhardt and Sander L. Gilman, *Bertolt Brecht's Berlin: A Scrap-book of the Twenties* (Garden City: Anchor Press, Doubleday, 1975), p. 57.

5. *Ibid.*

6. D. Sington and A. Weidenfeld, 'Broadcasting in the Third Reich' in Armand Mattelart and Seth Siegelau, eds., *Communication and Class Struggle: Volume 1 Capitalism, Imperialism*. I.G. IMMRC, p. 273. Quoted from Eugen Hadamowsky, a director of the National Socialist Listeners' Union. The Text first appeared in Sington and Weidenfeld's book *The Goebbels Experiment: A Study in Nazi Propaganda* (London: John Murray, 1942).

7. *Ibid.*, p. 274.

8. See R. Linder, 'Fifty Years of German Radio' in Armand Mattelart and Seth Siegelaub, eds., *Communication and Class Struggle: Volume 1 Capitalism, Imperialism*. I.G. IMMRC pp. 260-262.

9. T. McPhail, *Electronic Colonialism: The Future of International Broadcasting and Communication*, Volume 126 (Beverly Hills, London: Sage Library of Social Research, 1981).

10. Ibid., p. 152

11. This is a larger subject than there is space for here. Within the past ten years much has been written on the 'constructed' and fictive characteristics of documentary film and photography.

12. See Howard Koch, *The Panic Broadcast* (Boston: Little Brown, 1970).

13. See Simon Frith, 'The Pleasures of the Hearth: The Making of BBC Light Entertainment' in *Formations of Pleasure*, Bennett, Burgin, et. al., eds. (London: Routledge & Kegan Paul 1983), pp. 101-123.

14. R. Murray Schafer, *The Tuning of the World: Toward a Theory of Soundscape Design* (New York: Knopf, 1977).

15. Christian Metz, *The Imaginary Signifier: Psychoanalysis and the Cinema* (Bloomington: Indiana University Press, 1982).

16. The desire for listening. Christian Metz suggests that the distance of the look has as its corollary in the distance of listening. As opposed to other sexual drives, the perception (perceiving) drive – combining into one the scopic drive and invocatory drives – represents the absence of its object in the distance at which it maintains it and which is part of its very definition: distance of the look, distance of listening. C. Metz, *The Imaginary Signifier* (Bloomington: Indiana University Press, 1982). Metz relies fairly heavily on Jacques Lacan's *The Four Fundamental Concepts of Psychoanalysis* (London: The Hogarth Press 1977).

17. Raymond Williams, *Television: Technology and Cultural Form* (London: Fontana, 1974), p. 28.

18. See C. Mouffe, 'Hegemony and New Political Subjects: Toward a New Concept of Democracy' in *Marxism and the Interpretation of Culture*, C. Nelson and L. Grossberg, eds. (London: Macmillan, 1988).

19. R. Murray Schafer, *The Tuning of the World: Toward a Theory of Soundscape Design* (New York: Knopf, 1977).

20. P. Moss and Higgins, 'Radio Voices' in *Inter / Media: Interpersonal Communication in a Media World*, Gary Gumpert and Robert Cathcart, eds. (Oxford: Oxford University Press 1986), pp. 282-300.

21. See D. L. Atheide and P. R. Snow, 'The Grammar of Radio' in *Inter / Media: Interpersonal Communication in a Media World*, *ibid*, pp. 273-281.

22. See Hans Magnus Enzensberger, *Critical Essays: The German Library* Reinhold Grimm and Bruce Armstrong, eds. (New York: Continuum, 1982), pp. 46-76.

23. Ibid., p. 56.

24. Ibid., Enzensberger concludes with: 'Any socialist strategy for the media must, on the contrary, strive to end the isolation of the *individual social learning and production process*. [my emphasis] This is impossible unless those concerned organize themselves. This is the political core of the question of the media. It is over this point that socialist concepts part company with neo-liberal and technocratic ones. Anyone who expects to be emancipated by technological hardware, or by a system of hardware however constructed, is the victim of an obscure belief in progress. Anyone who imagines that freedom for the media can be established if only everyone is busy transmitting and receiving is the dupe of a liberalism that, decked out in contemporary colours, merely peddles the faded concepts of a pre-drained harmony of social interests.' pp. 58-59.

25. Benjamin writes: 'Mass reproduction is aided especially by the reproduction of the masses.' Walter Benjamin, 'The Work of Art in the Age of Mechanical Reproduction' in *Illuminations* (New York: Schocken 1967), p. 251.

26. Hans Magnus Enzensberger, *Critical Essays: The German Library*, Reinhold Grimm and Bruce Armstrong, eds. (New York: Continuum, 1982), p. 57.

27. Walter Benjamin 'The Author as Producer' in *Reflections*, Peter Demetz, ed. (New York: Harcourt Brace Jovanovich).

28. Hans Magnus Enzensberger, *Critical Essays: The German Library*, Reinhold Grimm and Bruce Armstrong, eds. (New York: Continuum, 1982), p. 76.

29. Peter Burger, *Theory of the Avant-garde*, Theory and History of Literature, Volume 4 (Minneapolis: University of Minnesota Press, 1984).

30. Umberto Eco, *The Role of the Reader: Explorations in the Semiotics of Texts*. See 'The Myth of Superman,' p. 120. The iterative scheme as redundant message: 'The taste for the iterative scheme is presented then as a taste for redundancy.'

31. *Krapp's Last Tape* was written in English in early 1958, published in *Evergreen Review* (Summer 1958) and first performed at the Royal Court Theatre in London, October 28, 1958. Beckett also produced two plays under the titles *Rough For Radio 1* (1961) and *Rough For Radio 2* (1961-2).

32. Quoted in C. Lasch, *The Culture of Narcissism* (New York: Norton & Co., 1978) requoted from Andy Warhol, *The Philosophy of Andy Warhol* (New York: Harcourt, Brace, Jovanovich, 1975), pp. 7-10.

33. In Alan Sondheim, ed., *Individuals: Post Movement Art in America* (New York: Dutton, 1977), pp. 26-68.

34. Ibid.

35. Ibid.

36. Vito Acconci, 'A Conversation,' *Artrite* (November 5, Spring 1974).

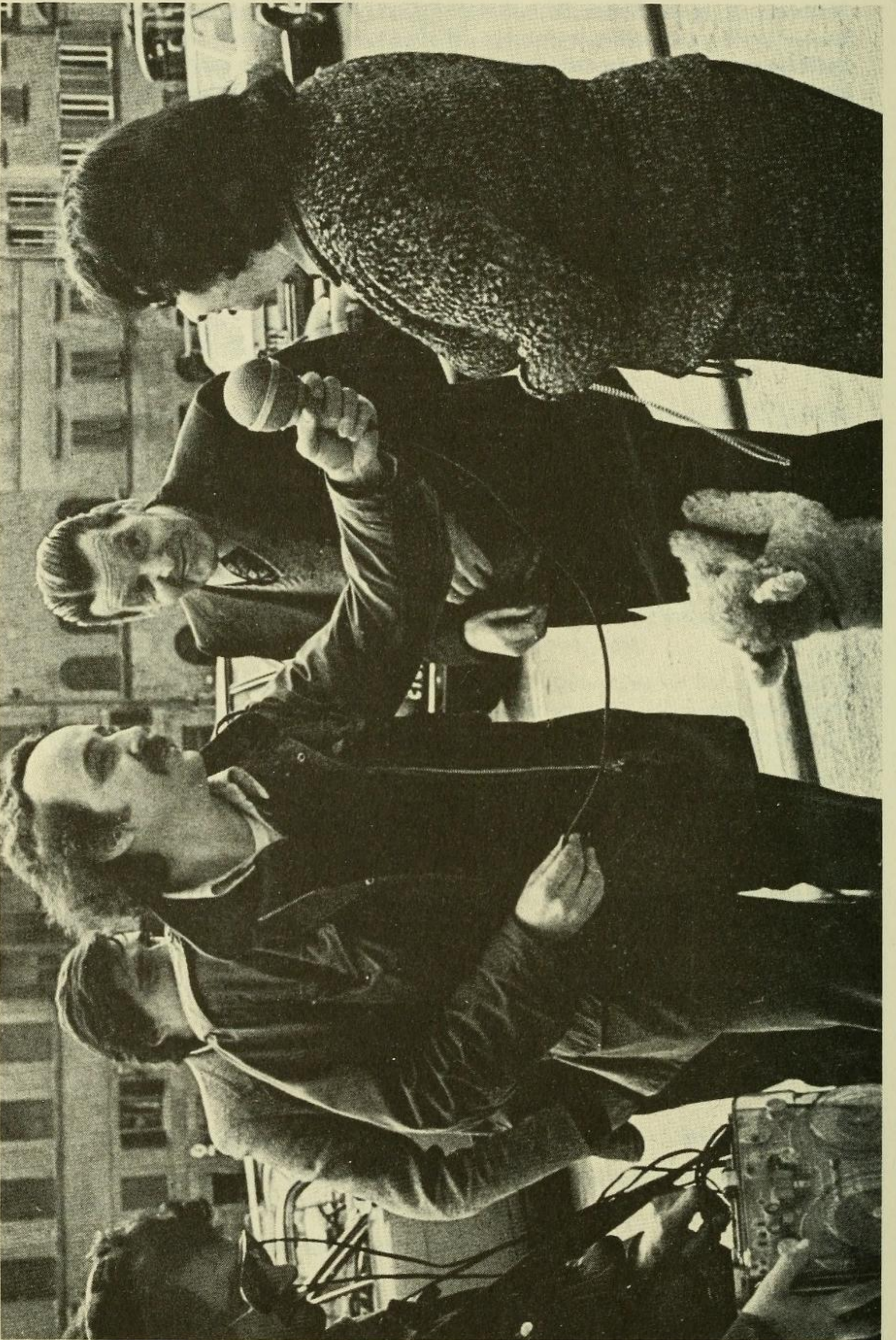
37. Catalogue statement, *Audio By Artists Festival 1984*. (Halifax: Centre for Art Tapes and Eye Level Gallery, 1984).

38. See Dick Hebdige, *Subculture: The Meaning of Style* (London:

Methuen, 1979); and Simon Frith, *Sound Effects: Youth Leisure and the Politics of Rock* (London: Constable, 1983); and *Music for Pleasure* (New York: Routledge, 1988) for some interesting and, at times, conflicting insights into capitalist appropriation within and outside of the new music and subculture / style industries.

39. For some interesting descriptions of these forms of radio, see 'Self-serve Radio: a Conversation with a Pirate,' *Fuse*, Volume 6, No. 6, April 1983; and Tetsuo Kogawa, 'Japan Free Radio' in *Cultures in Contention*, Dianne Neumaier and Doug Kahn, eds. (Seattle: Real Comet Press, 1982). For a useful introduction to the state control of the air waves see T. McPhail, *Electronic Colonialism: The Future of International Broadcasting and Communication* (Beverly Hills: Sage Library of Social Research Vol. 126, 1981).

40. John Howell, *LIVE*, Volume 1, Nos. 6 / 7, (1982).



parole / mots / words / wörter is an audiowork by maurizio nannucci / people were asked to say the first word that came to mind / realized with the collaboration of the cultural department of rai / gr3 in florence 1976 / record produced by recordings and zona editions in 1979 / location and studio recordings by giancarlo tronconi, coordination by rodolfo tommasi, photograph by carlo cantini / 33 rpm / total time 13:30 / edition of 500 / all rights reserved / buonasera ciao violoncello firenze roma arriverci casa libro stampe città morte calcio amore amore albergo finestra calcio fiore america venezia soldi calcio casa spilamberto oh modena rugby letto cocacola palazzo america colombo stefano due maurizio pane vino donna lei casa viaggio bella anna piazza cavallo trotta foca biglietteria cane schiffa quale bene cosa okay palazzo ancestrale bello assoluto isoterico cielo pittì niente primavera azzurro no finita male returning tempo ciao alberi elefanti paki rosso sigaretta marocchini idiomatico tappeti sasso basket eh terroni ferrara precipitevolissimamente supercalifragilissimospiralidoso treno astronauta museo azzurro libertà libertà amore fachiro gatto tavolo schifo vaffanculo rivoluzione aria foccola capricorno rai droga geranio lamborghini licenza congedo mamma ragazza torre fantasia freddo caldo madonna gente monica rosso nuvola cielo sole pittì ghiaccio himalaja gioia bellezza zanzara leone gennaio febbraio capri-corno leone modena ariete amore ravenna cancro pesci barbara pesca sopracciglia occhi pullman cane cielo gregorio michele sandro gatto mondo mare salute monte sole carla anna giacca pronto amoremio tivorrei giornale picche fiori mattoni cuori carica ovvia eccoci vaso pera fiori boh paola enrico comunista socialista lombardiano comunista comunista umano forza casa gatto hashish figa giornale uanagana casa neve ciao acqua pallone cinema albergo acquedotto arriverci prati macchina terra zolla ierisera cane erba pericolo michelangelo paola fiore domani com-pagni cavolo perlappunto ciao merda buonasera gioco convinzione passerotto parola amore confusione casino foglie sassofrasso maiale lavoro domenica sabato chiaro maggio festa donna dimmi sigaretta rai tv sole buffoni clientelismo viaggio falegname bellezza amare bere sognare luci azzalea sole mentire volare lavorare sentire fiore cane bambino gioco pioggia impermeabile statua giallo mamma michelangelo gatto ombrello fiori enorme io michelangelo giotto limone giacca monastero ciao arriverci giardino fiore angelo angelo paradiso miki piove sole albergo togliaatti piombino mai stadio comunismo fiordaliso orologio cane margherita amore dardo città firenze maglione chiavare tuzzolia apuchiacca prisencol-inenenciuso carnalità cazzo stronzo o'ghigno amore fottere prendere allucare lasciare gioire danzare aspetta coccodrillo giraffa ippopotamo macaco stanca romanzo azzalea sedia david viola palissandro eh arte miseria caos bricco stufi marasma comunismo auguri italia gelato ghiacciolo pesca giustizia buonasera nulla partigiani manuella piedipiatti lente arriverci salute tulipano fiore ciao panchina acqua arancio melo pallone astronave apollo giove ciliegia supersonico bottone motore cappotto golf municipio pallone rivoluzione corvo cammello merlo scarpa coccodrillo macchina rosa muro scarpa io lazzi quarantaquattro gerald mente testa bresci croci duomo donna uomo perfetto acqua bocciare puzzone grana contestatore pidocchio nuda lavoro baffi assemblea dibattito inverno bravo fonte registratore disco acquario pesce finanza mamma come ammiccia testa musica finestra terrazza coltello forchetta porta sciabola cane farfalla lampadario moscerino leone judo karaté diretto guarda domani caz-zotto boxe donne batteria naia emitter papini beta lavoro elettronica interrogazione scuola parola matematica classe acqua dire vino barba capelli luce soldi collettore freddo clamps diodo evviva involontariamente marxismo contrastante una naufragio fanciullino domani palesemente proletario concezione lavoratori misure casa matematica meccanica società film crisi fica alfredo boccaccio artigianato penna scuola cane danza aula seconda telefono libro italiano automobile scuola lavoro vero meccanica sole noia motocicletta perquanto dentature tecnologia corda capone secci porta ahi parola fame arriverci parlare sonno ridere formule ciao impulso babbo fratello penna borsa prima casa scuola cuoio amico sette boh fine stop camera stanco oboe topa corrente ferruccio tensione frequenza riposo lavoro voce mare rosso matteo disco domanda musica amore tesoro femminismo libertà gramsci fiori disarcivescoviscostantinopolizzare bestia domani evviva abbasso merde

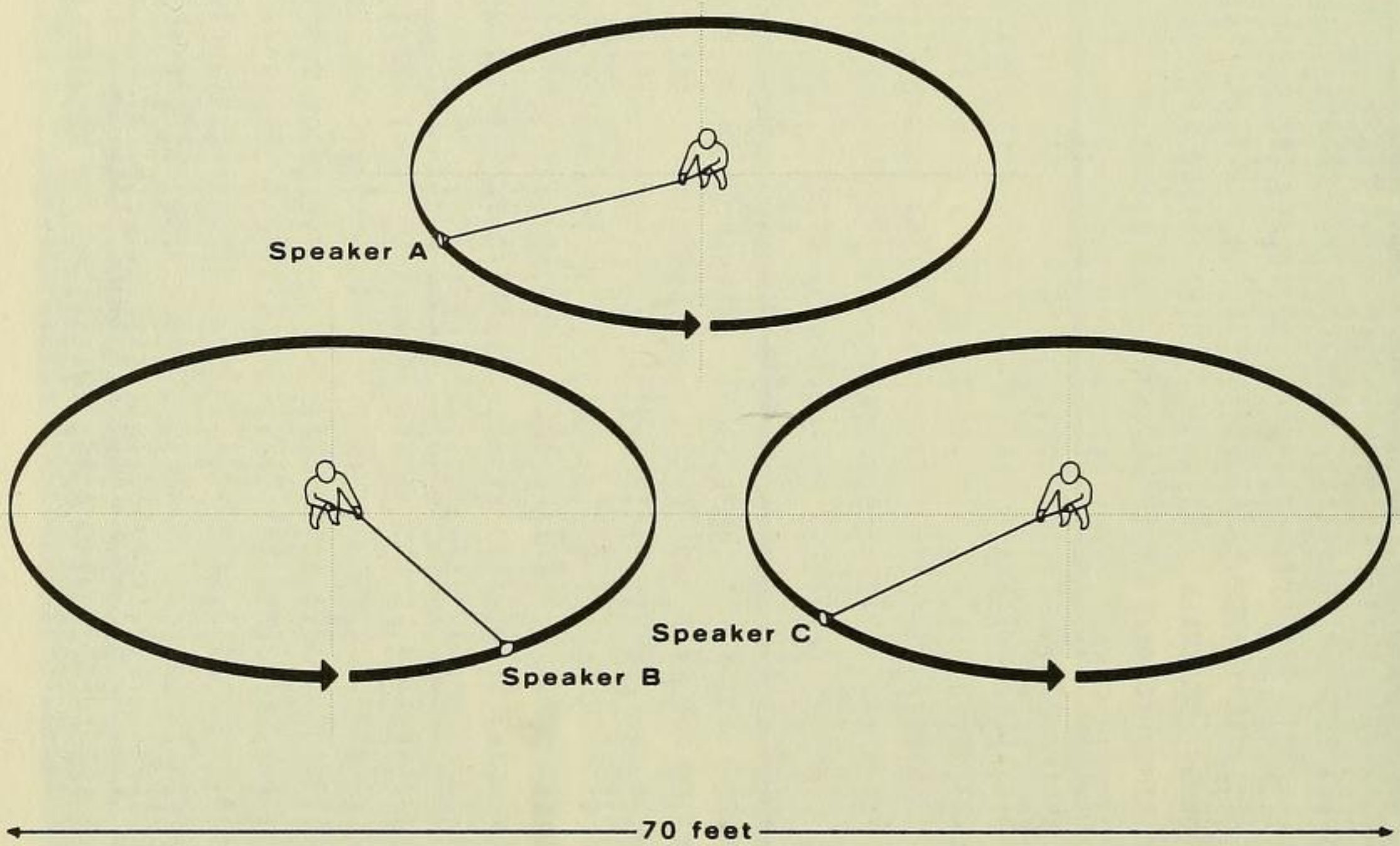


Diagram by Greg Van Alstyne, 1987.

Speaker Swinging

Gordon Monahan

An Interview by Robert Johnson, August 7, 1987

RJ: When did you first think of swinging speakers?

GM: In 1981. That's six years ago now. Actually I think the germ of the idea came a couple of years before that. A friend of mine, Thaddeus Holownia, planted this germ of an idea in my head that I should investigate the Doppler phenomenon and work that into a piece. It was a fleeting comment, but I do recall it.

RJ: So initially *Speaker Swinging* was an exploration of the Doppler Effect?

GM: I recall when I first moved to Toronto in 1980, I was moving from New Brunswick, where I was living in the country, and I was suddenly immersed in the urban environment in the hot summertime where there are a lot of cars driving with their windows down and their radios and tape decks blaring, a lot of Led Zeppelin and Heavy Metal stuff in Trans Ams and such. They go by you and there is this luscious auditory experience of hearing Led Zeppelin coming at you and then melting into a lower key as it goes by. It's this fleeting moment of wetness, of fluid music.

RJ: The momentary experience of the music cadences naturally.

GM: Yes. This beautiful cadence. And I thought, 'I've got to really start thinking about mobilizing sound.' It was another year before it materialized in its present form. I first tried swinging speakers on pendulums from the ceiling and laying down on the floor and listening to that. (Laughter) It was interesting but not really effective.

Then, talking with some friends, it came up in conversation that we should swing speakers around. So we hooked up the first swinging speaker to a sound system in the house and ran it out to the driveway, put some Mantovani on the turn-table and swung away.

RJ: What kind of speakers did you use? It wasn't in a cabinet was it?

GM: No, I knew from the beginning that swinging a speaker in a cabinet was just going to be too heavy. It had to be just the speaker. But I did soon try to go big. I went out and got a really big speaker. It was just ridiculous. You couldn't swing it more than two or three rotations, it was ridiculous. I found the optimum weight of the speaker magnet to be around ten ounces, which is really maximum. I wanted the piece to be a long, half-hour endurance piece and to maintain that effort for half an hour, swinging a ten-ounce magnet seemed the most you could do. Since then I've experimented with different weights. I've found that six ounces works but isn't powerful enough, now I'm around eight ounces and finding lighter-weight, more efficient speakers all the time. But of course I go through a lot of them because they get demolished through impact.

RJ: Did you start using music and radio through the speakers before using only sine tones?

GM: That was the first experiment, putting on a record. It's kind of nice and mellow, but ultimately not all that interesting.

RJ: Also, with most music, the information is so varied you might not notice the Doppler Effect as clearly.

GM: Yes, and that's exactly why I settled on pure tones, because those are in fact the most noticeable sound you can use to elicit Doppler Effect.

RJ: Are you trying to manipulate some sort of exaggeration of the Doppler Effect? Is there a sound ideal you have in mind when you set up in a space?

GM: Well, there is a section in the piece that does deal with the particular space. It's a section which is not on the record because it is

difficult to record and convey. That is the actual sonic impact of resonant frequency in the space to a kind of pressure-pulsation happening. When you try to record that, you get modulation on the diaphragm of the microphone. You can't get a true representation of that on a recording. On the versions that I have recorded I have deleted that from the score.

RJ: The first time I saw you doing this piece, some years ago, it was on a double bill with Chris Devonshire and he was dealing with that specific phenomenon in a different way – picking up the resonant frequency of the room.

GM: That was the very first performance of *Speaker Swinging*. At that time I hadn't really latched on to the idea of using resonant frequency. In fact, that was the only performance I've done where I've swung the speaker myself. That was July of 1981.

RJ: I remember the pre-recorded tape being mostly sine tones rather than pre-recorded musical material.

GM: Mostly tones, although there was a large section of kind of electronic synthesized effects composed as electronic music. I immediately deleted that, finding too much electronic music and not enough about the Doppler Effect.

RJ: I remember that one of the most impressive performances, especially in terms of the volume that seemed to be produced, was the one you did in the big hall above the Music Gallery in Toronto. You had two of the speaker swingers out on gang planks off of the horseshoe balcony and two down on the floor. It created an incredible sense of that total resonance of the room. You could feel lines of standing waves crossing the space. It would get trapped in your ear in a way that tickles the ear canal.

GM: During the resonant frequency section of the piece, the ideal is that pressure tickling effect.

RJ: Where do the lights fit in? They were attached to the speakers.

GM: What happens is the piece begins with the basic theatrical light-

ing and the lights on the end of the speakers are not turned on. And I don't think the audience is aware that there are lights attached to the ends of the speakers. So the speaker swingers are illuminated by the house lighting for the first ten minutes or so. Then at the point when we are immersed in the resonant frequency section, so the pressure effect is happening and the ear canals are stimulated, that's really the most sensual part, where I'm getting out there and touching each person's ears in the audience. So while they're physically and mentally focused on that stimulation the lights will go out completely and we will have pitch blackness for just a couple of seconds. Then I'll turn on the lights on the ends of the speakers. For a moment the patch of darkness might suggest a power failure but the sound is still happening, which creates confusion.

RJ: And that is a sort of sleight-of-hand to heighten people's sensitivity to the whole thing.

GM: Yes, a sleight-of-hand, a trick in a way, a tweak of sensationalism. It has a really nice impact. Of course, seeing the speakers swinging around with the lights on them and the wild modulation of the shadows transports the visual aspect as well.

RJ: Why did you give up swinging a speaker yourself?

GM: When I realized this piece was actually an instrument in itself. The swinging action created a large instrument that I had to play at the time. I couldn't possibly predict the acoustic possibilities of the space I was going to perform in so, I had to be there doing the live performance at the time, generating all the live sound. And this leads on to a whole other interesting aspect of the piece, which is the opportunity to hear it myself. The thing is, I'm in a situation where I can't really rehearse the piece because the logistics are so difficult to get together. Swinging speakers is really a physical task that I don't want to ask people to do every day. And then I can't find a big enough space to do it in. You need a huge space to swing them. Being stuck without being able to rehearse gives the piece a whole other connotation. It means that over the past six years I've developed everything in performance in front of a live audience. As a composer, I map out specific compositional processes which I then work out through trial and error, by ear. I don't write down pitches or

frequencies, because with the wave tone generators I don't use keyboards. I'm using knobs and dials in a generic way; doing it all by ear to create these specific processes.

RJ: So the situation is that there are certain contingencies that come up and you have to deal with them right there, in live performance.

GM: It has been slight variations within a set compositional outline, but the piece has changed quite a bit over the years. I specifically undertook that challenge, fully conscious of wanting to do it that way rather than rehearse, figure out every detail and keep it straight.

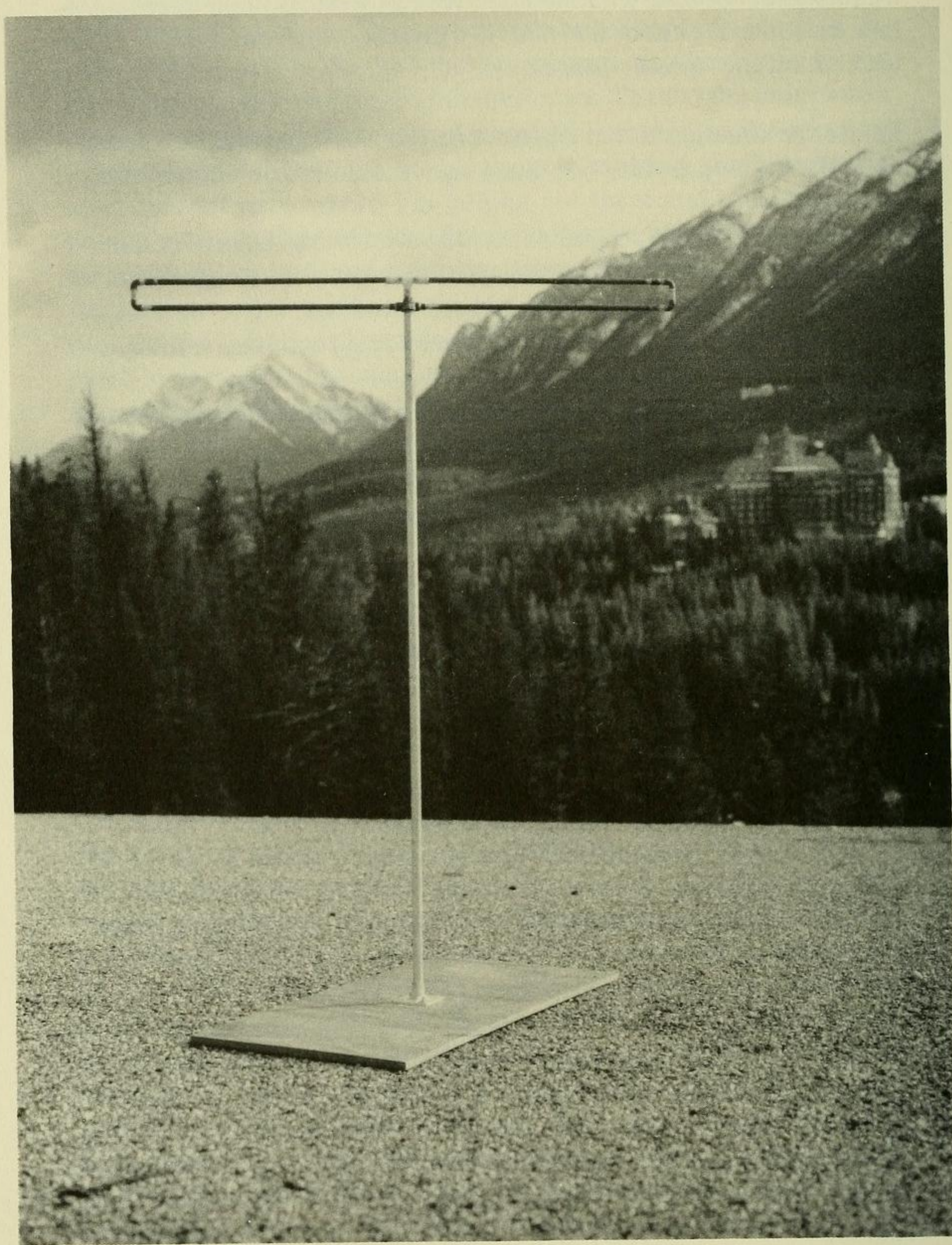
RJ: In this sense I think it is something of a Pythagorean experiment, as it is an experiment to find out just what the materials will do.

GM: Yes, and so it is a kind of experimental music.

RJ: Less so in the cliché, aesthetic sense and more in the real sense, as you are never exactly sure what will happen. Whereas, often music is called experimental just because it's new music, yet every detail may be thoroughly composed and very little of the unexpected can happen. If it does, it's considered a mistake.

GM: Yes. Rather than the genre of experimental music, *Speaker Swinging* deals with the reality of experiment.

This conversation first appeared on the LP jacket of *Speaker Swinging*, GM 002, Toronto, 1987.



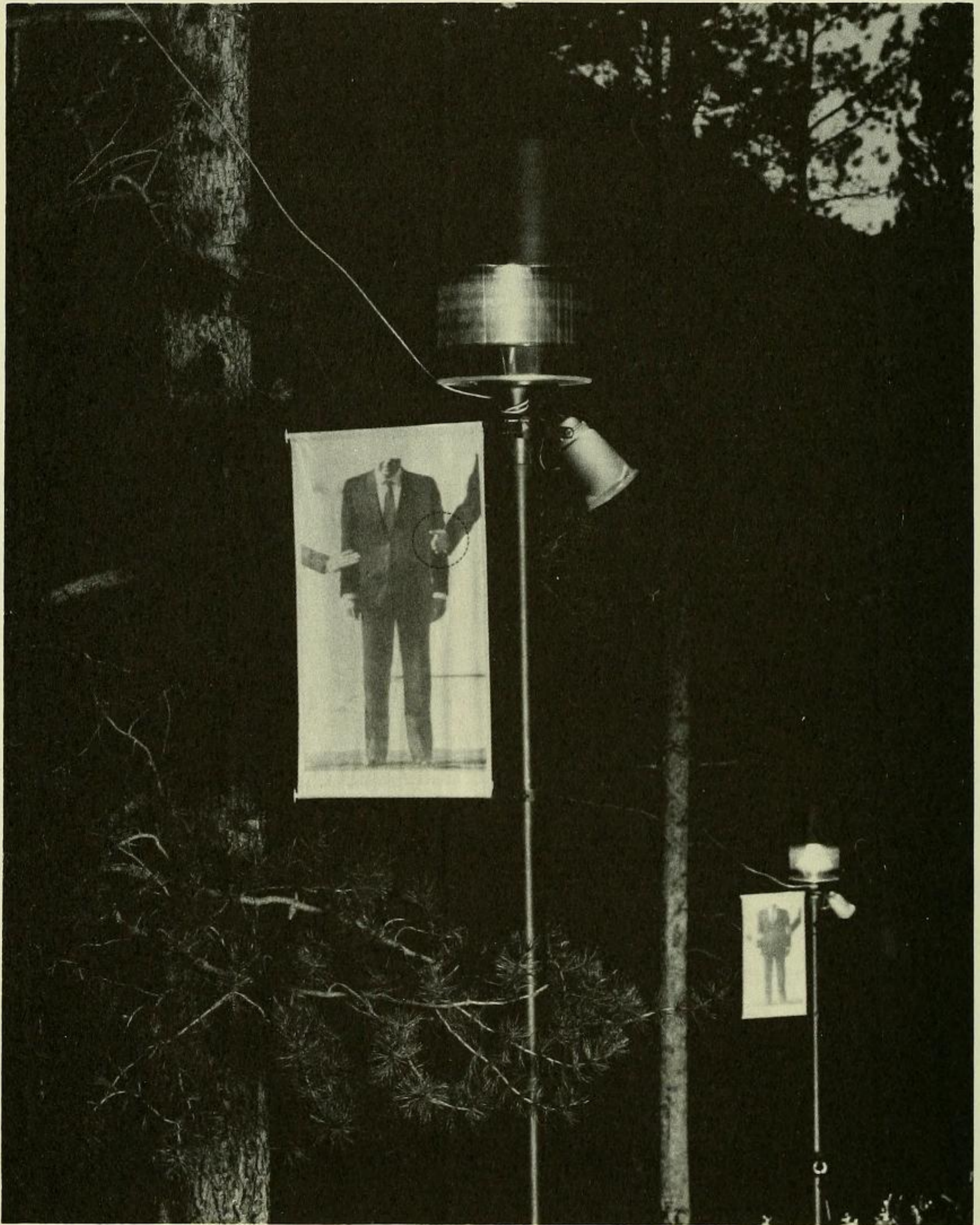
Dan Lander, *A GAsP In The Air*, antennae for RADIA 89.9 FM.
Photo: Monte Greenshields.

As Told To: structures for conversation

Daina Augaitis

This essay accompanies the exhibition *As Told To: structures for conversation*, curated by Daina Augaitis, which took place July 28 to August 28, 1988 at the Walter Phillips Gallery in Banff, Alberta. Four artists were featured in an exhibition of installations, video screenings and radio broadcasts. Toronto sculptor, Micah Lexier, installed *Indecision's Way*, an outdoor work created specifically for this exhibition. Gary Hill, of Seattle, was represented by three videotapes: *Mediations*, 1979 and 1986, 4:30, colour, sound; *Primarily Speaking*, 1983, 19:30, colour, sound; and *Why Do Things Get in a Muddle? (Come On Petunia)*, 1984, 32:00, colour, sound (with Kathy Hill and Charles Stein). Toronto audio artist Dan Lander, who works primarily in radio, used The Banff Centre's RADIA 89.9 FM to broadcast his own and other artists' audio works from July 26 to 30, 1988. Lander also completed *A GAsP In The Air*, a compilation of conversations and aural events recorded during his stay in Banff, which was installed in the gallery for the duration of the exhibition. Catherine MacLean, now working in Los Angeles, created *Cross-Talk*, an acoustic installation based on the architecture of the gallery.

Sounds have the ability to flood the mind with striking visualizations, just as images often resonate acoustically. This crossing of senses seems natural, yet within the sphere of creativity, visual and aural traditions have remained fundamentally separate, divided by the very senses that perceive these stimuli and, subsequently, by the media that produce and transmit them. While the paths of development have often followed similar courses, these two worlds manifest distinct histories and characteristics. One field of convergence is audio art, an activity arising out of visual art practice but in which aural and visual realms are interdependently linked.



Micah Lexier, *Indecision's Way*, 1988. Photo: Doug Curran.

The exhibition *As Told To: structures for conversation*, highlights four artists trained in the visual arts who are sensitive to aural perception. Micah Lexier, Gary Hill, Dan Lander and Catherine MacLean involve the aural domain in their critical inquiry into the carriers of meaning, implicating the conventions of language, speech and communications media. The focus of this multimedia exhibition is on artwork that engages the conversational mode in a self-reflexive analysis. It is through the voice that this art comes to life.

In this context, Micah Lexier, whose conceptually oriented sculptures often incorporate spoken and written text, was commissioned to create a site-specific outdoor sound installation. *Indecision's Way*, consisting of loudspeakers and banners mounted on existing lamp posts along a pathway, is a study of the decision-making process, appropriate to the transitory character of Banff. As a tourist town, Banff caters to the needs of thousands of itinerant visitors; and as home to The Banff Centre, it hosts artists attending short advanced training sessions. For most, Banff represents an intermediary position, encompassing the physical, emotional or intellectual transition from one place to the next. With these features in mind, Lexier created a visually subtle statement indicating the significance of a specifically chosen path that demarcates the zone between downtown Banff and the forested mountainside, and divides a cemetery on the lower side from a centre for continuing education on the other. The path represents many dichotomies: past/future, body/mind, nature/culture, production/consumption; and *Indecision's Way* characterizes this path as a metaphor for passage, or, in human terms, the journey of life and all of the deliberation that it implies. The artist incorporates the familiar in constructing new readings that bridge high art with the everyday, dislodging the original and adding to the innate.

For a traveller making a journey along the path, the presence of the artist's intervention is signalled by eight khaki coloured banners that blend like camouflage into the surrounding forest, yet remain distinctly urban in function. They advertise an image culled from a 1983 newspaper clipping portraying a compliant dignitary standing at attention, flanked by two figures of authority who simultaneously indicate the protocol to 'stop' and 'proceed.' The salient features of the banner are the hands. Often referred to as 'the tongue' of gestural communication, hands are the organ for the only truly natural and universal speech of humankind to which we give an instinctive and

automatic response. Here, they indicate the silent and iconic power of gesture, with a subtle movement triggering the change from positive to negative and signifying the individual caught in a dilemma – the double bind of action and non-action. It is evocative of the perplexities encountered in deciding between two equals or opposites, and symbolic of making one's way through the crossroads of life, a process less involved with individual choice than with a limited selection from options prescribed by others.

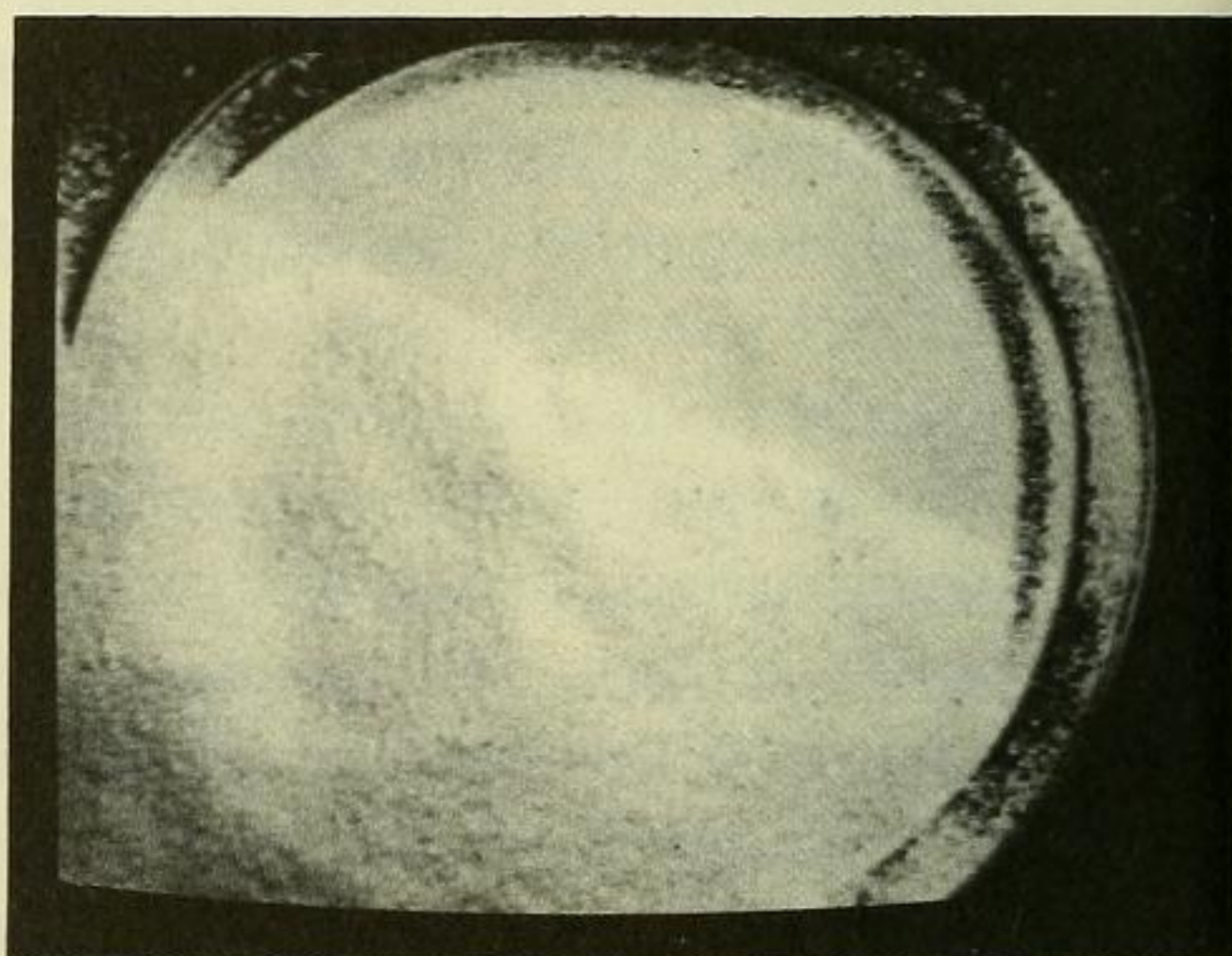
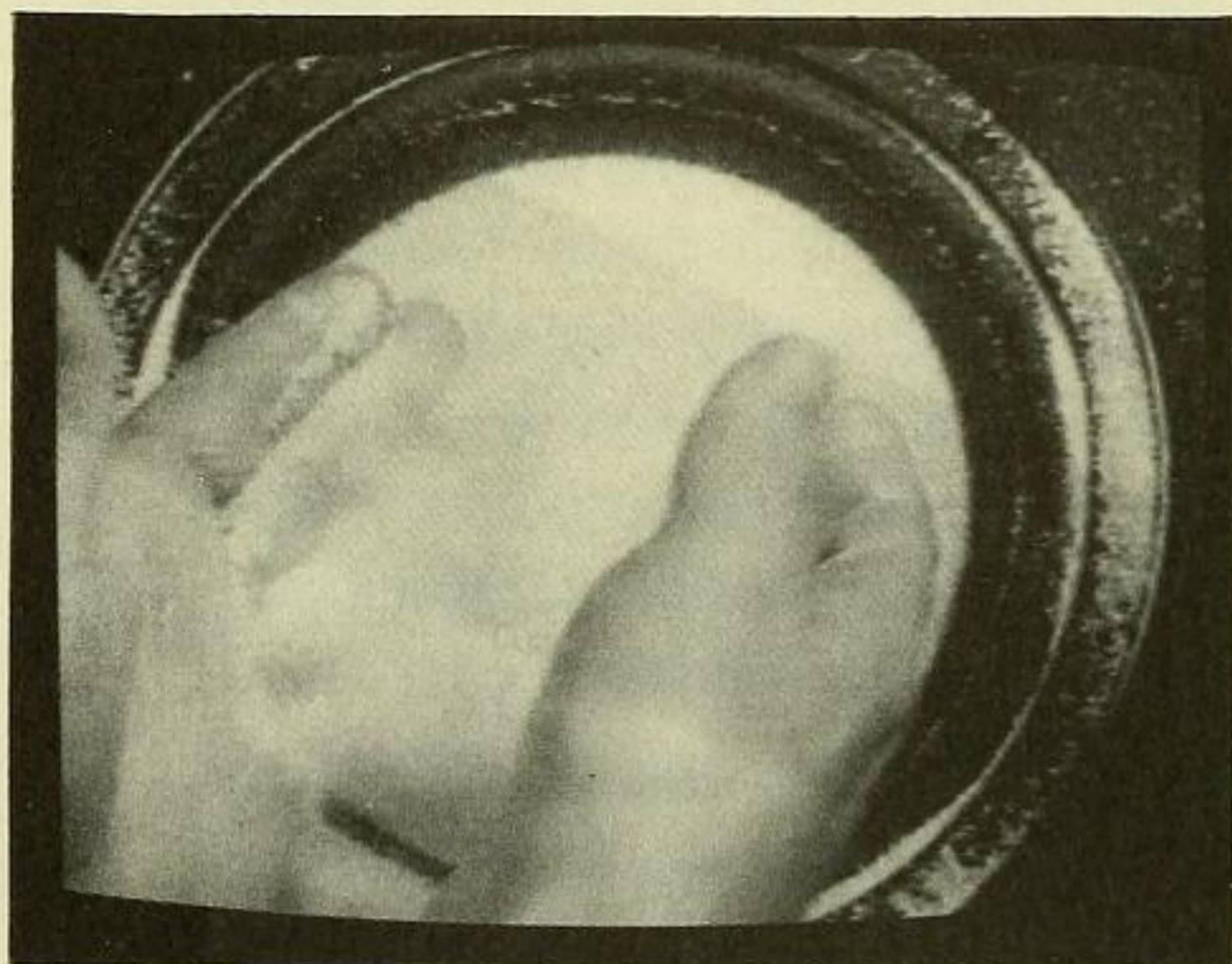
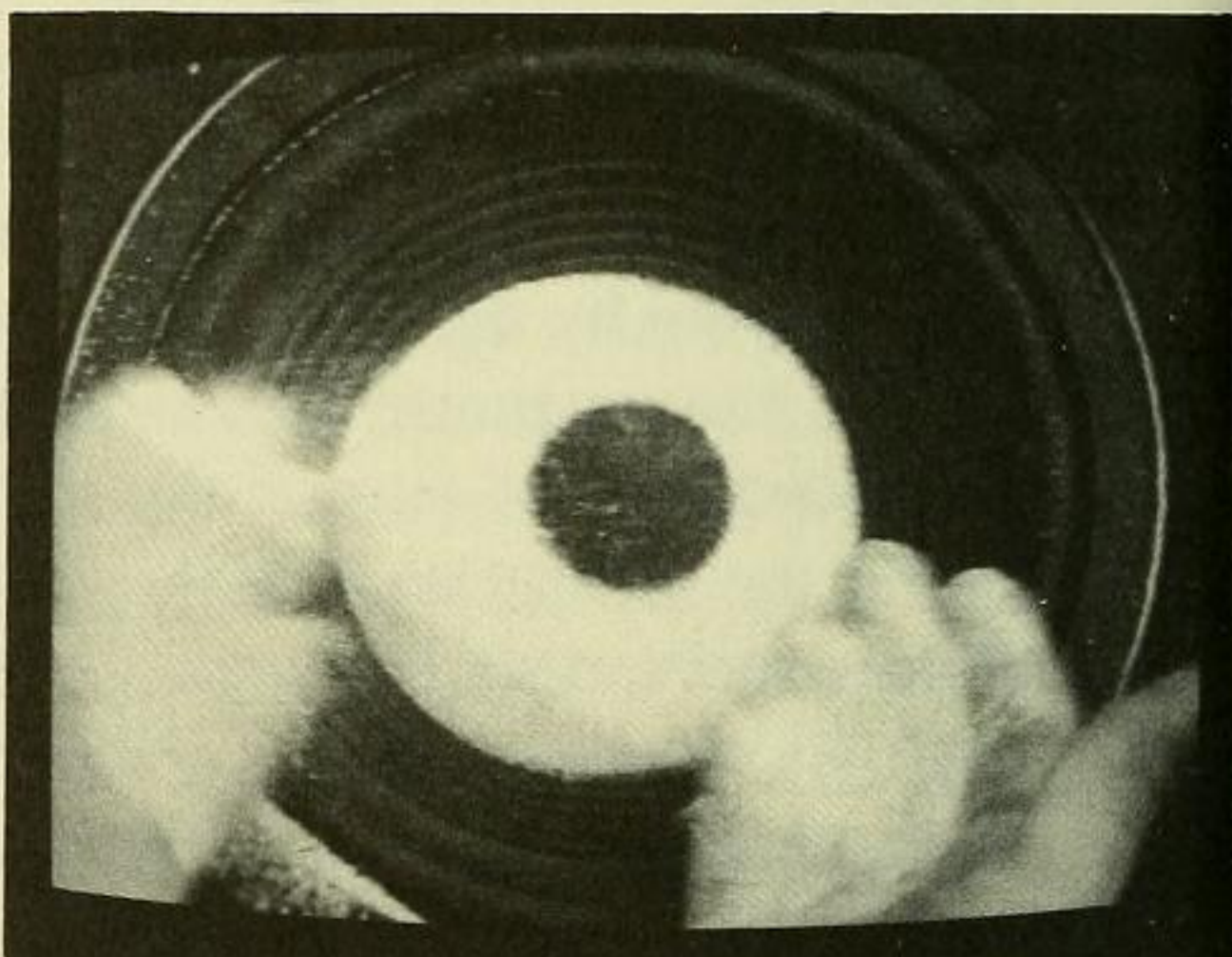
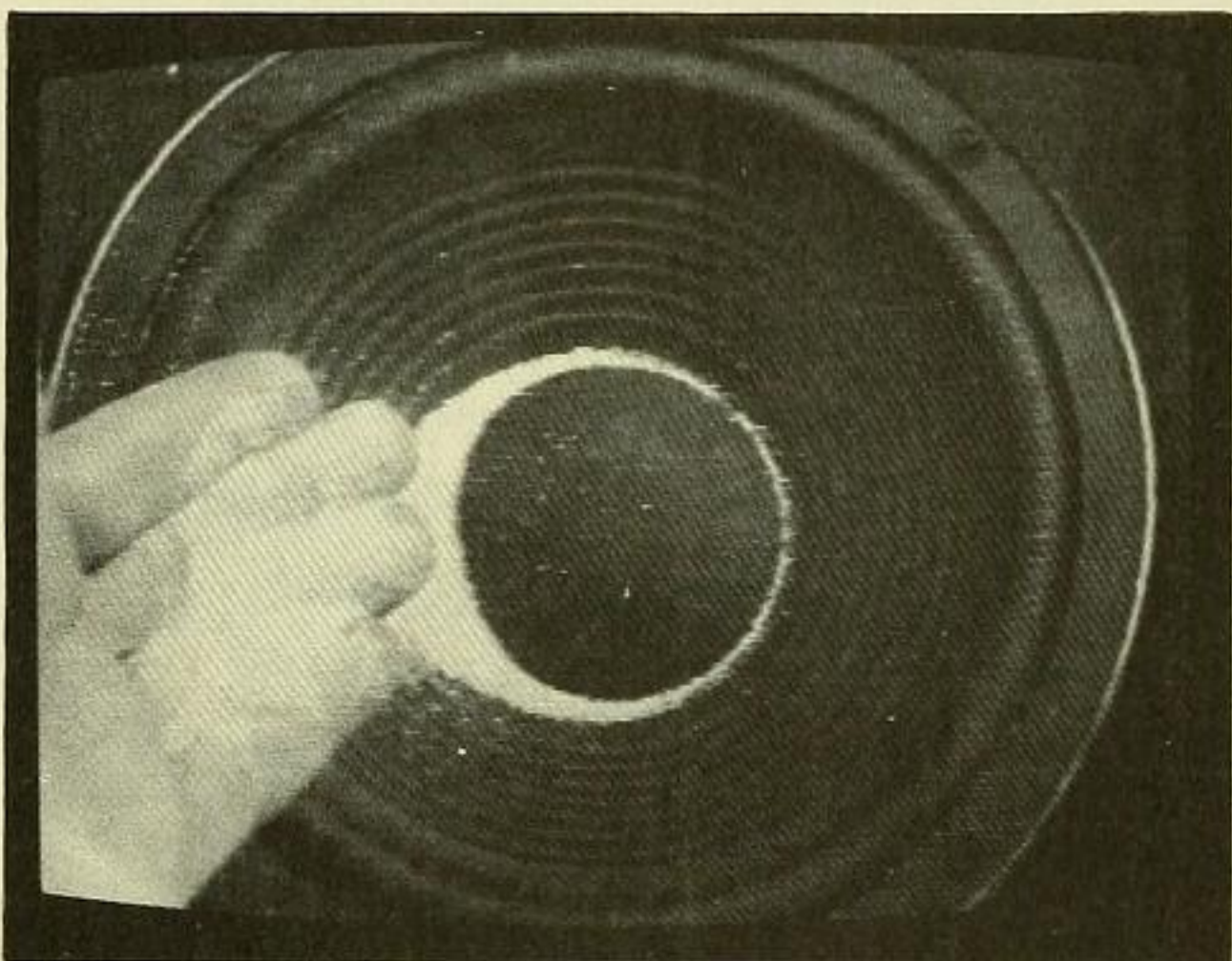
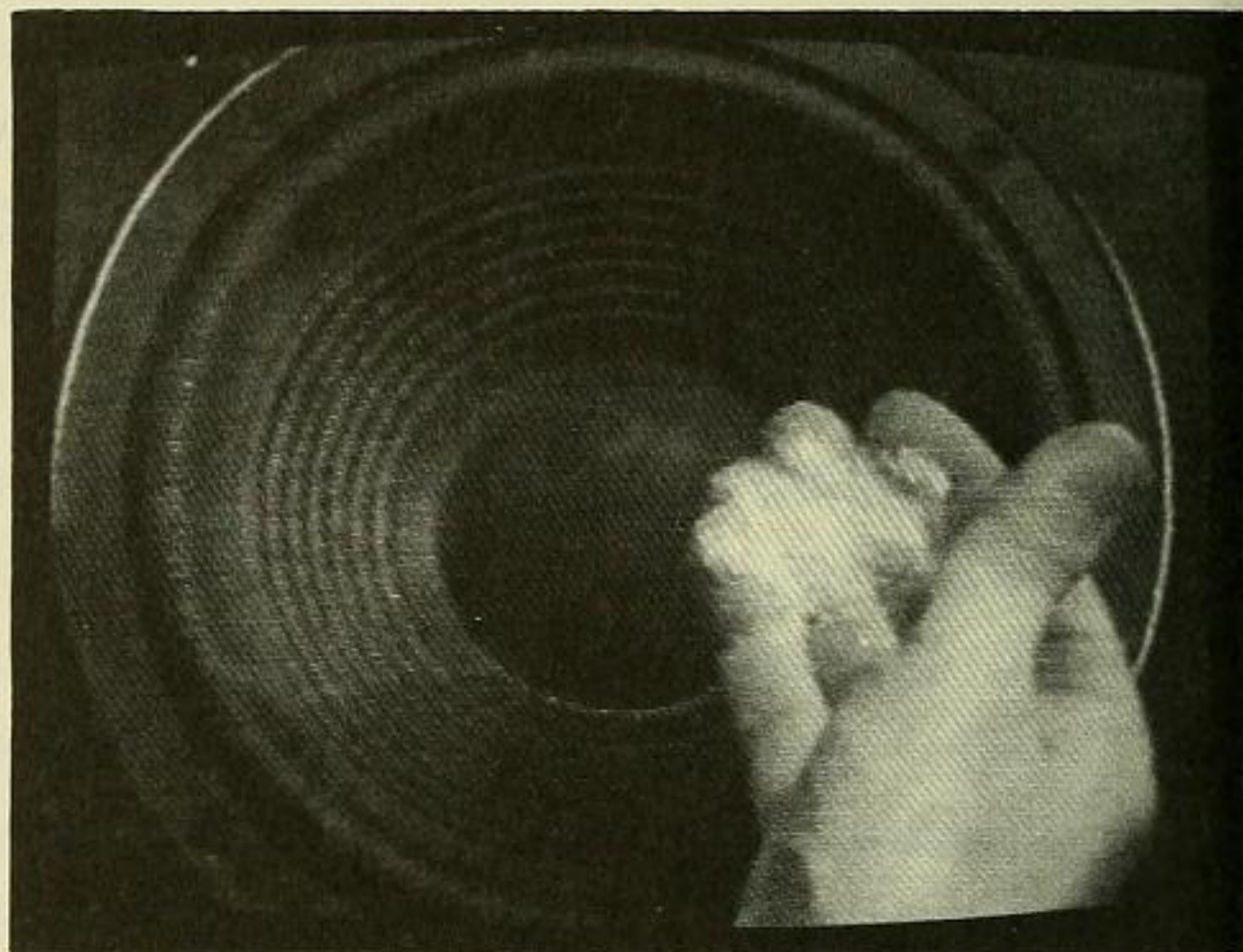
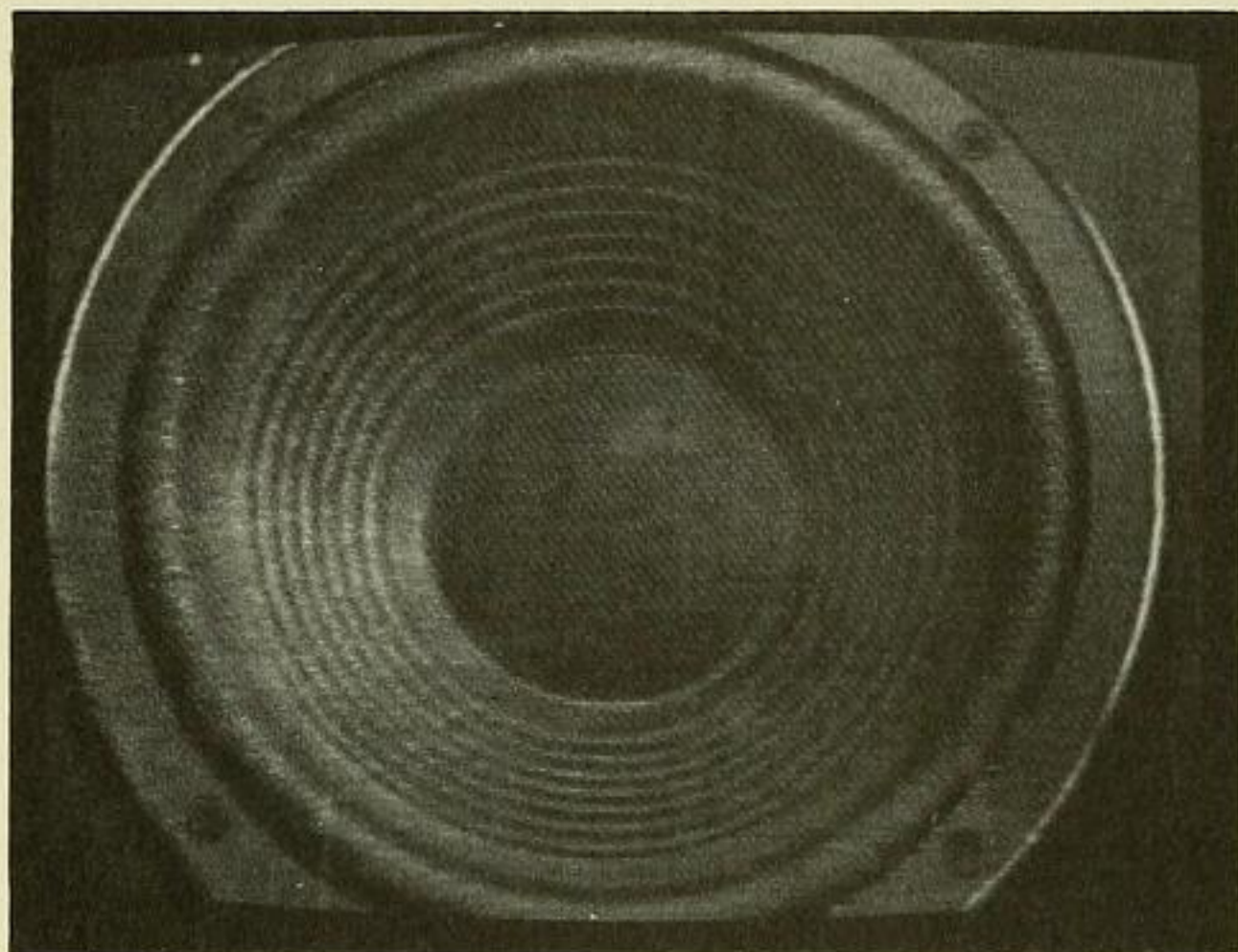
Lexier elucidates this dilemma in the audio portion of the work, where intermittent voices speak over the eight loudspeakers spaced along the path. Heard randomly and in varying sequences, each offers advice and solutions – statements that double as insights into the installation itself. As the voices indicate, this work is 'about subjects and images,' 'about your choices,' 'about the gesture as conversation.' By offering numerous interpretations, the artist turns away from an assertion of a singular, dominant point of view, perhaps in an attempt to remove some of the inequities of male-dominated language. Conceptually, the spoken words function to analyze the subject of the work and, behind their screen, lies the territory of the personal. Engaging a feminist strategy where personal politics are tied into the work, the eight voices are those of Lexier's friends who act as his counsel; through their spoken statements and the quality of their particular vocal rhythms and intonations, they evoke the 'individual.' In the act of speaking, these friends reveal their personality, betraying or alluding to private truths. As in real life, they make conflicting remarks, at once cautionary and encouraging. Lexier's art frames these dichotomies of choice, presenting them as sources for contemplation. When they converge, by chance, with the thoughts of a passing listener and the sound permeates experience, the voices summon a consideration of relationships outside of oneself, all the while encircling, as John Berger fittingly describes it, 'the well of conclusions.'

The work courts a key social issue, recognizing our decreasing options at a time when ideologies, not just assembly-line products, are funnelled into fewer and fewer deadening and restrictive structures. The artist's role then is to keep things unsettled, to break down the authoritative voice and reinforce the multiple essence of experience, revealing the rituals that lead to singular channels of communication. Lexier's work offers no solution; but through its manipulation of three principal ingredients – image, text and context

– it exemplifies conversation as a primary form of social interaction and conveys the inherent power of the signals we send and receive.

In an approach similar to Lexier, Gary Hill uses dialogue to call attention to the work itself, making videotapes that focus on the deconstruction of language. The three tapes selected for this exhibition emphasize aspects of linguistic analysis, with the earliest work *Mediations* being the most direct and physical metaphor for the manipulated voice. In this video the camera rests on a view of a loudspeaker from which a voice is projected. As sand continuously falls onto the loudspeaker, it begins to impede the words, not unlike the effect of many of today's mediating technologies. In turn, the vibrations generated by the voice create concentric patterns in the sand, as if to assert the natural over the technological. This literal indication of the grain of the voice reminds one of Roland Barthes' explorations into the sign systems that govern the interpretation of language, theories which undoubtedly affect the making and interpretation of Hill's work. In *The Pleasure of the Text*, Barthes describes an imagined textual delight that would include 'writing aloud' and is '... carried not by dramatic inflections, subtle stresses, sympathetic accents, but by the 'grain' of the voice, which is an erotic mixture of timbre and language, and can therefore also be, along with diction, the substance of an art: the art of guiding one's body.'¹ In Hill's work, the natural body of the person speaking becomes anonymous, hidden behind technology, as if to indicate that the pleasures of Barthes' 'vocal writing,' including 'the articulation of the body, of the tongue,'² are drowned in the numbing process of mediation.

In the videotape, *Primarily Speaking*, Hill juxtaposes a soundtrack comprised of verbal slogans with a disassociated series of banal images, mirroring the complex relationships between codes of verbal expression and visual language. As these word / image associations flow between ambiguity and relevance, they propel a desire for meaning and set into motion an unconscious search for the social constructs that make these clichés function. Culturally, verbal clichés symbolize rituals of behaviour and serve to convey coded meaning even in their abstracted form, providing an individual with a cohesive sense of belonging to a social group. The video depicts the random 'hit or miss' of interpretation, where, in a casual delivery, the narrator randomly uses these clichés 'in a manner of speaking,' trying to 'speak the same language,' encouraging the viewer 'to talk,' 'to talk it over,' 'to talk about it,' while admitting that perhaps



Gary Hill, text and stills from *Mediations*, 1979 & 1986. Photos: Dan Lander.

speak
speak er
err aahh
a voice
a voice speaks out
out loud
a loud speaker lauds a voice
out loud
out of bounds from the picture
a picture of a speaker
a hand enters the picture
a voice enters the hand
a hand bearing tidings
tidings of a bare hand
a voice in the hand is worth two in the sand
a hand enters the picture
a picture's worth less without words
within words speak voices
a voice peaks through a voice
a voice bares a voice bearing voices
voice burials
voice burials
a bare voice lies in the sand
a thousand grains of voice
a voice grain shifts bearing a grand old voice
a bare voice lies in the sand
grains of would-be glass sharpen a voice
a bare voice lies in the sand
stuck in the ground a grounded voice
a voice ground
voice grounds grinding voices underground
a voice bound under ground
bearing voices underground
voice barriers underground
holding ground
a voice from the underground
a voice is losing ground
a voice is lost and found
a bare voice lies in the sand
barely a voice can be said to be heard
one herd of wild voices kicking up the ground

'this double-tracking will get us nowhere' and we are 'losing touch.' Rather than isolate systems of codification, Hill engages the larger problem of meaning, producing a subversive, alienating and complicated muddle, that parallels the intricacies of verbal communication and demonstrates the constraints of words and images in carrying a subject.

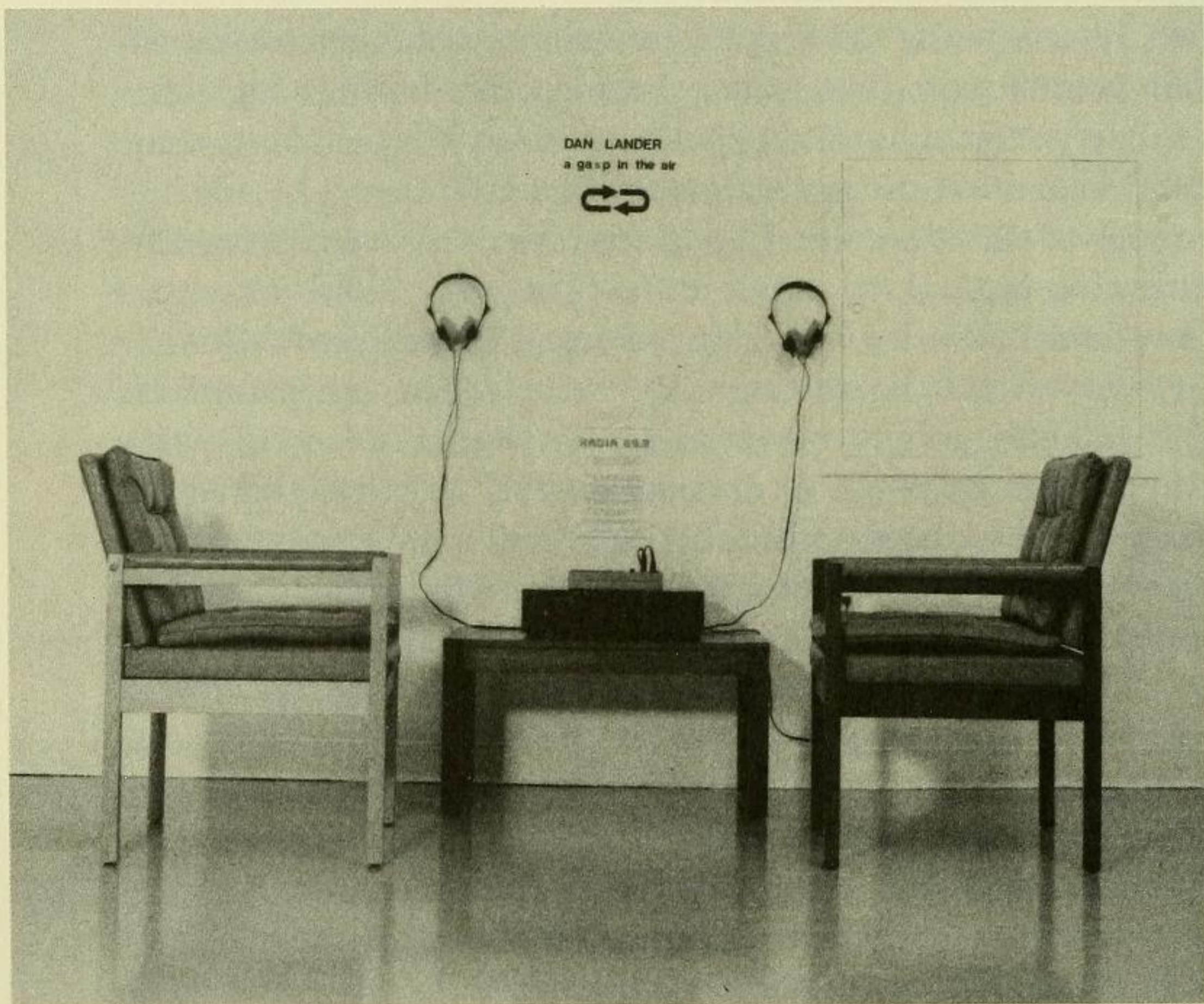
This idea of chaos and disorder is further pursued by Hill in a videotape with a title borrowed from Gregory Bateson's 'Metalogue: Why Do Things Get in a Muddle?' – a chapter from his influential book *Steps to an Ecology of Mind*. Adapting a portion of this chapter to video, Hill creates his own metalogue, a philosophical construct that Bateson defines as 'a conversation about some problematic subject ... such that not only do the participants discuss the problem, but the structure of the conversation as a whole is also relevant to the same subject.'³ Hill's video metalogue re-creates this double structure through an enacted conversation between Bateson and his daughter, whose video persona is that of Alice, and who, in suitably curious fashion, perceives the world as if 'through a looking glass.' The presence of Alice makes an appropriate reference to Lewis Carroll, who was himself a great logician, searching for the deductive method and logical paradox. The structural paradox of this videotape lies in the performance of the two actors who speak and move backwards, so that when the tape is also played backwards, the result is *regular* speech. The words are comprehensible but stilted and detached from the speaker, producing a disorientation that is heightened by a rotating camera movement where forward and backward, downside up and upside down merge into one fluid but dizzying media presence. This rearrangement of gravity as a play between order and confusion is reinforced in the video's subtitle (*Come On Petunia*) itself a rearrangement of letters in 'Once Upon a Time,' which sets the tone for this moral tale. The impertinent queries and incisive remarks of the daughter eventually lead her Daddy to question the irrevocable *muddle* of war, throwing much of the logic and order implied in the grown-up world into doubt.

A deconstructive approach is also utilized by Dan Lander, who turns it exclusively towards recorded sound. As a producer of audio works, he engages in an aspect of audio art that practices the dematerialization of art, maintaining a marginal position outside of the cult of the autonomous object, and remains a purposeful thorn in the side of widespread heterogeneity that exists in our culture.

Lander's basis of composition is not unlike that used in documentary photography, an objective of which is to capture and transpose reality. Instead of a camera, Lander's tools of representation are a microphone and tape recorder, aimed at the sounds of life and attracted to 'the complexity of apparent simplicity.' The process is comprised of isolating cultural representations to profile and play back to the listener and involves choosing when to turn the tape recorder on and off, consciously selecting the microphone, tape stock and sound treatments used for the work and, often, physically cutting and splicing the audio tape to obtain the final 'composition.' Lander records from all facets of his experience. He recontextualizes: a telephone conversation with a collections agent; annoyance calls on his radio show; the dialogue on a walky-talky while executing a soundcheck; the sounds of crossing the street, attending a political rally and riding the subway to work. He transforms the ubiquitous 'Walkman' into a pro-active rather than passive device, absorbing rather than shutting out his environment and uncovering the daily politics carried by its aural traces.

When appropriating existing or *used* sounds and then editing to shift their context and subsequent meaning, he depends on these sounds to carry their cultural significance, retrieving them from society as markings of our urban and natural environments. In making his selections of cultural noise, Lander eradicates all sense of hierarchy, discerning instead the subtle differences of cultural presentations. As Daniel Charles states in his analysis of *recording and retrieval*, 'we retrieve, behind what Duchamp called "the curtain of memory," something that we experience *for the first time*, but without any longer having power or domination over it.'⁴ In further analysis, Charles cites a diagnosis of 'cool' and 'hot' societies where, '... in the 'hot' society, our society, the stability will depend upon the 'acceptance' of noise, and the incorporation of this noise as an information, ... the hot society records itself in an essential way, on the world outside – on nature, on stone, on wax, on clay, on paper, on film, on tape, in its railway networks, its streets, its freeways, ... it incorporates everything new, hence its complexity and fragility.'⁵ In accordance with this idea of making 'order from disorder,' Lander transfers *noise* from the category of *error*, absorbing it into a logical process of attempting to comprehend the whole.

In their residual impact, Lander's juxtapositions of sound give off new information, encouraging, for example, a consideration of



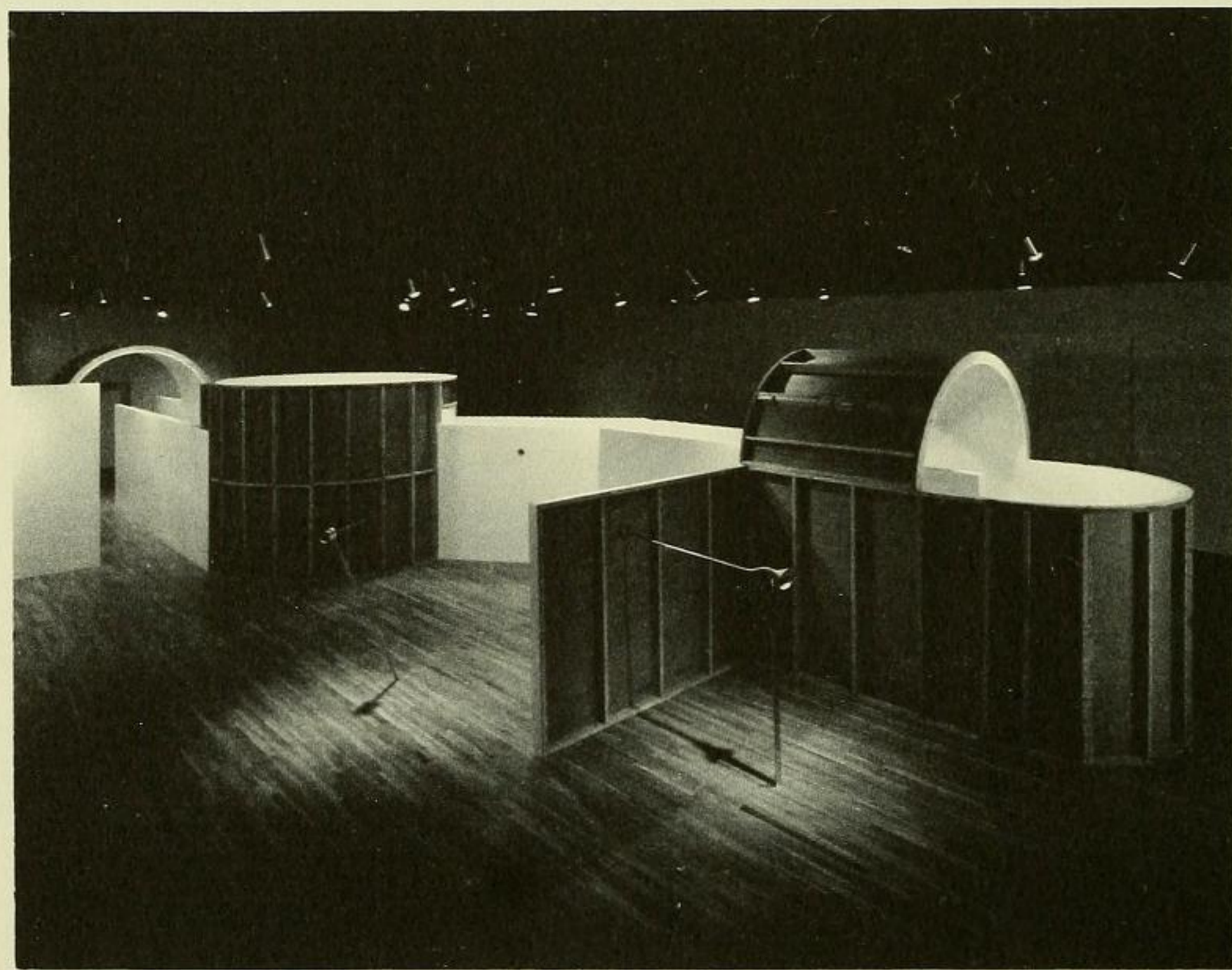
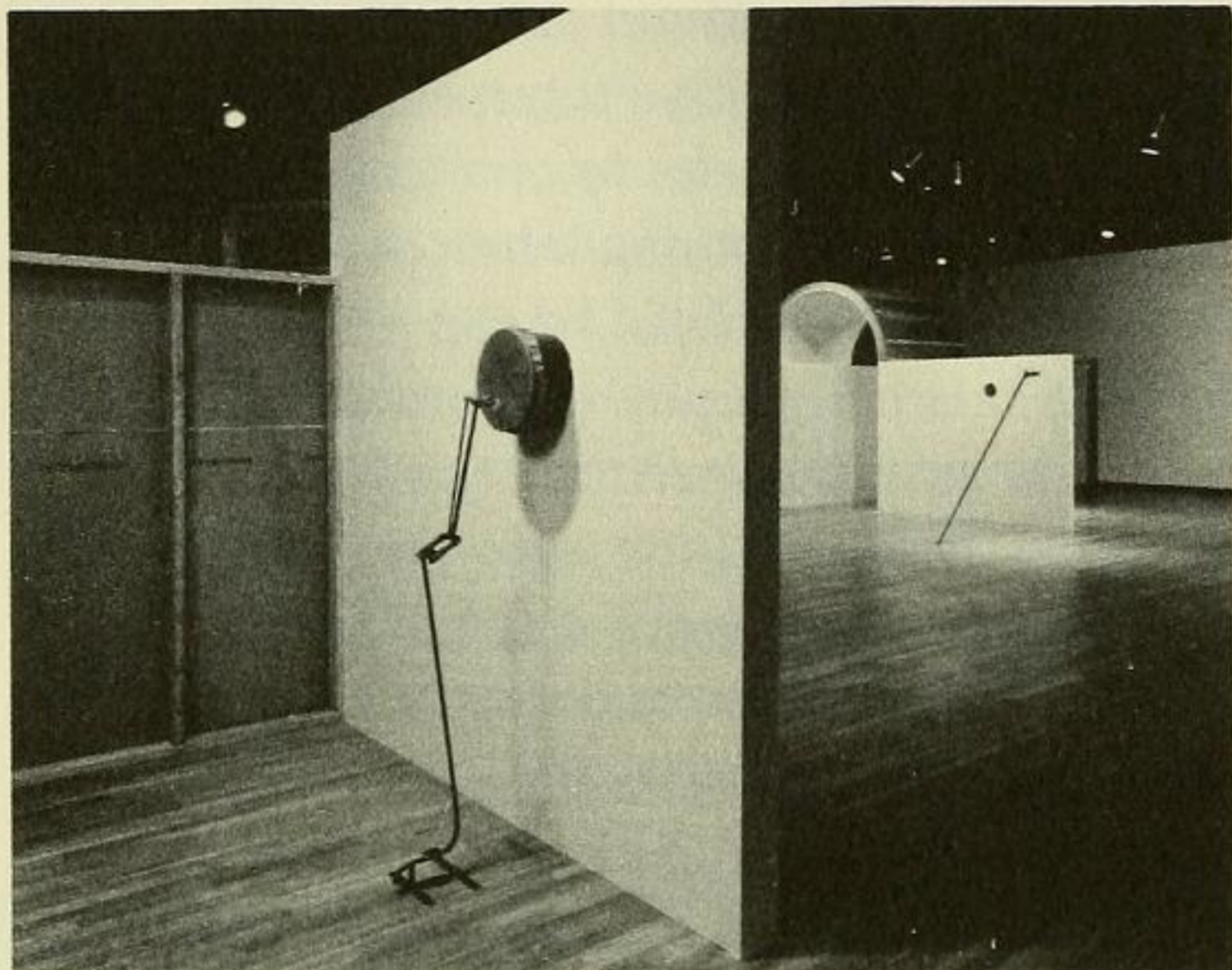
Dan Lander, *A GASP In The Air*, 1988. Photo: Monte Greenshields.

the technological interface we experience while communicating, whether this occurs through computers, television, the telephone, or, as in Lander's case, tape playback systems and radio. As a strategy of public (re)address, Lander aims at radio for distribution; a medium that, like television, has proven it can infiltrate privacy and affect the state of mass consciousness. Radio has been aptly described as the cave of the imagination, for without accompanying images, it offers the possibility of more imaginative interpretations. While acknowledging this attribute, Lander seeks to challenge the existing laws of radio, asserting that 'there is nothing inherent in the medium of radio to suggest that pre-recorded music be the primary object of its attention.'⁶ Lander puts this philosophy into practice in the context of the exhibition, where he programmed the broadcast of artists' works and his own collected conversations over the Banff airwaves. While in Banff, he also created a new work *A GAsP In The Air*, which proved to be the antithesis of passive radio muzak.

In general, Lander's audio work is demanding, using abrupt repetition to counter radio's natural flow and arrest its incessant pace. He often records radio and turns it back on itself in an attempt to reconstitute it, running it forwards and backwards and from left channel to right in a mimicry of media's tendency to polarize issues under a guise of false objectivity. His work is situated between the public and private, breaking rules of common acceptability by including the sounds of the work's making (recording and editing) and revealing the machines of manipulation that stand between artist and audience.

Catherine MacLean shares with Lander the goal of elevating the social perception of sound in the hierarchy of the senses. MacLean's sculptural installations prioritize aural perception, in her case through architectural structures with finely-tuned physical proportions designed to alter and redirect sound waves. These acoustic environments initiate an atmosphere conducive to a heightened awareness of sound, enhancing an aural consciousness.

For this exhibition, MacLean presented *Cross-Talk*, a series of envelope structures that together created a space for re-interpreting the context of conversational sounds. Comprised of a bending corridor and variously-shaped chambers, the structure manipulates ambient sounds; as an audience passes through them, their conversations are transported and directed in unsuspected ways. At the end of the long corridor, arches project sounds from unseen places,



Catherine MacLean, *Cross-Talk*, 1988. Photos: Doug Curran.

making conversations prone to eavesdropping; a round central room carries the sound waves circularly back to the originator, causing disorientation as sounds seemingly reverberate inside the head. This circular room becomes analogous to the inner chamber of the mind where all our voices reside, where we cannot stop the incessant flow of consciousness.

As the acoustic properties of this listening environment are realized, the installation is converted into a participatory stage set, inviting spontaneous interaction in an attempt to sensitize visitors to a more discriminate listening and hearing. Isolated in these acoustic spaces, one begins to perceive the causal relationship between architecture and sounds, tracing them to their material source. The installation makes a performer of the viewer / listener who utters a sound, enclosing instrument within instrument. The installation is replete with accessories that incite playful social exchange between visitors, and the results of these interchanges are 'found' sounds with a physicality that reiterates the shape and weight of the container.

The artist's assumption rests with the idea of sound as matter, that 'sounds have physical properties defined by the volume, direction and form, which suggest an equivalency to formal visual constructs.'⁷ In making the visual and acoustic space symbiotic, MacLean integrates the sculpture into the architecture of the gallery, using vernacular building materials and techniques that reiterate the construction of the gallery walls. The outer shell of the structure is left raw, creating an inside / outside that prompts an exploration of function. A small sculptural readymade comprised of two wooden chairs facing each other, as if in conversation, is positioned to one side of the larger structure. Attached beneath the seats are speakers which emit the low murmur of collected conversations, memories of distant voices in a distant time. This element is in stark contrast to the rest of the installation which is a place for the living voice, and by extension, the living body to assert and represent itself, even in its most extreme manifestation – silence. The voice is that slippery thing that Guy Rosolato describes as existing 'between body and language,' difficult to pin down because it can only be defined as 'the relationship, the distance, the articulation between the subject and object, the object and the Other, the subject and the Other ... [yet] neither the biological body nor the body of language could possibly be conceived without it.'⁸ There is a duality in the voice; it signifies presence, yet as it leaves the depths of the body and vanishes in the

air, it becomes absence. MacLean's sculpture reinforces this duality as a stage for expression and a reservoir for memory.

The title, *As Told To: structures for conversation*, speaks of the past, seeking to preserve *what* was told but also pointing to *how* it was told, engaging the conventions and technologies of communication. The artists in this exhibition explore and probe the enigmatic presence of voice, as it affirms our individuality and evokes our social existence.

Notes

1. Roland Barthes, *The Pleasure of the Text* (New York: Hill & Wang, 1975), p.66.

2. Ibid.

3. As quoted by Steven Kolpan, 'Bateson: Through the Looking Glass,' in *1986 Saw Gallery International Festival of Video Art* (Ottawa: Saw Gallery, 1986), p. 7.

4. Daniel Charles, 'New Music: Utopia and Oblivion,' in *Performance in Postmodern Culture*, ed. Michael Behamou and Charles Carmello (Madison: Coda Press and Milwaukee: Center for Twentieth Century Studies, 1977), p. 116.

5. Anthony Wilden, as quoted by Daniel Charles, *ibid.*, p. 114-115.

6. Dan Lander, as stated in a public lecture broadcast over RADIA 89.9 FM, Banff, July 29, 1988.

7. Catherine MacLean, from an unpublished artist's statement.

8. As quoted by Regis Durand, 'The Disposition of the Voice,' in *Performance in Postmodern Culture*, p. 102.

Cut and Paste: Collage and the Art of Sound

Kevin Concannon

Preface

Though ill-considered as an artistic medium, sound recordings have been produced by visual artists within a variety of contexts since the beginning of the twentieth century and are numerous. Artists and individual works discussed in the following pages have been selected with an ear toward their individual merits, as representative of more general formal and aesthetic currents and for their significance within the broader context of twentieth century art and popular culture.

Taking off from Walter Benjamin's assessment of gramophone records as enabling 'the original to meet the beholder halfway,'¹ I have traced my way to the contradictory notion of the recording as the 'original,' ill-suited for live 'reproduction,' through the application of an essentially formalist, and ultimately photographic, critical apparatus.

The very idea of an Audio Art implies a genre defined foremost by formalist concerns. The recordings discussed cover a broad spectrum, including poetry, music, text and drama. The foundation upon which my arguments for sound recordings as works of art are based, is the popular understanding of mechanically reproduced media as accurate transcriptions of reality. Both photography and sound recording developed, not within the fine arts community, but rather within popular culture. Their substantial popular histories are inextricably linked to their capacity to 'capture' that specific time and place and to transform it into a piece of documentary evidence, whether it be Matthew Brady's Civil War or RCA's Caruso concert.

Music, in fact, has been one of the more problematic aspects of this study. For many, the Audio Arts are merely an extension of the musical avant garde and, as euphemisms go, only slightly less derog-

atory than 'experimental.' Many of the major advances in the Audio Arts have indeed been made by avant garde composers. John Cage, in many ways, serves as a pivotal figure in this history. Having produced work in several media, he is nonetheless best known as a composer. One of Cage's best known pieces, consists of four minutes and thirty-three seconds of silence (4'33" 1952). Rather than attempt to draw that nebulous line between composers and sound artists, it will suffice to state that superficial distinctions, such as whether or not a particular individual works in a visual medium as well, or whether or not a particular individual has a record on the pop charts, will be held to a minimum. I have instead tried to focus on the medium of sound recording itself and the seeds of its practice as we know it.

As the primary product of the recording industry, music represents a substantial percentage of audio artworks. Regardless of what one chooses to call it, the influence of the recording medium itself has affected much of the 'music' recorded during our time, by rock musicians as well as 'experimental' or 'serious' composers and artists. When audio recording and play-back equipment came into general use, the very nature of being a composer or musician changed drastically. Composer Glenn Gould personifies this shift within the world of classical music, combining many takes of the same piece for the perfect (recorded) performance. Many recording artists are more competent with a recording studio than any traditional musical instrument. This trend has accelerated recently with the mass availability of digital processing and recording equipment. The genre of pop music currently known as *urban contemporary* vividly demonstrates the shift in general use of the medium from 'accurate transcription of reality' to 'material for plastic manipulation.' Using pre-recorded discs of various beats and rhythm phrases, contemporary 'musicians' compose today's hip-hop, scratch and funk. Even within the realm of pop music there exists a demonstrable concern with the intrinsic qualities of the medium. The band Bonzo Goes To Washington achieved a modest commercial success with *Five Minutes*, a dance record sculpted around a recording of Reagan's infamous slip up, 'My fellow Americans, I am pleased to tell you today that we have just passed legislation that will outlaw Russia forever. We begin bombing in five minutes.' By processing the tape through a sampler, the President of the United States was transformed into a parody of the popular raving rap star, or vice-versa.

Some History

As with photography, sound recording has developed consistently toward a refinement of its greatest perceived virtue: its ability to recreate, ever more accurately, an event displaced from its original time and place. Both media were created to preserve real-time reality and subsequently, both have been manipulated by artists to create realities that exist only as reproduction. Sound works by artists evolved largely out of the tradition of performance art. The early recordings of Futurists and Dada artists, that begin the brief and intermittent history of artists' records, along with still photographs and precious little film footage, provide the best documents that we have of their real-time work. To this day, performance artists use recordings as a way to disseminate and promote their work.

Numerous recordings of Fillipo Marinetti, leader of the Futurists, have been preserved and are occasionally released on anthology LP's and audio cassette magazines.² Along with a few recordings by Kurt Schwitters, Richard Huelsenbeck and Raoul Hausmann, these Marinetti pieces not only offer an aural glimpse of early performance art but pre-figure a lot of later work that only became possible with the wide availability of tape recorders and, more recently, digital audio sampling equipment.

While the tradition of sound poetry that developed from Marinetti's *words-in-freedom* and the Dada nonsense poetry of Hugo Ball and others is well known, both Marinetti and Kurt Schwitters became interested in manipulating sound with technology long before manipulation became common practice. Marinetti composed five pieces for radio performance in the 1930s that prefigured experiments with *musique concrète* of fifteen years later. 'Splicing' together several distinct sounds such as water, fire and human voices, he created his radio *sintesi*.

The manifesto of the *Futurist Radiophonic Theatre* was published by Marinetti and Pino Masnata in October 1933. The manifesto begins with a self-aggrandizing litany of Futurism's past accomplishments presented as a report of the *Second National Congress of Futurism*. Among those goals advocated by the conference are the 'overcoming of earth with the intuition of the means discovered to realize the trip to the Moon' and the 'overcoming of patriotism with a more fervid patriotism transformed into authentic religion for the country warning the semites to identify themselves

with their different countries if they don't wish to disappear.'³ While the former suggests the Futurists' faith in technology, the latter offers but one of many specific examples of their vile politics, certainly a major factor contributing to the scholarly neglect of Futurist work of this period.

At the point in this document when the issue of radio is brought up, the authors begin by citing the miracle of television and their anticipation of teletactilism and teletaste. While waiting, however, they would perfect the art of radio. Much of what is said reiterates the theories of Rudolf Arnheim and others, stating that their radio 'begins where theatre, cinema and narration end.' In addition to prescribing the use of noise, Marinetti's own *words-in-freedom* and simultaneous action that were the staples of Futurist performance, the manifesto proposes several other practices that were more specific to radio. Some of them were to be realized only much later:

Detection, amplification and transfiguration of vibrations given out by materials. As today we listen to the song of the forest or the sea, tomorrow we will be seduced by the vibrations of a diamond or a flower.

This notion of the amplification of 'microscopic' audio phenomena has been realized more recently by such artists as Richard Lerman and Lief Brush. Both use modern microphones and electronics to 'blow up' tiny sounds, normally not heard by the human ear. Lerman, for example, uses piezo microphones to amplify the sounds of metal as activated by a blowtorch. Brush surgically implants miniature microphones into trees to make audible the sounds of trees growing. In both cases, the microphone is analogous to the microscope. While today such extreme amplification can be accomplished, in 1933 it would have been quite impossible; and their intuitive foresight on this point should be recognized as being as startling as their visions of lunar landings.

Other prescriptions in their manifesto that are more recently familiar include the 'utilization of interferences among radio stations and of the rising and fading of sounds' and the 'geometric limitation and building of silence.'

As best as I can determine, the actual practice of Futurist radio at this time was limited to presentations of live performances of Marinetti's plays and sound poems which were also recorded and pressed as phonograph records. Marinetti wrote five scores for *radio syntheses* that same year although they were not published until

1938. Three of these pieces dealt specifically with the 'limitation and construction of silence':

Silences Speaking to Each Other

15 seconds of pure silence

Do re mi on flute

8 seconds of pure silence

Do re mi on flute

29 seconds of pure silence

So on piano

Do on trumpet

40 seconds of pure silence

Do on trumpet

Whew whew whew of baby boy

11 seconds of pure silence

1 minute of rrr of motor

11 seconds of pure silence

Surprised Ooooooh of 11-year-old girl

The Building of a Silence

1) Build a left wall with a drum roll (half a minute)

2) Build a right wall with a din, a downtown car / street car horn, voices and screeches (half a minute)

3) Build a floor with a gurgling of water in pipes (half a minute)

4) Build a ceiling terrace with chirp chirp chirp srschirp of sparrows and swallows (20 seconds)

Battle of Rhythms

A cautious and patient slowness expressed by a tack tack tack of dripping water, first then killed by

A flying arpeggioing elasticity of notes on the piano, first cut then killed by

A ringing of an electric bell, first cut then killed by

A silence of three minutes, first cut then killed by

A palpitation of key in lock, tah trum track, followed by

A silence of one minute⁴

In *Silences Speak to Each Other*, the emphasis on the segments of 'pure' silence seems fairly straightforward. The use of conventional orchestral instruments, something not in keeping with the rhetoric of Futurism, is apparently intended to provide a delimitation of the periods of silence in something of a figure / ground reversal. The use of 'concrete' sounds, non-musical sounds accurately transcribed onto records from life, better fulfill the Futurist program as set forth in manifestos such as Russolo's *Art of Noises*. For example, the motor and vehicle noises in the first two pieces are characteristic of the Futurist's glorification of the machine. While it would have been relatively easy to realize the first piece with the help of a few musical instruments, voices and theatre sound effects records that were plentiful at the time, the sculptural, three dimensional quality of *The Building of a Silence* would have been rather ineffective given the fact that stereo separation did not yet exist in either recording or broadcast media. A truly successful realization of the score would really require quadrophonic sound. In Daniele Lombardi's reconstruction of the piece on the Cramps Record *Musica Futurista* (1980), the left and right walls were created using stereo recording.

The one minute silence that concludes the third piece leaves the listener in doubt as to when the piece actually ends. The Lombardi reconstruction first came to my attention through an Austrian radio producer who mentioned that she had doubts about its suitability for airplay as silence is commonly considered as 'dead air' and frowned upon by radio regulators. Michael Kirby asserts that the nature of radio programming in the 1930s was much different than it is now, and at the time when Marinetti's scores were written, listeners were more likely to tune in for a specific program and less likely to be station scanning as is the general custom today.⁵ John Cage would later become famous for his piece, *4'33"*, which consisted of four minutes and thirty-three seconds of silence. Cage's silence, however, was not 'pure' and allowed for the ambient sounds of the concert hall. Marinetti's silence, of course, could not have been 'pure' in any radio broadcast then or now unless white noise constitutes purity.

Marinetti and Masnata also called for 'fights of sounds and different distances, namely the spatial drama added to the temporal drama.' If the spatial drama of which the manifesto speaks seems improbable in a sculptural sense, as the later score suggests, the *Drama of Distances* might fulfill a more literal interpretation:

Drama of Distances

11 seconds of a military march in Rome

11 seconds of a tango danced in Santos

11 seconds of Japanese religious music played in Tokyo

11 seconds of a lively country dance from around Varèse

11 seconds of a boxing match in New York

11 seconds of street noises in Milan

11 seconds of a Neapolitan song sung in the Cape Cabana Hotel
in Rio de Janeiro

If *The Building of Silence* failed to create a physical sense of distance due to the technical limitations of the era, *Drama of Distances* would certainly have conveyed at least a referential sense of distance with its juxtaposition of easily identified sounds from specific places.

While it is unclear whether or not Marinetti ever realized these scores, Kurt Schwitters was among the first to approach sound recording as a plastic medium. Using sound film, Schwitters edited and collaged his nonsense poems after he recorded them and before he pressed them into records. Everett C. Frost cites Klaus Schöning's talk given at the International Congress on the Evolution of Broadcasting:

Klaus Schöning remarked that Kurt Schwitters was the first to experiment with such manipulations – even before there was audiotape. In the days when recordings were made on wax cylinders, Schwitters dubbed the recording onto film and edited the film into an audio collage.⁶

With the introduction of tape recording technology many years later, this idea of editing sound became more commonplace, no doubt taking its lead from cinematic technique.

The notion of collaging sounds from life to create music is most commonly associated with Pierre Schaeffer, head of the Radiodiffusion broadcast studios in Paris, in the 1940s. It is to Schaeffer that the term *musique concrète* is attributed. Using his Paris broadcast studios, he began his experiments in 1942. In America, John Cage was the first to create a *musique concrète* work. In the same year that he presented the notorious *4'33"* (1952), he introduced his first piece composed specifically for magnetic tape. *Williams Mix* was constructed from a library of recorded sounds divided into six types:

country sounds, city sounds, electronic or synthetic sounds, wind-produced sounds (including songs), manually-produced sounds and small sounds requiring amplification to be heard with the others. The various sounds were played on eight discrete tracks of recording tape so that they overlapped. The score for the piece was determined using the *I Ching*, the ancient Chinese *Book of Changes* which Cage has used often throughout his career. The use of tape libraries and chance operations would later become common compositional techniques for experimental composers.

To some extent, Cage was influenced by Futurist and Dada art. He cites the work of Marinetti and Russolo in his early writings and he was a close friend to Marcel Duchamp. The extended capabilities of new recording technology made possible the realization of most (largely) theoretical work proposed in the early part of the century. Artists were not, however, the only people to realize this. When Leopold Stokowski began broadcasting in 1929, he was astonished to discover that in addition to a carefully planned seating arrangement of his orchestra, certain instruments could be emphasized or buried with the use of the mixing console. Encouraged by his experience, in 1931 he proclaimed that 'the composer of the future will create his harmonies directly in tone by means of electrical-musical instruments which will record his idea exactly.'⁷ Working in collaboration with Bell Laboratory, Stokowski, by the late 1930s, had created stereophonic recordings twenty-five years before stereo was introduced.

The Influence of Recording Technology on Popular Music

By the mid-1960s popular musicians began to exploit the sophisticated technology of the recording studio. This phenomenon prompted the Beatles to announce that they were retiring from touring because it was impossible to 'reproduce' their recorded music live. On their *White Album*, the track *Revolution Number Nine* introduced *musique concrète* to a wide audience. This track instigated the 'Paul is dead' rumour. As the attorney F. Lee Bailey demonstrated on a special television program dedicated to a discussion of this rumour, when played backwards on a turn-table the phrase 'number nine ... number nine,' repeated throughout the piece, became 'turn me on deadman.' Other artists began to use pre-

recorded tapes both in the studio and in the live concert context. Holger Czukay (one of the founding members of the German rock group Can) worked extensively with *musique concrète* and has produced several albums that were very influential with contemporary musicians such as David Byrne and Brian Eno.

In addition to the use of prepared tapes, by the 1970s rock bands began to perform live using technology that had previously been limited to the recording studio. Brian Eno, as a member of the art-rock band Roxy Music, began playing synthesizers and treating other instruments with electronic filters during live performances. In his subsequent solo studio recordings, Eno adopted chance techniques of composition in addition to his extreme manipulation and collaging of sound. He has acknowledged the influence of Cage specifically in relation to his tape music and chance operations. Along with painter Peter Schmidt, he created *Oblique Strategies* (1975), a set of cards with instructions and suggestions that may be applied to a variety of creative activities. While recording in the studio, he would place the cards face down around the room. When confronted with a creative problem, one or several cards could be consulted for inspiration and direction. Over 100 cards offered a variety of suggestions:

Give way to your worst impulse

Emphasize the flaws

Use 'unqualified' people

The most important thing is the thing most easily forgotten

Eno employs these *Oblique Strategies* in the creation of his own audio and video work and on recordings that he produces for other bands. His influence is best known through his work with popular recording artists Talking Heads, including their recording of Hugo Ball's *I Zimbra*, the most obvious example of the Futurist / Dada legacy as manifested in pop music. Talking Heads member David Byrne has commented:

I remember hearing an old recording of Kurt Schwitter's *Ur Sonata* when I was in school. It struck me as very musical, very rhythmic ... (almost funky) ... very funny and very entertaining. It was one of the first times I had heard the musicality of 'language' made so explicit. It didn't matter that it was a made up language.

Later I read that a very similar thing was happening in Russia at about the same time ... they were performing elaborate stage productions in a 'nonsense' language. *Alice in Wonderland* had already been published. Gertrude Stein wrote *The Making of Americans* at the same time, in another city. Although not nonsense ... her writing sometimes made the perceptual and thinking processes explicit in a way that *could* seem irrational ... yet musical.

There seemed to be an enthusiasm in the air ... an excitement about the possibility of creating a new language ... or re-ordering the existing language to meet new ends.

I have always been fascinated with manipulating or juxtaposing irrational elements in a formal, almost 'logical' manner. It seems to me that this is the way things are.

Using Hugo Ball's text for *I Zimbra* was Brian Eno's suggestion. I felt it was the perfect solution to the quandary we had gotten ourselves into: how do we have a 'chant-like' vocal that doesn't place undue emphasis on the lyric content. We continued to use 'found' vocals over rhythmic beds on *My Life in the Bush of Ghosts* ... We hoped to emphasize the emotive force of the voice(s) as represented only by their *sound* and *texture*. For us, the emotion came across strongly ... there was no need to understand in a logical or narrative manner what the words were about ... the intense emotion carried by the quality of the voice, the melody, the rhythms, and the relationship of the vocal to the music (in two pieces we used almost the same bit of found vocal ... against different music ... and the effect was completely different). For us it was not only a good 'idea,' but an emotional experience.⁸

By the mid-1970s, it seemed that art schools were producing more rock artists than painters or sculptors. Talking Heads was formed when its original members were students at the Rhode Island School of Design. John Lennon had been an art student before hitting it big with the Beatles. When he and Fluxus artist Yoko Ono made 'happenings' together in the late 1960s – their sleep-in for peace, for example – the love-affair between art and rock began to flourish. Bands like The Art of Noise, Cabaret Voltaire and Bauhaus had emerged by the early 1980s, taking their names, and to varying extents their creative sensibilities, from a Russolo manifesto, a Dada nightclub, and a German art school respectively. The Art of Noise recorded their first records for the *Zang Tumb Tumb* label, the name

of which is the title for Marinetti's most famous sound poem of which two recordings exist (1924 and 1935). The Art of Noise's first hit, *Close to the Edit*, begins with the sound of an automobile engine starting, used as a percussive element. Today it's sometimes hard to distinguish between the artists and the pop stars. Looking through the bins of a local record store can be like flipping through a history of twentieth century art.

The collage sensibility has been appropriated by recording artists of all sensibilities. In the 1950s, Buchanan and Goodman predicted the postmodern fever of the 1980s with their hit, *The Flying Saucer*, in which they pieced together bits of hits such as *I Hear You Knockin* and *Earth Angel* with segues of newscaster patter about platters from outer space. They even released a novelty Christmas record called *Santa and the Satellite* using the same formula. As with many of the contemporary collage platters, Buchanan and Goodman soon found themselves facing lawsuits for copyright infringement. A current example of this problem concerns a piece by Steinski and the Mass Media that cannot be sold commercially due to the legal complications involved with the appropriated bits, but was included free with *New Music Express* (February 1987). *The Motorcade Sped On* begins with Ed McMahon's famous introduction, 'Here's Johnny,' is followed by John Kennedy's 'Ask not what your country can do for you ...' rap, and is mixed with Walter Cronkite's 1963 coverage of the JFK assassination, all anchored by a funk beat.

The Influence of Pop Music on Fine Art

A lot of visual artists who had seen their former classmates abandon their paintbrushes and chisels for the pop life thought they could have it both ways. As it turned out, they could. In 1967 Andy Warhol brought the 'total artwork' into the rock and roll era with his *Exploding Plastic Inevitable*, a psychedelic spectacle that featured a light show and The Velvet Underground. Originally presented in the nightclub that he ran briefly, the *Exploding Plastic Inevitable* went on the road. *The Velvet Underground and Nico produced by Andy Warhol* was released by Verve records that year and featured cover art by Warhol.

Meanwhile, in the world of 'serious' music, Steve Reich had

begun his tape recorder experiments in 1965. *It's Gonna Rain* featured the voice of Brother Walter, a Pentecostal preacher whom Reich recorded on the streets of San Francisco. Reich created two identical tape loops of the preacher's sermon about the end of the world. The loops are played simultaneously and allowed to gradually shift out of phase with one another creating, as Reich calls it, 'a controlled chaos.' Brian Eno, among others, has cited Reich as an inspiration for his own work with tape loops.

Throughout the 1960s, Brion Gysin and William S. Burroughs worked with tape recorders and scissors to create audio *cut-ups*. Burroughs cites the early Dada experiments of Tristan Tzara and others as influences on his tape recorder experiments along with the writing method of Gysin. Burroughs later came to exert a tremendous influence on rock musicians of the 1970s. Artists ranging from Patti Smith to David Bowie have acknowledged him as a source for their own work. The industrial band Throbbing Gristle released a collection of Burrough's *cut-ups* on their Industrial Records Label. The album was entitled *Nothing Here Now But The Recordings (1959-1980)*, (1981).

By the 1970s, performance art had experienced a tremendous growth. Laurie Anderson's first performance in 1972, *Automotive*, took place in Rochester, Vermont. It was a concert of automobile horns inspired, says the artist, by the local custom of blowing horns instead of applauding at local concerts. While its inspiration was apparently more contemporary, the piece reflects the aesthetic of Futurist performance in its use of 'noise.' Another precedent would be the *Concert of the Factory Whistle* (1922), in Baku, USSR.

By 1974 Anderson had begun to use pre-recorded elements in her performances. For *Duets on Ice* she wore ice skates embedded in blocks of ice. A hidden tape recorder played songs that she accompanied on violin. When the ice melted, the performance ended. Different performances featured cowboy songs and classical pieces by other performers who became unknowing 'collaborators.' In 1975 she invented her tape-bow violin, for which she wrote *Ethics is the Esthetics of the Few-ture (Lenin)*, and *Song for Juanita*. Lengths of magnetic tape with spoken texts on them replaced the horsehair of the violin bow; to the bridge of the violin, she attached a tape recorder play-back head wired to an amplifier. By moving the tape (bow) against the play-back head at different points along the tape, and by reversing the direction of tape travel, she manipulated the

text. *Song for Juanita* is a particularly clever work. From the word Jaunita, she created a 'triangular translation.' As Anderson explains:

The first syllable *Juan-* or *one-* reverses as *no*, producing a rhythmic no-one-no-one; the last syllable *-ta* is variously ellided with *-an* to produce *ata-nta ata nta* (anata).

This song was performed in Paris, September 1977 and simultaneously translated into French. That is: no-per-one-sonne-etc.⁹ The Paris performance thus incorporated French, English and Spanish variations of the word Juanita or no-one. The English version appears on *Airwaves* anthology, published by One Ten Records in 1977.

The tape-bow violin works are not really songs in the popular sense. They are language pieces that extend the cut-up verse of the Dada and Futurist poets in a way that is much more sophisticated both semantically and technologically.¹⁰ However, that same year, Anderson created several pop-style records for her *Jukebox* installation. One of the songs, *It's Not the Bullet (A Reggae Tune for Chris Burden)*, was issued in a small edition. The title and the lyrics refer to Burden's performance, *Shoot* (1971), in which a marksman, standing five steps away, accidentally shot the artist in the arm. According to Janet Kardon, Anderson had originally intended to release the *Jukebox* songs as an album but decided against it being not fully satisfied with them.¹¹

Anderson's songs surfaced on two records in 1977: *New Music for Electronic and Recorded Media* and *Airwaves*. The former featured the works of women electronic composers including Annea Lockwood, Pauline Oliveros and Megan Roberts; the latter included work by conceptual, performance and visual artists such as Vito Acconci, Terry Fox, Jacki Apple, Meredith Monk and Richard Nonas. In 1981, Anderson's single *O Superman* reached number two on the British pop charts and she signed a record deal with Warner Brothers. The record had originally been released on the One Ten label. Concurrent with Anderson's successful cross-over from performance art venues to the pop charts, performance artists surfaced on several anthologies of recorded works by artists.

Revolutions Per Minute: The Art Record was issued by the Ronald Feldman Gallery in 1982. Chris Burden contributed a poem, *The Atomic Alphabet*; other artists' contributions consist of spoken

texts and documentary recordings of lectures and interviews. Les Levine contributed a country and western tune. Hannah Wilke's *Stand Up* is a feminist anthem. David Smyth orchestrated three typewriters for his piece, *Typewriter in D*.

Another important compilation, *Live To Air: artists' sound works*, was edited by Bill Furlong and Michael Archer and published by Audio Arts in 1982. Included on these three cassette tapes are works by 45 artists categorized under the following headings: Rock Idioms, Images and Narrative, Technological and Audial Space, and Urban Reference. This diverse and international collection featured artists such as Art & Language, Clive Robertson, Arleen Schloss, David Cunningham, Helen Chadwick and Stuart Brisley. Making reference to the space that the soundworks in this compilation occupy, Bill Furlong states in his introduction:

In many respects this audial / technological 'space' is parallel to the physical space of a gallery, yet extends it through the potential of widespread dissemination inherent in the multiple production of cassettes and through broadcasting.¹²

In 1983, *High Performance* magazine issued its issue No. 23 as a two-album set, featuring songs by performance artists. Editor Linda Frye Burnham is represented with a blues song *Downtown Blues*. Jo Harvey Allen's *Penitentiary of Jealousy* would sound at home in a truck stop jukebox. Intermedia artist and radio producer Jacki Apple layers her own spoken text over music to create a poetic portrait of *Idaho*. She considers the recording studio and its technological instruments to be compositional tools.

Citing the growing number of performance artists who write and perform songs, editor Burnham states that:

From talking to each of these artists, I have found that commercial success is among their goals, but not at the cost of compromise.¹³

At least one of the contributing artists, Terry Allen, had met with some success in the business when his *New Delhi Freight Train* was recorded by the rock group Little Feat in 1979. Allen recorded the song himself on his 1979 album *Lubbock (on everything)* (Fate Records). Like many of his tunes, *New Delhi Freight Train* is a pretty straightforward country and western song. A few poke fun at the art world. *Truckload of Art* is about an accident:

Yeah a truckload of art
Is burning on the highway
Precious objects are scattered
All over the ground
And it's a terrible sight
If a person were to see it
But there weren't nobody around

Following a long tradition of records as after-the-fact documentation of performance (that begins chronologically with Marinetti's recordings of his sound poems), *The Uproar Tapes: Volume One* (Island Records, 1986) preserves works by Eric Bogosian, Ann Magnuson, David Cale, Ethyl Eichelberger, Richard Prince and Karen Finley. All of these works were created for a live performance context. Ann Magnuson's piece, *Made for Radio*, stands out in that it is more than just a straight documentation of a live performance. For the recording Magnuson presents three of her radio-identified characters: Tiffany LaFox, talk show hostess / porn queen; Sister Alice Tully Hall, radio evangelist; and pop singer Fallopia, protégé of Prince. The three characters are separated by the sound of a radio tuner scanning the airwaves, thus incorporating the 'interference between radio stations' that Marinetti suggested in his *La Radia* manifesto and that has been used in commercial work for years.

Artsounds Collection (Philips / Polygram records, 1986) was produced by Jeff and Juanita Gordon and contains songs, readings and interviews by and with artists. As with the earlier *Revolutions Per Minute*, this set was issued in two versions; standard editions including a poster and a deluxe limited edition with signed and numbered artist's prints. Highlights of *Artsounds Collection* include a Larry Rivers jazz track, a Jonathan Borofsky song with electronic score and a song by Michael Cotton and Prairie Prince of the rock band The Tubes. The decade of the 'cross-over artist' has apparently come full circle.

Many other visual artists have made records. Yves Klein issued a record in 1959, *Concert of Vacuum*, which contained no sound at all, reinforcing his concept of the 'void.'¹⁴ In the 1960s and 1970s, a few recordings of sound sculptures were made to document that work; conceptual artists also employed phonograph records for documentary purposes during this period.¹⁵ Fluxus artist Yoko Ono has made several records in collaboration with John Lennon and solo

recordings prior to and since Lennon's death. Her own recorded work has evolved from Fluxus performance (performing in a burlap sack, screaming with the Plastic Ono Band on *Live Peace in Toronto*, 1969, for example) to more commercial rock records such as the 1985 *Starpeace*, that contains hard-rock and conventional ballads. Painter and musician A.R. Penck has recorded several albums of improvised jazz in recent years.

Artist Jonathan Borofsky has been using audio in his multimedia installations since 1983. In 1982 he began noticing that the sound energy that occurred naturally in his exhibitions gave the installations a special character. At the time, the energy emanated from the ping-pong tables that he frequently included in his shows – or more precisely from the gallery visitors playing ping-pong – and from the enormous mechanized sculptures of *Hammering Men*. The whining of the *Hammering Men's* motors and the gasps and cries of the ping-pong players sparked Borofsky's interest in sound as yet another element of his multi-media installations. He soon began collaborating on sound works with New York musician, painter and filmmaker Ed Tomney.

A carnival-like atmosphere characterizes Borofsky's exhibitions. Paintings sing, sculptures sing and *Sounds of the World* resound throughout, catalogued one after the other on tape. Another tape-music piece that appears in Borofsky's shows, *Music for Numbers, Computer and Voice (Reggie)*, was issued in cassette format by Reach Out International Records in 1987 (ROIR A-149) as *Opus for Voice, Movements 1, 2, 3*, under the name The Radical Songbirds of Islam (Borofsky and Tomney). The piece is based on Borofsky's counting. He began counting from zero in 1969 and is up to over 3 million now. Tomney designed a computer program to translate the numbers that Borofsky sporadically gives him into a score constructed from a library of tones sung by Borofsky and stored on audiotape. The aleatory nature of the piece suggests the influence of composers ranging from Eno to Cage and the numbered balls of Duchamp, with which he composed his *The Bride Stripped Bare By Her Bachelors, Even. Erratum Musical*.¹⁶

A more recent cassette of Borofsky / Tomney music, with the working title *Two Dogs in Your Helmet*, combines a selection of real events, treated and re-configured into a new formal framework. They use both analogue (tape) and digital (micro-chip) samples of recorded sounds citing a distinct difference between the quality of

reproduction, to weave together everything from guitar tracks to the sound of spilling pebbles:

It's rather like making a drawing or painting with which you start with no specific idea other than to begin to have fun with the brush or the colour and to just let it happen.¹⁷

The pieces range from collages of *Voices* to 'instrumental' tracks such as *Low Level Run* in which the sounds of jet engines and people yelling are panned across the stereo spectrum. This piece was inspired by the bombing of Tripoli. For *Hope in Chinese Means Forever* a cheery melody is constructed with the sampled sounds of someone blowing into a bottle. In *We*, the only track that uses a first person narrative, the singers, Borofsky / Tomney, are the 'dogs on the block.' They 'see you leave and see you come home again.' Gurgling water is the only readily identified sound other than voices and much of the song's considerable charm lies in the instrumentation, that tugs at one's curiosity for an explanation. There's enough of the familiar and alien to create a world that is equally intriguing both sensually and intellectually. Using recorded sounds, distorted and manipulated with electronics, Borofsky and Tomney tread the thin line between 'accurate transcriptions of reality' and invention.

Jack Goldstein, known for his paintings of astral phenomena based on photographs, is another contemporary artist who makes records using sounds of the world. He made three series of them between 1976 and 1979 that were compiled from existing sound effects records and in some cases minimally altered. The first of the three suites of records were made in a seven-inch 45 rpm format on coloured vinyl. The titles and the vinyl colours reflected the sound effects contained on the records. *The Dying Wind* was pressed on clear vinyl, suggesting the ephemeral quality of the wind. The third series was pressed on ten-inch discs (a non-standard format) of black vinyl with different coloured labels on each side. On one record the white label side contained the sound of an airplane landing, while the opposite, silver label side preserved the sounds of dropping bombs whistling to their destination but never making contact. Many of these records emphasize the 'framing' of sound in a manner analogous to photographic recording. The 'view' from the plane as the bombs drop is contrasted with the 'view' from the ground as the plane lands. In *The Lost Ocean Liner* from the first series, one side

contains a 'close-up' of water lapping, while the other contains the 'distant' sounds of foghorns.

The Record as Secular Icon

The increasing importance of records within popular culture has undoubtedly contributed to the interest that they have held for modern artists. They are, indeed, icons of the twentieth century, representing the pop stars that are worshipped. This is particularly true for the current generation of young artists so overtly influenced by the media.

At the beginning of the century, too, there was a considerable interest in records, if not fetishization of them. As early as 1925, artists developed an interest in records as objects. In 1922, Laszlo Moholy-Nagy advocated the use of phonograph records for purposes of production as well as reproduction.¹⁸ By this he meant that rather than simply using records to transcribe audio material from the 'real' world, they be manipulated manually to produce original as well as mimetic sounds. The following year, Moholy-Nagy elaborated on this proposal suggesting that conventional records be examined to determine what types of grooves make what types of sounds so that a phonetic groove-script alphabet could be established:

Since the grooves on the mechanically produced record are microscopic in size, we shall first have to devise a method for reducing by technological means down to the normal size of a present-day record any large-scale groove-script record that can be conveniently worked by hand. It would be desirable to make a photograph of a present-day (reproductive) record and to make a photo-cliché or photo-engraving of the photograph by a zincographical or galvanoplastical process. Should such a record prove to be just more or less playable, the basis for subsequent work along these lines will be established.¹⁹

By 1963, Czechoslovakian artist Milan Knizak had realized direct manipulation of records, but not quite as Moholy-Nagy had intended. Knizak created his *Destroyed Music* series by altering popular records: scratching, burning, cutting, gluing and applying adhesive tape to them. Some scratches created endless loops, with the stylus remaining stuck in one damaged groove. Other objects

were reassembled from broken pieces of several different records. Knizak considers this work to be musical composition. They were intended to be played.

The idea of damaging records was manifested in a number of other works at this time, and continues today. New York artist Christian Marclay employs some of these same techniques to create his altered discs, but with more specific intention in terms of the resulting sound. In his performances, Marclay spins up to eight altered records simultaneously on individual turn-tables. He composes with several piles of records that he prepares and sorts in advance, thus knowing from what pile to select a disc for a desired effect at any time during the performance. The individual records are notated with stickers that identify specific passages and are sometimes applied to create loops. He drops the needle on to the record after the first of two stickers and when it hits the second it jumps back to the first and repeats. Sometimes the records are played at non-standard speeds. Into other records, he drills additional centre holes (off-axis), creating a wobbly effect. His *Record Without a Cover* is a recording of one of these performances. The studio performance is pressed onto one side of the disc. On the other, embossed lettering instructs the owner not to store the record in a protective sleeve. The scratches that result from handling enhance the quality of the sound and make each copy unique.

Marclay also makes unique objects. Cutting intricate patterns out of several records with a jeweller's saw, he then glues the different pieces back together to construct a collaged disc. His *Dialogue LP with Two Profiles*, for example, fuses two profiles of faces cut from black vinyl spoken word discs onto an orange musical disc. As the record spins, music plays until the needle pops at the splice and a voice speaks when the needle passes over the black vinyl figure. The cycle then repeats, resulting in a conversation between the two figures. Other pieces use geometric designs and discs with different content. The splices in all of these records create pops that become rhythmic elements of the total piece.

San Francisco performer Boyd Rice comes out of the punk movement of the late 1970s. Since 1977 he has released several altered recordings. Early pieces were made on tape, splicing pieces of different recordings together. One consists of every recording of Lesley Gore singing the word 'cry.' Later records utilized off-axis holes and instructed the listener to play 'at any speed.' Still other

records include several sound-tracks of endless loops pressed deliberately into the record that endlessly repeat short sound effects. Listeners are encouraged to listen to these closed grooves as songs.

Boston composer Roger Miller (not the country and western singer) emerged from the new wave band, Mission of Burma. His *Pop Record* is an acetate pressing (used for test pressings of commercial records and not a stable enough process to withstand more than a few plays before deteriorating) on which he assembled the scratchy sounds from in-between songs of his favourite records. As the record of these 'pops' is played, new pops are quickly created. A protective cover becomes irrelevant because playing it actually destroys it. It is certainly not a pop record in the generally held sense of that term. As extreme as Miller's brand of pop seems to us today, it has its precedence in Marinetti's use of radio static in 1933.

The ideas in the air at the beginning of the century are still very much present in the work of many contemporary artists. Performance artists still use records to preserve their work. Pop artists have realized and extended the notion of concrete composition that Marinetti and his contemporaries began. In the streets of Baku, the cabarets of Zurich and Berlin and the auditoriums of Paris and Milan, artists of the early twentieth century turned music, as it had once been known, on its head. Speech became abstract and music became concrete. And today a generation of art students has seized that once sacred and magical phonograph record and profaned it to the point that the line between the fine art and popular practice of record-making is as tenuous as the grooves of Miller's record.

Notes

1. Walter Benjamin, 'The Work of Art in the Age of Mechanical Reproduction,' (1936) in *Illuminations*, edited and translated with an introduction by Hannah Arendt (New York: Schocken Books, 1969). Benjamin briefly discusses phonograph records in this context and even writes about Marinetti and the Futurist aesthetic in his epilogue. While he does not discuss Marinetti's sound works, or any specific works, he characterizes Futurist work as fascist. 'All efforts to render politics aesthetic culminate in one thing: war.'

2. Many original recordings of Marinetti are in the Historical Recordings Collection at Yale University's Sterling Library. Marinetti's papers are also at Yale in the Beinecke Library. His sound poem *Zang Tumb Tumb*, which was recorded in 1924 and again in 1935, is contained on several anthologies. The two major sources for the material are: *Futurism* (1978), EMI Italiana, Milan, 3 C 065-17982 / A; and *Musica*

Futurista (1980), Cramps Records Collana Multipla, 5206 308 / 2, edited by Daniele Lombardi.

3. F.T. Marinetti and Pino Masnata, 'La Radia' translated from *Teoria e Invenzione Futurista*, Barbara Poggi and Douglas Kahn, trans. (Verona: Arnoldo Mondadori Editore, 1968), pp. 176-180.

4. The translations of the sintesi are from the liner notes of *Musica Futurista*.

5. In a telephone conversation on 28 March 1988, Kirby also suggested that regardless of radio conventions of the time, Marinetti's political clout might have permitted him the indulgence of broadcasting these pieces. I have not personally been able to determine whether these pieces were ever broadcast or not. In Michael Kirby and Victoria Nes Kirby, *Futurist Performance* (New York: PAJ Publications, 1986), the matter is left unclear. It is, however, one of the few texts that deal with Futurist radio at all.

6. I have not been able to locate any primary sources to support the claim that Schwitters used this dubbing process. The information comes from Everett C. Frost's 'Why Sound Art Works,' *The Drama Review*, volume 31, number 4 (T116), Winter 1987, MIT Press, Cambridge, pp. 109-124. Klaus Schöning's talk was given at the *International Congress on the Evolution of Broadcasting*, October 1986, at Concordia University, Montreal, Quebec. Klaus Schöning remarked that Kurt Schwitters was the first to experiment with such manipulations – even before there was audiotape. In the days when recordings were made on wax cylinders, Schwitters dubbed the recording onto film and edited the film into an audio collage.

7. Quoted in Evan Eisenberg's *The Recording Angel: Explorations in Phonography* (New York: McGraw Hill Book Company, 1987), p. 151.

8. David Byrne, 'Notes for On The Wall / In the Air M.I.T.' (1984), provided to the author for the exhibition *On the Wall / On the Air: Artists Make Noise*, Hayden Corridor Gallery, Massachusetts Institute of Technology, December 15, 1984 – January 27, 1985. Excerpts of this statement were originally published in the exhibition brochure (Committee on the Visual Arts, 1984).

9. Laurie Anderson liner notes for *Airwaves* (New York: One Ten Records, 1977).

10. Though the Beatles have always maintained that their cryptic message on 'Revolution Number 9' was unintentional, supposedly hidden messages were 'revealed' in dozens of popular records by disc jockeys across the globe soon after. Thus the idea of backward messages (to which Anderson's idea is formally related) has been in the air for a decade. In 1985, they received major attention again when Tipper Gore's Parents Music Resource Centre attempted to impose censorship on records that contained 'satanic messages.'

11. Janet Kardon, 'Laurie Anderson: A Synthesistic Journey' *Laurie Anderson: Works from 1969-1983*, catalogue (Philadelphia: Institute of Contemporary Art, 1983), p. 18.

12. Bill Furlong, introduction to 'Live To Air: artists' sound works,' *Audio Arts Magazine*, Volume 5, No's 3 & 4, London, 1982.

13. Linda Frye Burnham, liner notes for *High Performance: The Record* (Los Angeles: High Performance Records, 1983).

14. This differs in intention from Cage's 4'33". Cage has stated that the ambient noise of the concert hall was part of this work. Klein intended a total silence – a void.

15. Sound sculptors such as Harry Partch, Harry Bertoia and Jean Tinguely have released their own recordings. Others appear on anthologies. Conceptual artists on record include Lawrence Weiner, Bernar Venet and Jan Dibbets. For further information on these and other recordings see Germano Celent's *The Record as Artwork: From Futurism to Conceptual Art*, exhibition catalogue (Fort Worth: The Fort Worth Museum of Art, 1977).

16. Duchamp's *The Bride Stripped Bare By Her Bachelors, Even. Erratum Musical* is a system for creating a composition. It is described by Petr Kotik in the liner notes of Multhipla Record's *The Entire Musical Work of Marcel Duchamp* (1976):

It requires:

1. a funnel
2. a toy train with open cars (without locomotive)
3. ball, to be put into the funnel

Each ball bears a number which represents one note of a chosen instrument. The balls fall through the funnel into the cars as they pass underneath. Then, the balls are taken out of the cars and the numbers are transformed into notes (each number representing one note).

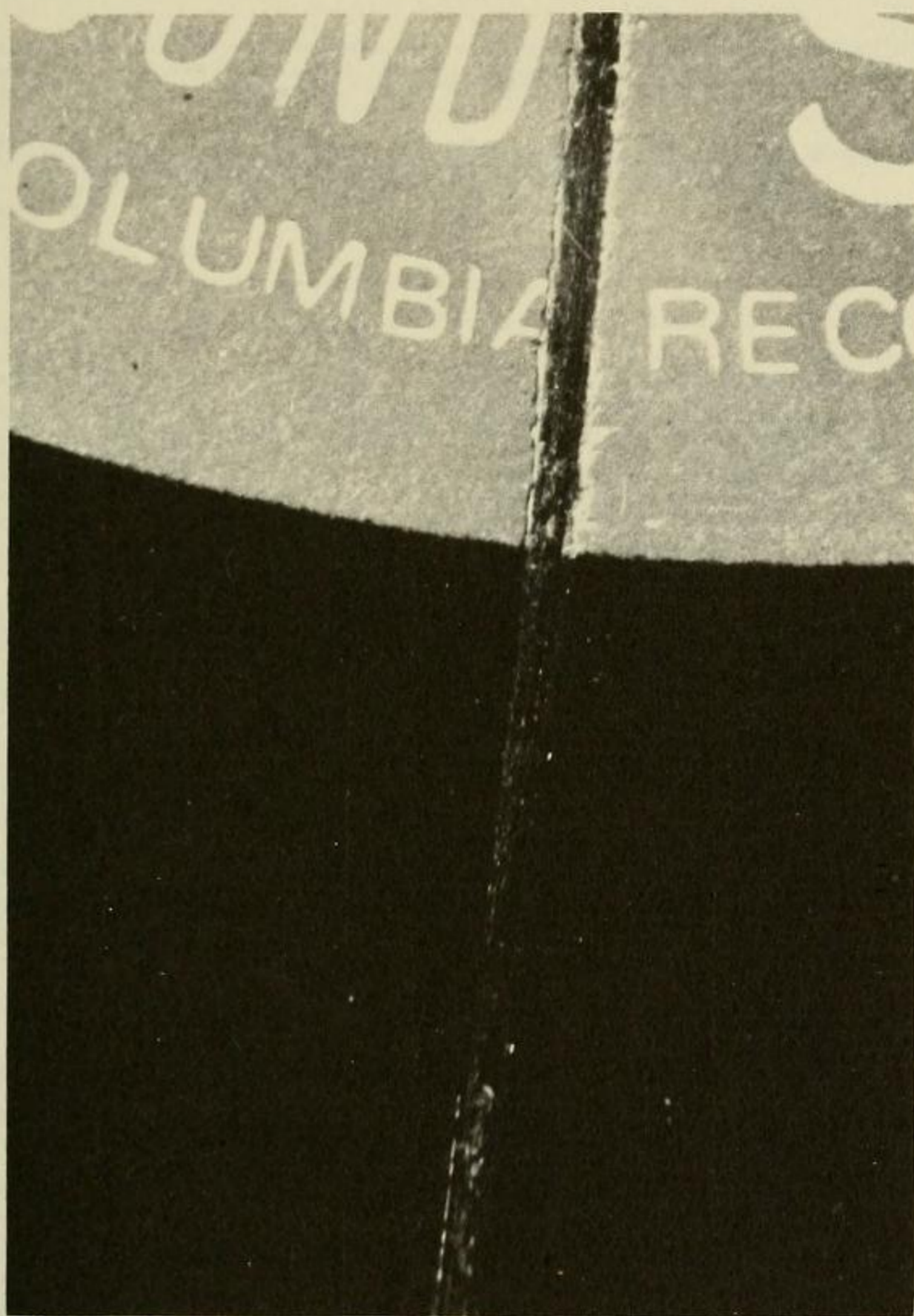
17. This and other comments attributed to Borofsky are from a telephone interview in July 1986. *Two Dogs in Your Helmut* was originally scheduled to be released at that time.

18. Laszlo Moholy-Nagy, 'Production-Reproduction,' *DeStijl*, number 7, 1922, pp. 97-101. Translated and reprinted in Krisztina Passuth's *Moholy-Nagy* (New York: Thames and Hudson, 1985).

19. Laszlo Moholy-Nagy, 'New Form in Music. Potentialities of the Phonograph,' *Der Sturm*, number 14, Berlin, July 1923. Translated and reprinted in Passuth, *ibid.*

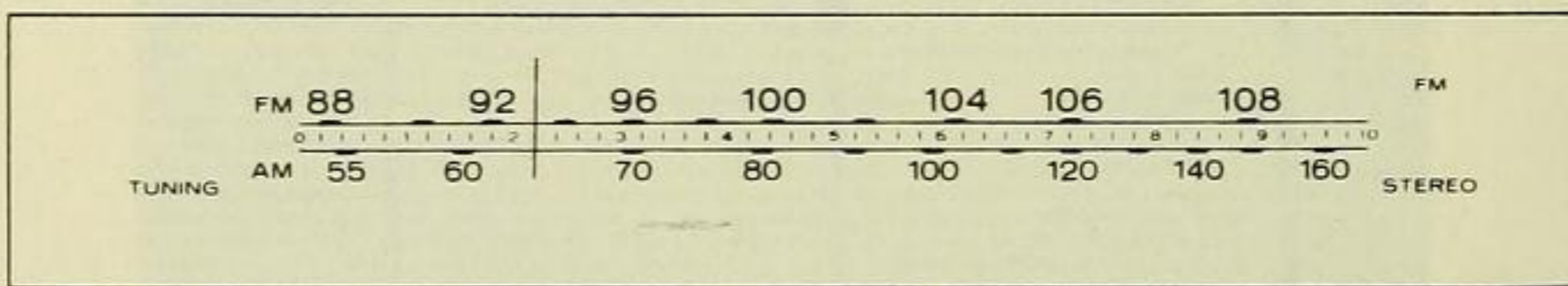
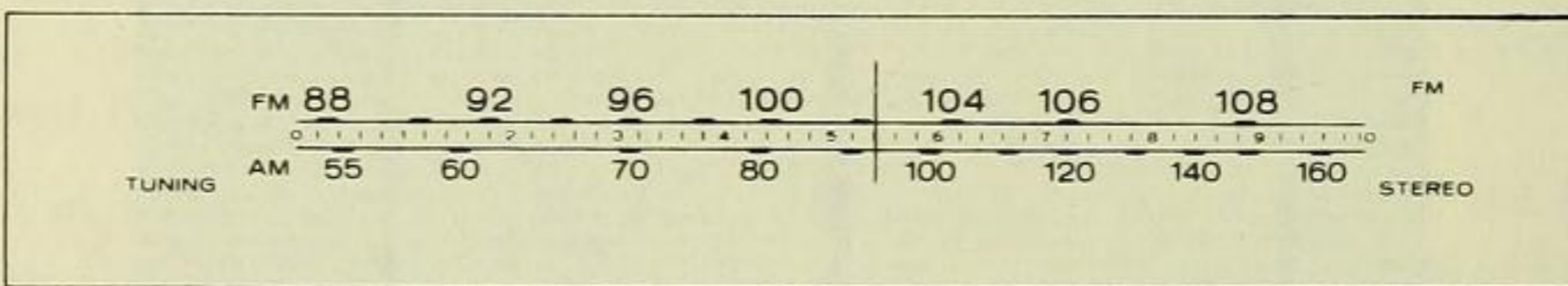
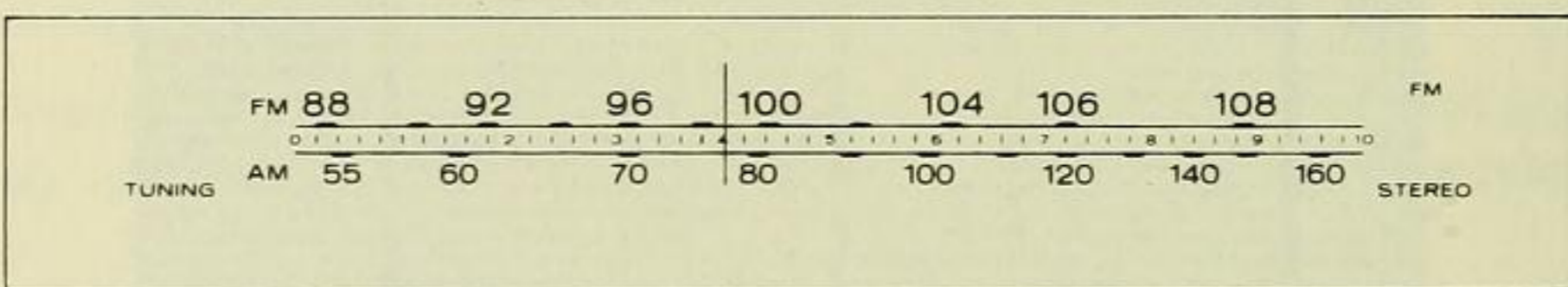
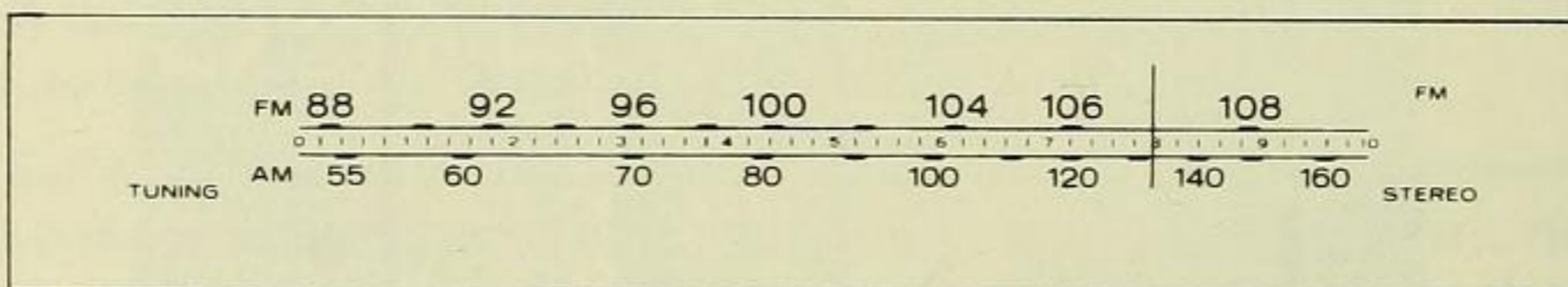
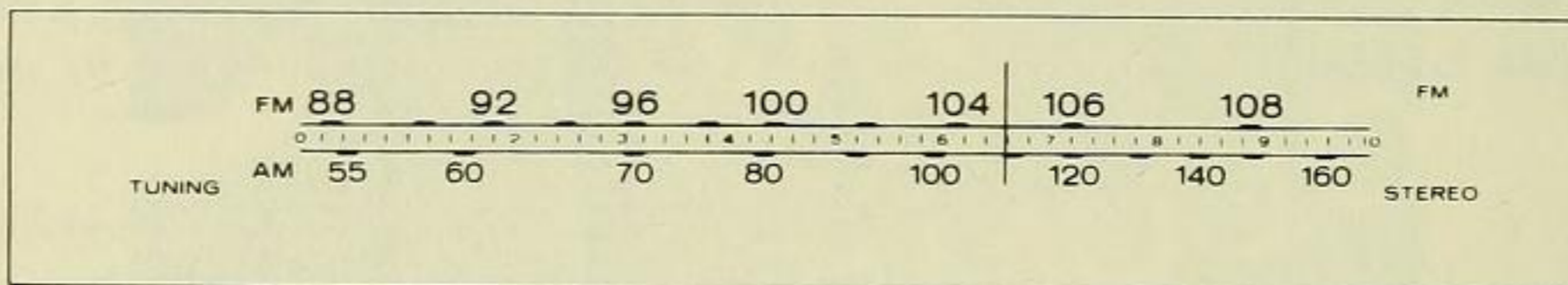
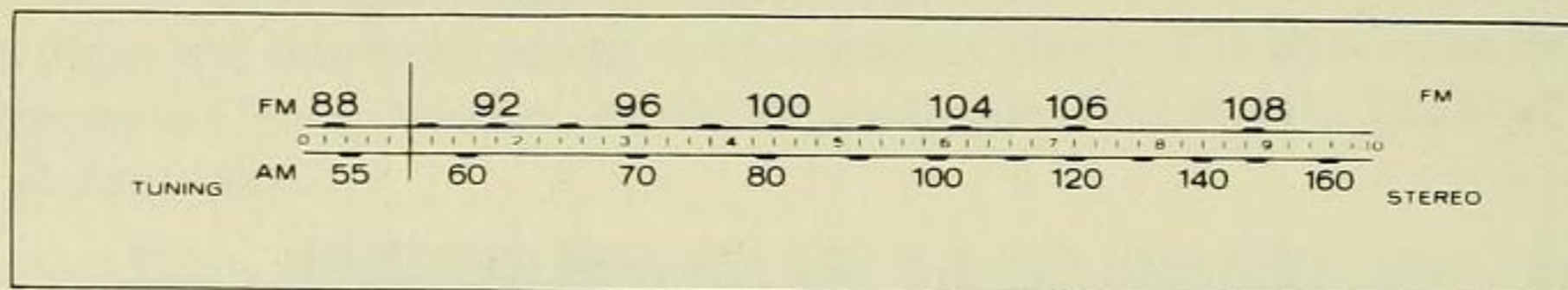
Selected Audio Works, 1970-1980

Ian Murray



Detail, *Radius Etch – Flock Repetition*, 1970. Altered 12", 33 1/3 r.p.m. phonograph record and cover.

The *Radius Etch* series is one of four series of altered records produced from 1969 to 1970. This work was released as an etched audio cassette and box, in an edition of 50 copies by Current Projects, 1979.



Study for *Real Time Attempt To Derive Statements About My Work From AM Radio Programing*, 1970. High contrast black & white contact photograph, 48" x 36".

Study for Real Time Attempt To Derive Statements About My Work From AM Radio Programing is a performance work in which the artist tunes an AM frequency radio.

THE TOP SONG

An artist's design for a best selling recording

A RECORDING OF THE FIRST TEN SECONDS OF EACH OF THE TOP ONE HUNDRED SONGS OF THE LAST TEN YEARS
(authority — THE TOP THREE HUNDRED, CJCH Radio, Halifax, Nova Scotia, Canada, 1970)

"When you have over three hundred 45's coming in a week, you don't have time to listen to them all, or even half of them. Generally a disc jockey will play about ten seconds, and he can usually tell if it is a good song or not."

— David Smith, Disc Jockey, CKEC, Nova Scotia, 1968

"Sure . . . the first ten or fifteen seconds will make or break a song. If the intro is good it really helps the song."

— David Guy, Disc Jockey, CKCL, Nova Scotia, 1969

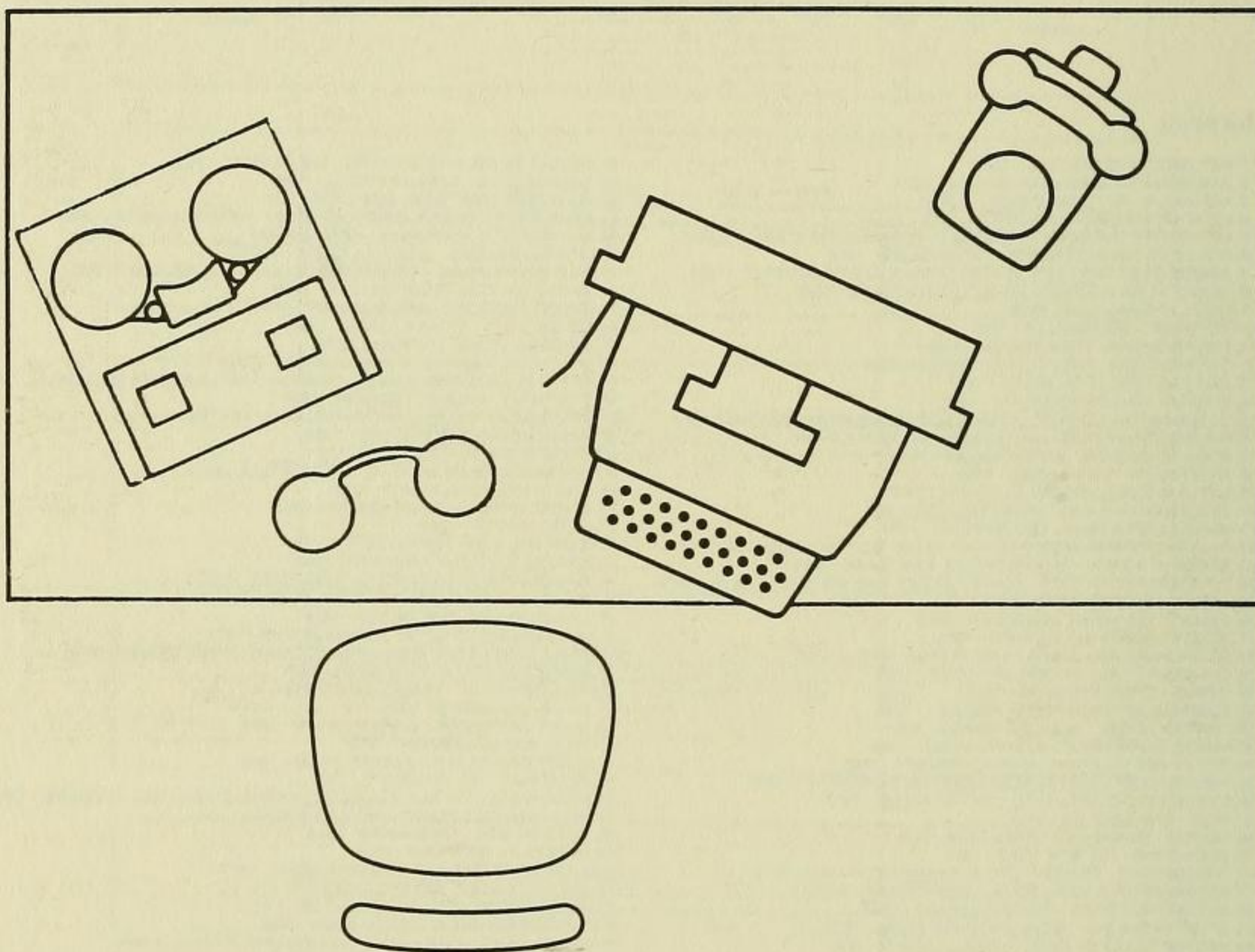
THE SONGS:

1. HEY JUDE - THE BEATLES - 1969
2. AMERICAN WOMAN - GUESS WHO - 1970
3. AQUARIUS - FIFTH DIMENSION - 1969
4. LET IT BE - THE BEATLES - 1970
5. UP AROUND THE BEND - CREEDANCE CLEARWATER REVIVAL - 1970
6. HOUSE OF THE RISING SUN - THE ANIMALS - 1964
7. BRIDGE OVER TROUBLED WATER - SIMON AND GARFUNKLE - 1970
8. HONKY TONK WOMAN - THE ROLLING STONES - 1969
9. DIZZY - TOMMY ROE - 1969
10. GET BACK - THE BEATLES - 1969
11. SUGAR SUGAR - THE ARCHIES - 1969
12. SATISFACTION - THE ROLLING STONES - 1965
13. LIGHT MY FIRE - THE DOORS - 1967
14. CHERISH - THE ASSOCIATION - 1966
15. DOWN ON THE CORNER - CREEDANCE CLEARWATER REVIVAL - 1969
16. SOUNDS OF SILENCE - SIMON AND GARFUNKLE - 1966
17. BORN TO BE WILD - STEPPENWOLF - 1968
18. YESTERDAY - THE BEATLES - 1965
19. LITTLE WOMAN - BOBBY SHERMAN - 1969
20. SEALED WITH A KISS - BRIAN HYLAND - 1962
21. WHOLE LOTTA LOVE - LED ZEPPELIN - 1970
22. RAINDROPS KEEP FALLING ON MY HEAD - B. J. THOMAS - 1970
23. SPINNING WHEEL - BLOOD, SWEAT AND TEARS - 1969
24. CRIMSON AND CLOVER - TOMMY JAMES AND THE SHONDALLS - 1969
25. LAST KISS - J. FRANK WILSON - 1964
26. I WANT YOU BACK - JACKSON 5 - 1970
27. HONEY - BOBBY GOLDSBORO - 1968
28. IN THE YEAR 2525 - ZAGER AND EVANS - 1969
29. CLASSICAL GAS - MASON WILLIAMS - 1968
30. VENUS - SHOCKING BLUE - 1968
31. SUSPICIOUS MINDS - ELVIS PRESLEY - 1969
32. JOHNNY ANGEL - SHELLY FABARES - 1962
33. MAGIC CARPET RIDE - STEPPENWOLF - 1968
34. EVE OF DESTRUCTION - BARRY MCGUIRE - 1965
35. PROUD MARY - CREEDANCE CLEARWATER REVIVAL - 1969
36. EVERYTHING IS BEAUTIFUL - RAY STEVENS - 1970
37. HELP - THE BEATLES - 1965
38. CECILIA - SIMON AND GARFUNKLE - 1970
39. THE LETTER - THE BOX TOPS - 1967
40. WOODSTOCK - CROSBY, STILLS, NASH AND YOUNG - 1970
41. BREAKING UP IS HARD TO DO - NEIL SEDAKA - 1960
42. MACARTHUR PARK - RICHARD HARRIS - 1968
43. SPIRIT IN THE SKY - NORMAN GREENBAUM - 1970
44. WHITER SHADE OF PALE - PROCUL HARUM - 1967
45. HITCHIN' A RIDE - VANITY FAIR - 1969
46. DELILAH - TOM JONES - 1968
47. EASY COME, EASY GO - BOBBY SHERMAN - 1970
48. LOVE CHILD - SUPREMES - 1968
49. LOVE GROWS - LIGHTHOUSE - 1970
50. WINDY - THE ASSOCIATION - 1967
51. I WANT TO HOLD YOUR HAND - THE BEATLES - 1964
52. GALVESTON - GLEN CAMPBELL - 1969
53. HAIR - THE COWSILLS - 1969
54. LOVE THEME FROM ROMEO AND JULIET - HENRY MANCINI - 1969
55. SUNSHINE OF YOUR LOVE - CREAM - 1968
56. ONE TIN SOLDIER - ORIGINAL CASTE - 1969
57. BAD MOON RISING - CREEDANCE CLEARWATER REVIVAL - 1969
58. IN THE GHETTO - ELVIS PRESLEY - 1969
59. SWEET CAROLINE - NEIL DIAMOND - 1969
60. DOWNTOWN - PETULA CLARK - 1965
61. ARIZONA - MARK LINDSAY - 1970
62. HAVE I THE RIGHT - THE HONEYCOMBS - 1964
63. CRYSTAL BLUE PERSUASION - TOMMY JAMES AND THE SHONDALLS - 1969
64. THE TWIST - CHUBBY CHECKER - 1962
65. LEAVING ON A JET PLANE - PETER, PAUL AND MARY - 1969
66. REVOLUTION - THE BEATLES - 1968
67. THESE EYES - GUESS WHO - 1969
68. SHE'D RATHER BE WITH ME - THE TURTLES - 1967
69. ONE - THREE DOG NIGHT - 1969
70. SUGAR SHACK - JIMMY GILMER - 1963
71. JEAN - OLIVER - 1969
72. BABY IT'S YOU - SMITH - 1970
73. BABY I LOVE YOU - ANDY KIM - 1969
74. DAUGHTERS OF DARKNESS - TOM JONES - 1970
75. BIG GIRLS DON'T CRY - FOUR SEASONS - 1962
76. LAY LADY LAY - BOB DYLAN - 1969
77. MY BABY LOVES LOVIN' - WHITE PLAINS - 1970
78. RUBY, DON'T TAKE YOUR LOVE TO TOWN - FIRST EDITION - 1969
79. SHE LOVES YOU - THE BEATLES - 1964
80. HE AIN'T HEAVY - THE HOLLIES - 1970
81. A B C - JACKSON 5 - 1970
82. DON'T CRY DADDY - ELVIS PRESLEY - 1970
83. FIRE - ARTHUR BROWN - 1969
84. A BOY CALLED SUE - JOHNNY CASH - 1969
85. RUNAWAY - DEL SHANNON - 1961
86. BROTHER LOVE'S TRAVELLING SALVATION SHOW - NEIL DIAMOND - 1969
87. WEDDING BELL BLUES - FIFTH DIMENSION - 1969
88. HURT SO BAD - LETTERMEN - 1969
89. WIPE OUT - SURFARIS - 1963
90. EASY TO BE HARD - THREE DOG NIGHT - 1969
91. MA BELLE AMIE - TEE SET - 1970
92. RIDE CAPTAIN RIDE - BLUES IMAGE - 1970
93. CALIFORNIA GIRLS - BEACH BOYS - 1965
94. GREEN RIVER - CREEDANCE CLEARWATER REVIVAL - 1969
95. KENTUCKY RAIN - ELVIS PRESLEY - 1970
96. DAYTRIPPER - THE BEATLES - 1965
97. ANGEL OF THE MORNING - MERILEE RUSH - 1968
98. PRETTY WOMAN - ROY ORBISON - 1964
99. LOVE IS BLUE - PAUL MAURIAT - 1968
100. CHERRY HILL PARK - BILLY JOE ROYAL - 1969

Record cover, *The Top Song*, 1970. Stereophonic / monophonic phonograph recording of the first ten seconds of the top 100 songs of the previous ten years (1960-1970), 17 minutes.

This work was published along with *Keeping On Top Of The Top Song*, 1970 in 1973.

DICTIONARY DESK



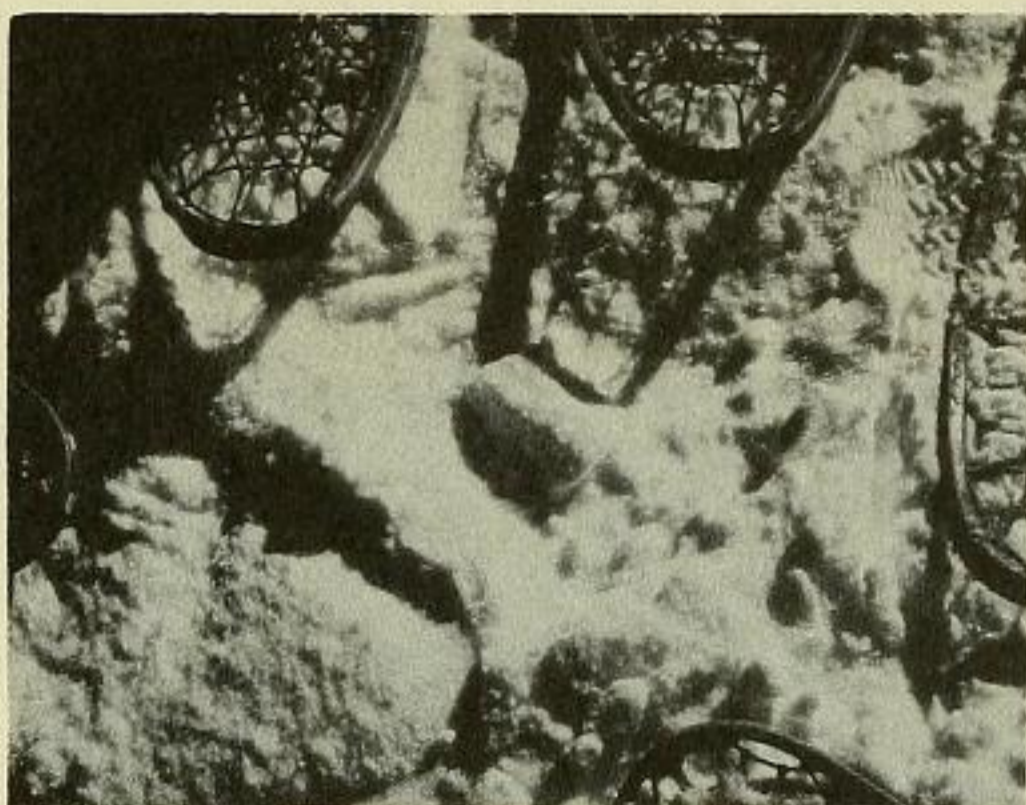
Study for *Dictation Desk*, 1978. Photostatic collage, 56" x 56", hung with four binder clips and push pins.

One of a series of photostatic studies for audio installation works utilizing standard, non-entertainment listening environments, 1974-1978. Other works in the series involved listening environments based on a radio news booth, community radio booth, telephone operator station, police station, police car, interrogation room, stadia, subway platform and others.



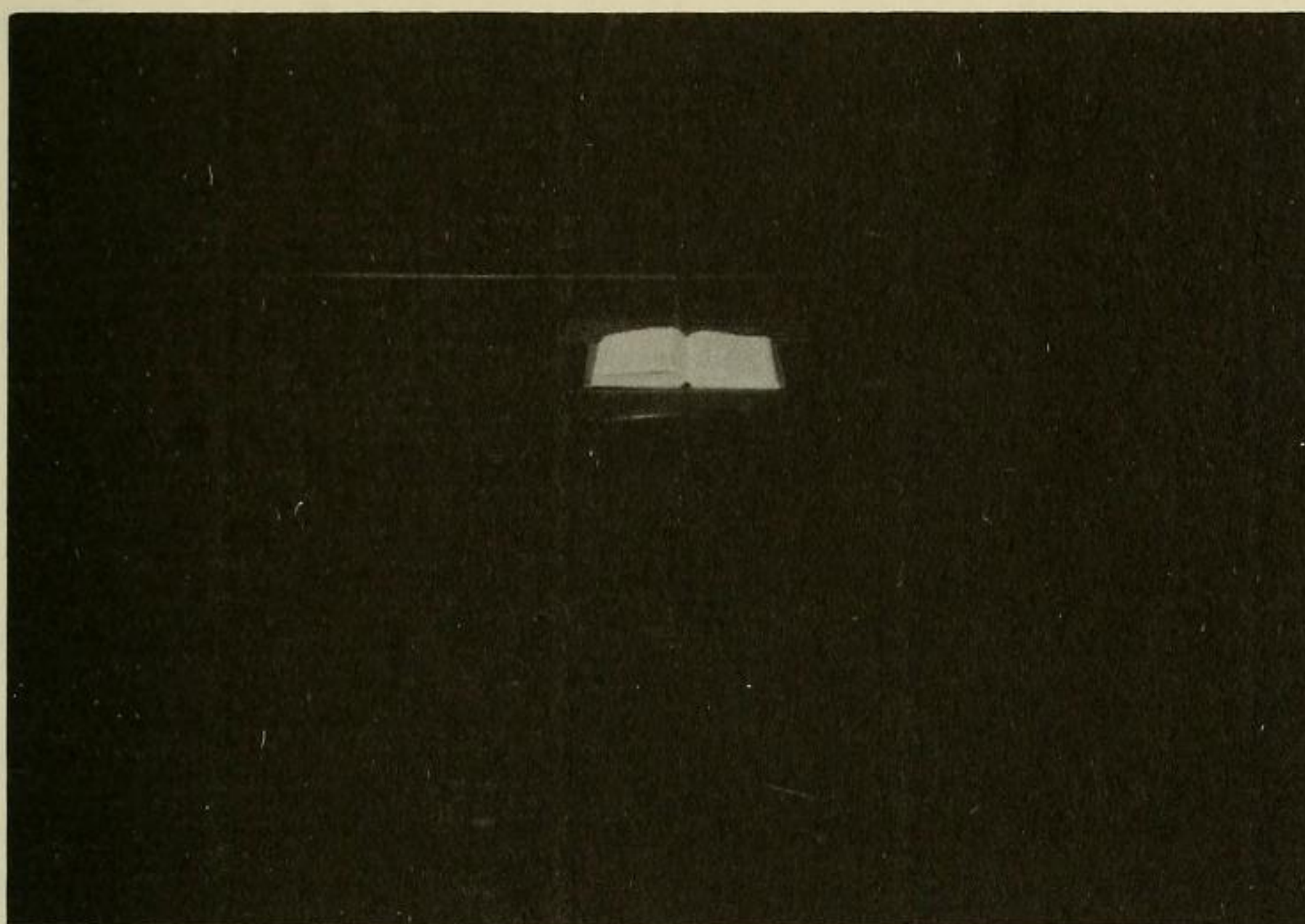
Detail, *Study for Towards A Northern Service: Radio*, 1976-1978. One from a series of four photo-collage panels, each 20" x 24", created during the production of *Towards A Northern Service: Radio*.

Study for Towards A Northern Service: Radio is a prototype for a day's broadcast of radio shows including *Broadcast Test*, *Sign On*, *Weather Report*, *Traffic Report*, *Station Identification*, *Travelogue*, *Pet Corner*, *Talk Radio*, *Game Show*, *Educational Broadcast*, *Top Ten* and others. The work was created in preparation of the opening of the Cape Dorset Community Radio Station on Baffin Island. The work was first broadcast in Cape Dorset and excerpts have been subsequently broadcast elsewhere as well as being published in *Live To Air* (London: Audio Arts, 1979).



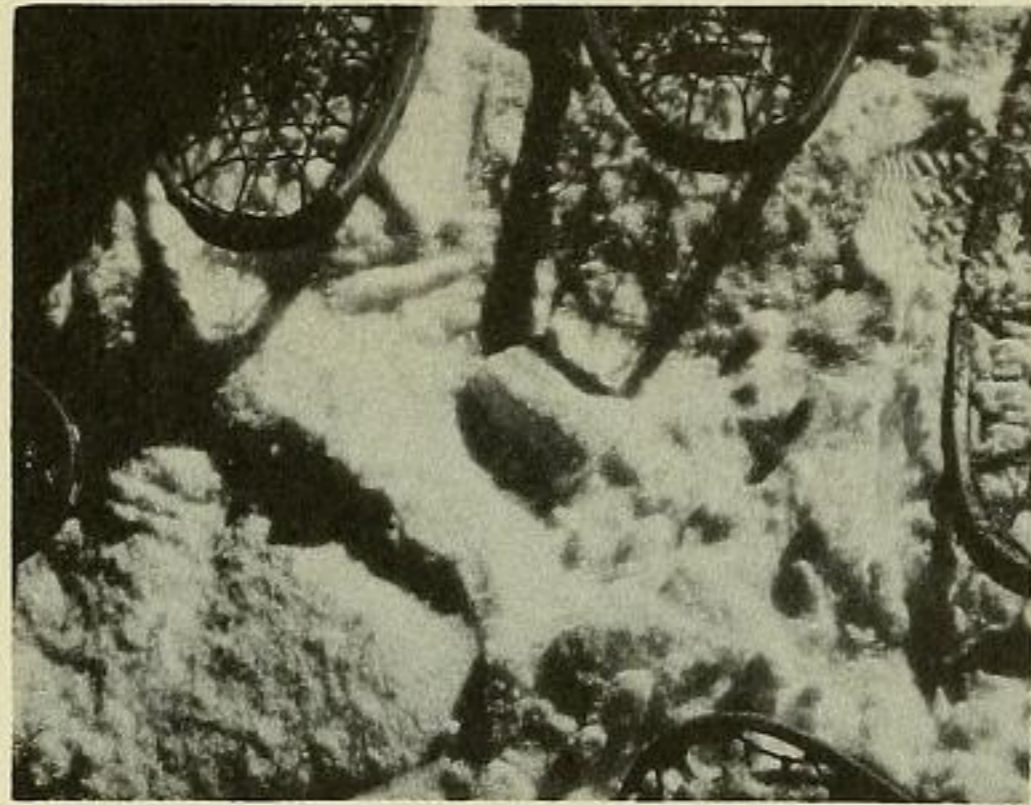
Colour photograph and four sheets of glass, each 36" x 48"; stereo audiotape of a Royal Canadian Mounted Policeman and Inuk translator explaining the Criminal Code to a group of Inuit; two acoustic transducers; eight rubber feet; tape recorder; stereo amplifier and cables.

Top: Image used in *Towards A Northern Service: Criminal Code*, 1976-1978.
Bottom: Installation view, Modern Art Galerie, Wein, Austria, 1979.



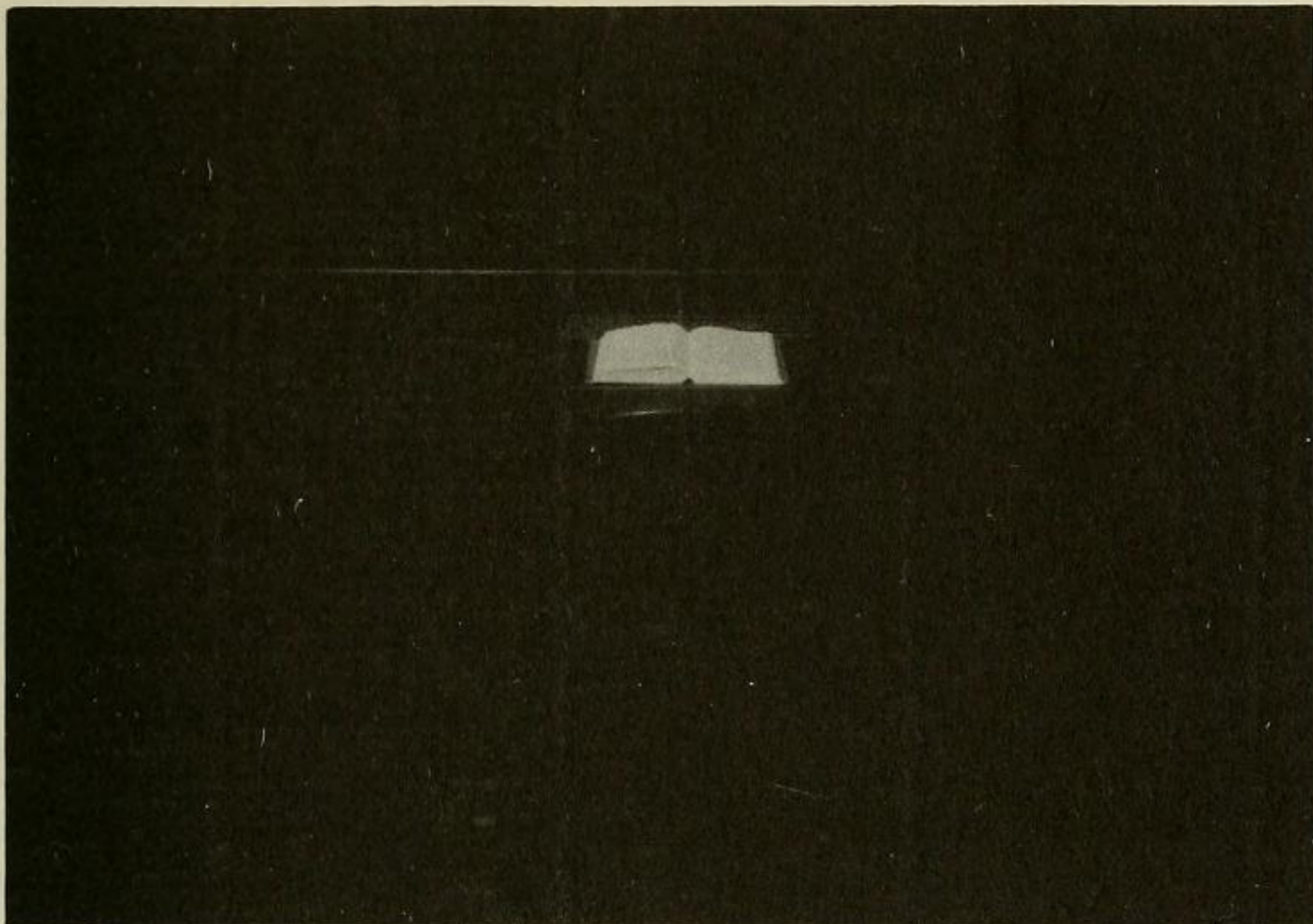
Installation details, *Tutorial*, 1978-1980.

Darkroom and reception area; six channels of audio playback through five customized speakers and intercom; 12" bell; buzzer; six 11" x 14" signs; two 12" x 3" signs; one desk sign; three sign stands; two speaker stands; intercom; two custom metronomes; custom glass table; two chairs; two customized lamps; custom Letraset; custom electronic control units. Seen here in installation at the Vancouver Art Gallery, 1988. Photo: Jeff Nolte.



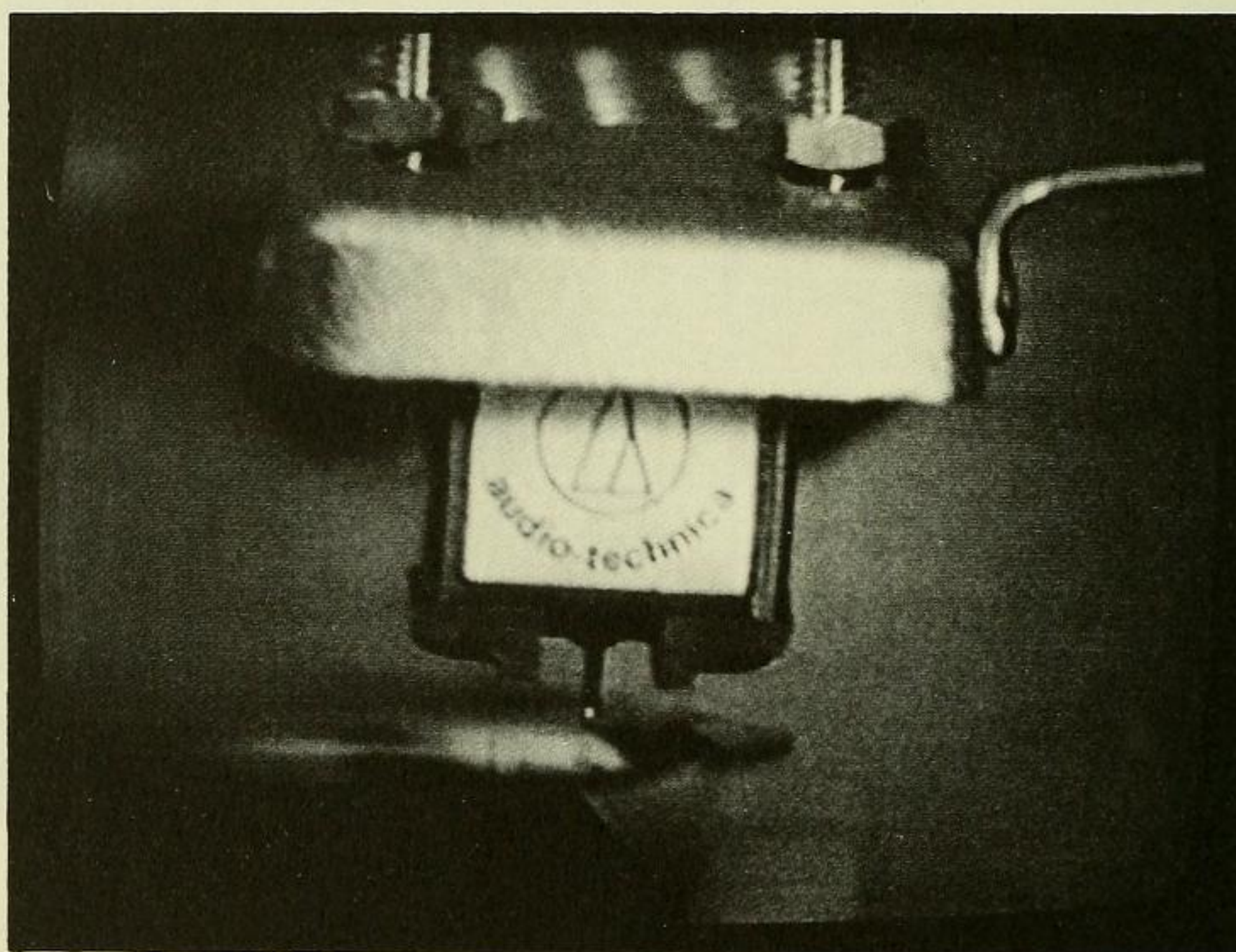
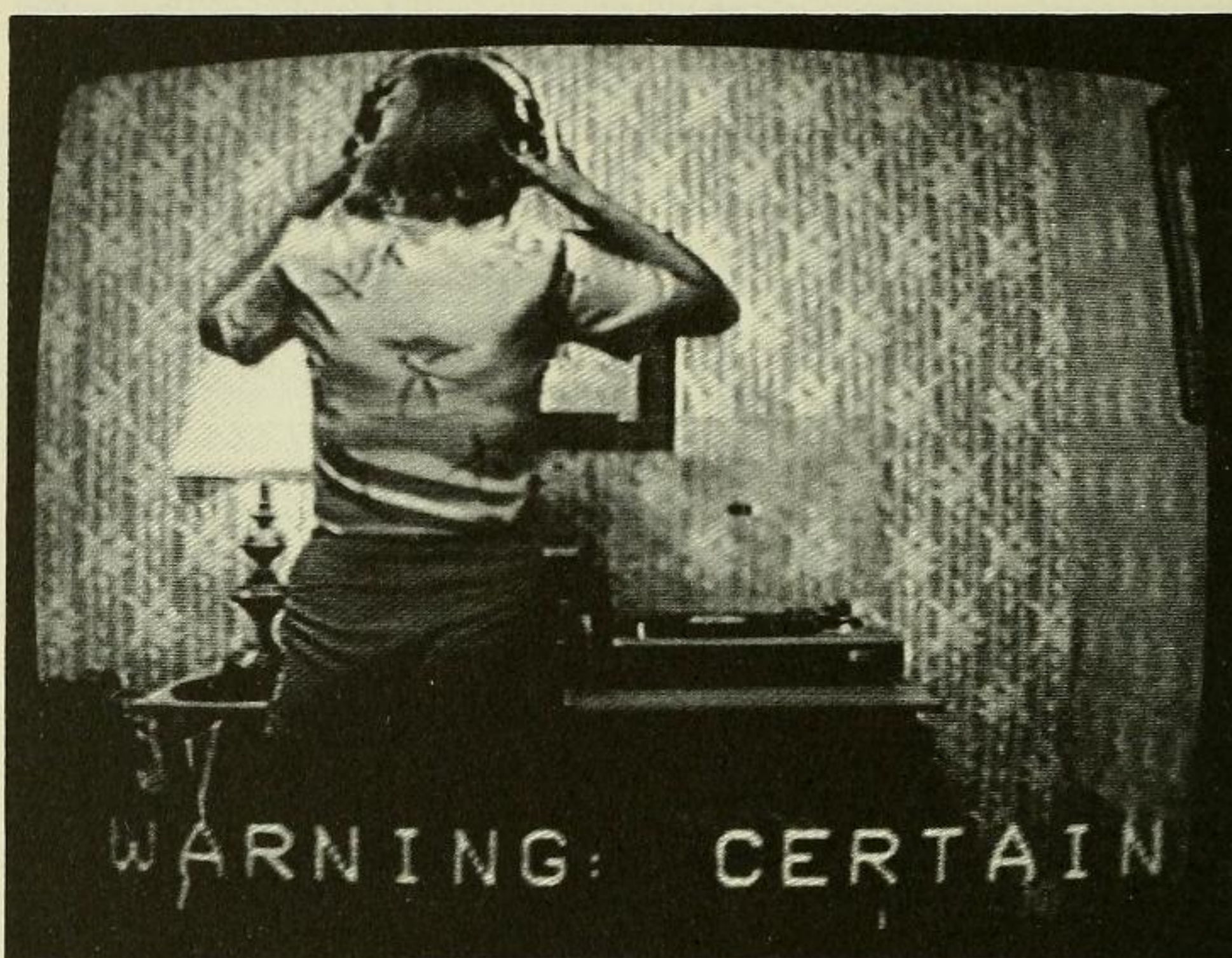
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Stills from *Diet*, television program, 1979-1980. Colour, stereo, NTSC videotape, 28:30.

Produced for the *Television By Artists* series, this work takes us through the playing of both sides of a subliminal diet motivation record.

I am sitting in a room, for voice and electromagnetic tape (1970)

Alvin Lucier

Necessary equipment:

1 microphone
2 tape recorders
amplifier
1 loudspeaker

Choose a room the musical qualities of which you would like to invoke.

Attach the microphone to the input of tape recorder No. 1.

To the output of tape recorder No. 2 attach the amplifier and loudspeaker.

Use the following text or any other text of any length:

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 a demonstration of a physical fact, but more as a way to smooth out any irregularities my speech might have.

Record your voice on tape through the microphone attached to tape recorder No. 1.

Rewind the tape to its beginning, transfer it to tape recorder No. 2, play it back into the room through the loudspeaker and record a second generation of the original recorded statement through the microphone attached to tape recorder No. 1.

Rewind the second generation to its beginning and splice it onto the end of the original recorded statement on tape recorder No. 2.

Play the second generation only back into the room through the loudspeaker and record a third generation of the original recorded statement through the microphone attached to tape recorder No. 1.

Continue this process through many generations.

All the generations spliced together in chronological order make a tape composition the length of which is determined by the length of the original statement and the number of generations recorded.

Make versions in which one recorded statement is recycled through many rooms.

Make versions using one or more speakers of different languages in different rooms.

Make versions in which, for each generation, the microphone is moved to different parts of the room or rooms.

Make versions that can be performed in real time.

Alvin Lucier in Conversation with Douglas Simon

DS: What's your attitude toward a performance that consists of playing a tape?

AL: Well, all of us who have made pieces with electronics started with tape because it enables you to play with sounds in ways that no other medium does, but you soon get tired of that because live performances are more interesting than taped ones. Tape led us to discover things about sound that had hitherto been unknown and prepared us to go on and do more interesting things without it, but we always kept tape as a way to store sounds to bring into a live performance.

Now in *I am sitting in a room*, I didn't choose to use tape, I had to, because in order to recycle sounds into a space, I had to have them accessible in some form. Tape, then, wasn't a medium in which to compose sounds, it was a conveyor, a means to record them and play them back one after another in chronological order. Without tape I wouldn't have been able to do the piece.

DS: When you worked on materials for the piece, there was never a moment until all those generations had been spliced together that the piece was complete.

AL: Yes, because the form is linear and cumulative; it changes from generation to generation until it reaches the point of diminishing returns. And it's funny because if I had consulted an engineer, he or she would probably have found a way to get the end result in one process, one fast process or one generation. There are ways to bypass erase heads on tape recorders or make loops which could get the end result very quickly, but I was interested in the process, the step-by-step, slow process of the disintegration of the speech and the

reinforcement of the resonant frequencies. Actually, when Mary and I visited the Polaroid Company in Cambridge – Mary, as you know, did a visual analogue to the tape by subjecting a Polaroid snapshot to a similar reproductive process – the art director, when he saw the end result, said, ‘I could do that in one step.’ He just didn’t understand that what we found interesting was the gradual process itself. Often, people don’t understand the process. They think that the same speech is dubbed from one recorder to another and each time the quality of the copy degenerates a little bit. But it’s not that at all, it’s playing the speech back into the space. The signal goes through the air again and again; it’s not processed entirely electronically, it’s also processed acoustically.

DS: You’ve discarded one of the goals of electronic information storage. By reproducing the thing acoustically so many times, all the parameters that the manufacturers strive to achieve in their tape recorders, such as linear frequency response, are by-passed.

AL: Actually, I used two Nagra’s in the original version. I recorded fifteen generations of the same text and you don’t hear much distortion or disintegration of the tape matter. In fact, the machines did a marvelous job of maintaining it.

DS: What I meant to say was that an engineer would probably say you’ve done a poor job of reproducing the sound. Of course what you had in mind from the start was to get out of the machines, to submit the material to a purposely non-neutral medium on its way to being re-recorded.

AL: Yes, the space acts as a filter; it filters out all of the frequencies except the resonant ones. It has to do with the architecture, the physical dimensions and acoustic characteristics of the space.

As you know, every musical sound has a particular wavelength; the higher the pitch, the shorter the wavelength. Actually, there’s no such thing as ‘high’ notes or ‘low’ notes, we simply borrowed those terms from the visual world to describe something we didn’t understand. A musical sound as it is produced on an instrument, in a column of air or vibrating string, causes oscillations at a certain rate of speed. For example, the A that an orchestra tunes to vibrates at 440 times per second and can therefore be considered ‘faster’ than the

middle C on the piano that vibrates at about 262 times per second. But as those sounds move out into space they can be observed as various-sized wavelengths, so you can see how directly the dimensions of a room relate to musical sounds. If the dimensions of a room are in a simple relationship to a sound that is played in it, that sound will be reinforced, that is, it will be amplified by the reflections from the walls. If, however, the sound doesn't 'fit' the room, so to speak, it will be reflected out of phase with itself and tend to filter itself out. So by playing sounds into a room over and over again, you reinforce some of them more and more each time and eliminate others. It's a form of amplification by repetition. Thinking of sounds as measurable wavelengths, instead of as high or low musical notes, has changed my whole idea of music from a metaphor to a fact and, in a real way, has connected me to architecture.

My first impulse was to use various musical instruments playing a wide variety of sounds, but I tossed that idea out because it felt too 'composerly.' Instead I decided to use speech; it's common to just about everybody and is a marvelous sound source. It has a reasonable frequency spectrum, noise, stops and starts, different dynamic levels, complex shapes. It's ideal for testing the resonant characteristics of a space because it puts so much in all at one time. It's also extremely personal. And since I've been acting in George Manupelli's *Dr. Chicago* films, I've started paying attention to the characteristics of my speech which are original to my personality and don't sound like anybody else's; you know I'm a stutterer. So instead of trying to invent interesting speech patterns, I discovered that I have interesting speech patterns anyway; I don't have to invent them. Of course I have invented when you think about it. A person who stutters or who has a lisp invents that or makes it up; it's not put on him from an external source. And while not everyone stutters, everyone has a certain amount of anxiety about speech. I've met many people who think they stutter. Bob Ashley, for instance, thinks he stutters. I wouldn't say so, but if he thinks he does, perhaps a lot of people think they do, and in that case, I feel that I'm in touch with people.

I am not as interested in the resonant characteristics of spaces in a scientific way as much as I am in opening that secret door to the sound situation that you experience in a room. For example, I made a preliminary version of *I am sitting in a room* in the Brandeis University Electronic Music Studio, a small, bright, somewhat antiseptic

tic room in which I never enjoyed being very much. It was filled with electronic equipment, and one wall consisted of several large glass windows. The resonant frequencies got reinforced very quickly after the fifth or sixth generation, resulting in harsh, strident sounds. But the version I did at 454 High Street, in Middletown, took a longer time because it was a softer, friendlier room with a wall-to-wall carpet and drapes on the windows. When I first moved into the apartment I never dreamed that I would come to enjoy wall-to-wall carpeting, but I soon learned that if you do have it, people enjoy sitting on the floor. After some evenings we've had there, people have gone to sleep on the floor, which they would never have felt like doing in the Brandeis Studio. Anyway, the carpet and drapes cut down on the production of the resonant frequencies so they took longer to achieve, but it gave us a more beautiful result. Didn't we get a different set of intervals in the Brandeis Studio than we got in this room? Do you remember what they were?

DS: We got two sets of fifths in both of them but they were much more complex in this version.

AL: Did you notice that tunes seem to start? Every room has its own melody, hiding there until it is made audible. You know, I feel as though we're in the same situation as composers were when they first began perceiving overtones. Musicians were always aware of their effects, I think, but timbre was mysterious until someone could demonstrate their existence. Now we're just beginning to compose with architecture in mind, and I'm very pleased to be in on these first experiments.

DS: Is it an extension of the idea of personal relevance that you chose the particular text you did?

AL: Well, the text that I wrote and used in the Middletown recording was personal to me, but was also meant for anyone else who wanted to use it. I guess I was suggesting that everyone's speech has irregularities. I also said in the finished score that other texts may be used. Perhaps that was a mistake because I don't want what goes into the space to be poetic. I want it to be plain so that the space becomes audible without distractions; that's why I decided to describe the recording process so that the audience could more easily understand

what's going on. I guess you could say that the score is built into the performance.

DS: I'm interested in how far your idea about the piece extends into the mechanics of achieving it. In other words, if someone uses one of the other procedures you mentioned, a loop for example, can you accept that as really the same piece?

AL: Well, the piece is subject to many versions; I heard of a twenty-four-hour one made in a chapel in Oberlin, Ohio. Now I've been asked to make a version for the Pepsi Pavilion at Expo '70 in Osaka. The Pavilion is a large dome with interesting acoustics, and David Tudor and Gordon Mumma designed the sound system. It has loudspeakers deployed all over the space, arrays of microphones and a flexible mixing console. I'm planning to use it to pick up and record the voices of the people walking through the Pavilion and then to recycle them back into the space from many separate loudspeakers. But I must admit that I prefer the monophonic version; it more clearly reveals the features of the processes that I find fascinating.

First of all, there is the superimposition of two very simple repetitive processes, tape recording and talking, but the mixture of these two ordinary activities in an acoustic space, with amplification by repetition, yields an extraordinary result, the evocation of the resonant frequencies of the space. Even though the form is repetitive as far as the recording and recycling procedure is concerned, the listener hears something quite different, and that is the climatic point at which the speech goes from intelligibility to unintelligibility, or from words to music.

What's beautiful is that this point is different for each listener; it's kind of a sliding fulcrum on a moveable time scale. The rate of transformation isn't constant either. For the first few generations it moves at a seemingly constant pace, then, in one or two generations, the movement speeds up, then slows down again. It seems to operate on its own set of rules. It's very mysterious.

When Mary did the visual part, she took a Polaroid snapshot of the chair that I sat in when I made the tape and subjected it to a copying process in which she copied the original, copied that copy, and so on. And because it was virtually impossible to align the copying camera and the pictures absolutely accurately, a slight error in size crept in, so that every time she made a copy, it made the image

slightly enlarged. But of course the size of the picture stayed the same so the image began to move off the picture. There was a dark shadow behind the lamp which grew on each reproduction, until finally the fifty-second one is completely black; the shadow behind the lamp grew until it took up the whole image. Some dirt got on the reproductions too, and what you think you see at the end is a star map. And indeed, a friend of mine who was at one of the performances said the last slide looked just like Job's Coffin, which is apparently a part of the stars.

This conversation was first published in *Chambers*, in collaboration with Douglas Simon, by Wesleyan University Press, Middletown, 1980.

Bodies, Anti-Bodies and Nobodies

Gregory Whitehead

Toward the end of his life, Guglielmo Marconi came to believe that acoustic phenomena continued to hang in the air until well after the moment of their first sounding. Since he interpreted sounds as bodies of vibrations with an envelope of decay extending theoretically to infinity, Marconi reasoned that the sensation of silence – dead air – was merely a matter of perceptual imperfection.

In order to tune in the accumulated clamour of history across all time and space, one need only develop more refined technologies of reception, filtering and amplification. Working from this premise, Marconi may well have imagined a radio free from both stations and transmitters; listeners would simply tap into whatever variously decomposed signals happened to be passing through their immediate environment.

In this vision, radio would provide an electronic portal into a vast repository of tightly compressed utterances and acoustic information, a memory chamber for the living, but also a pulsating city of the dead. *Dead voices on air.*

While, in America, the identity of radio-as-music-box was firmly and irretrievably entrenching itself, Marconi's countryman F.T. Marinetti (himself still fresh from the trenches) conceived precisely such an electronic gateway into the nether world of partially decayed acoustic envelopes. In his 1933 manifesto *La Radia*, Marinetti proposes, 'The pure organization of radiophonic sensations ... the picking up, amplification, and transfiguration of the vibrations emitted by living beings, living and dead spirits ... and materials.'

Though Marconi probably would have rejected Marinetti's black-shirted bravura 'to multiply one-hundredfold the creative genius of the Italian race,' he

certainly would have endorsed the search for a radiophony generated from the circuitries of worlds not entirely our own.

The thoroughly unparalleled and regrettably unexplored potential of radio as a medium for researching things past was also on the mind of Gaston Bachelard in 1951: 'Radio really does represent the total, daily realization of the human psyche.'

In his now almost forgotten essay, *Radio And Reverie*, Bachelard conceives the radio artist as 'psychic engineer,' whose purpose is 'to develop subjects for radio aimed at the unconscious ... to lay on splendid nights for their listeners.' Possibilities for achieving blissful states of reverie would be presented via the hands of the psychic engineer on every wavelength.

To Marconi's sprawling necropolis-on-air and Marinetti's medium of pure sensation, Bachelard thereby proposes radio as the most natural means for articulating the coded, subterranean languages of dreams and the unconscious. Burning an electro-acoustic fire, radio may even induce a blissful state of utter hypnosis.

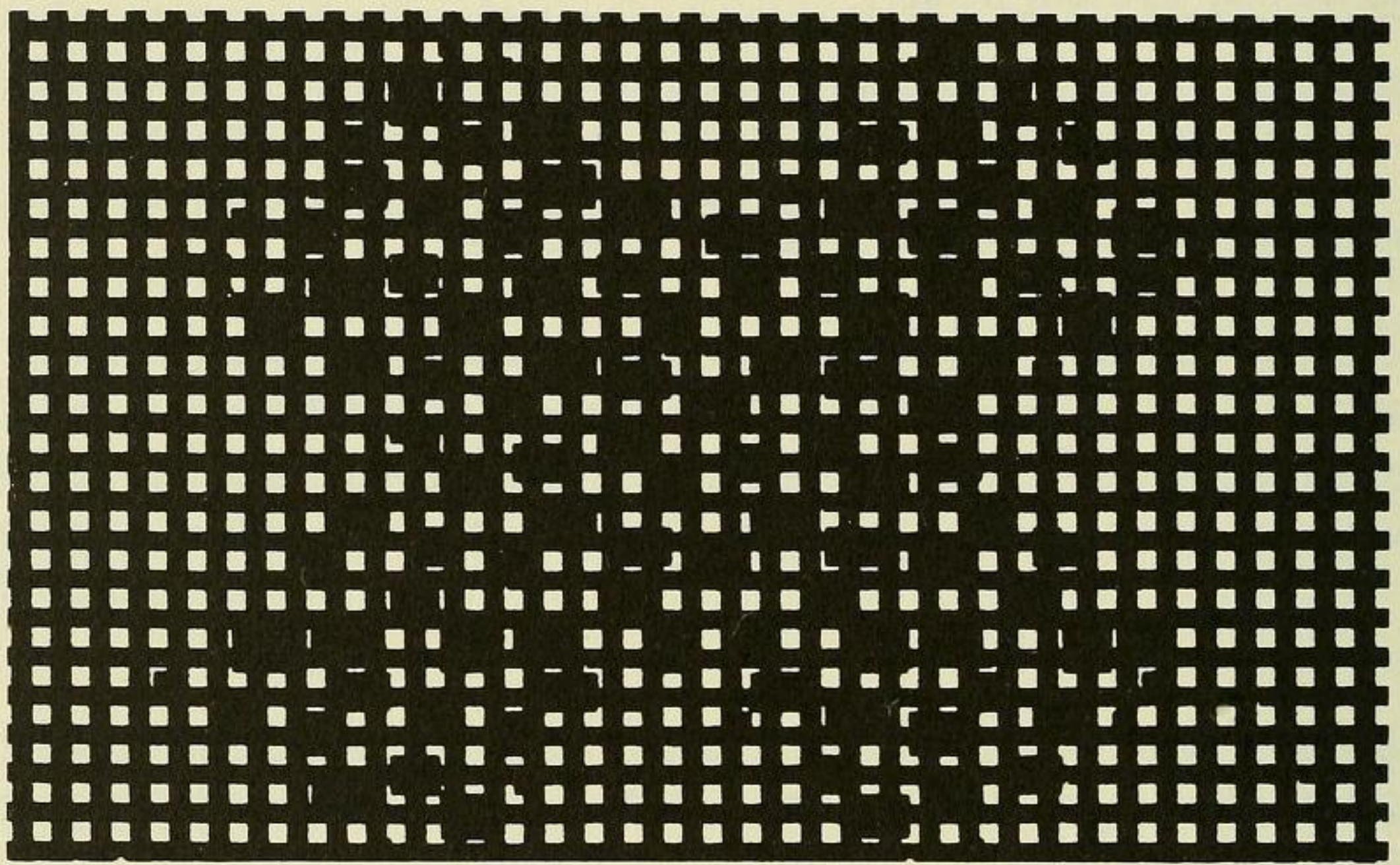
Some 20 years later, Roland Barthes, a close reader of Gaston Bachelard, who also wrote from the perspective of bliss, offered a tantalizing project of *writing aloud*: 'What it searches for are the pulsational incidents, the language lined with flesh, a text where we can hear the grain of the throat, the patina of consonants, the voluptuousness of vowels, a whole carnal stereophony.' Might we not think of *radio* from the perspective of bliss? Roland Barthes even suggested to us what its effect may be: 'It granulates, it crackles, it caresses, it grates, it cuts, it comes.' That Barthes singles out *cinema* as the most likely site for the projection of such carnal stereophony is a telling indication of how *much* our radio has indeed failed to come.

Within the context of contemporary American culture, such radiophonic identities sound deliriously Utopian because they dare suggest that the most critical electro-acoustic relationship exists not between markets and demographics, but between the inconstant pleasures of the desiring ear and the unpredictable outcomings of signals on the loose.

But in the midst of an epoch where every popular excrescence presents itself as an act of nature, it is crucial to remember that our electronic culture is not the inevitable consequence of inflexible technologies. While each of the above texts may suggest radio is still in *search* of a technology, the hyper-agitated radio we now transmit succeeds only in devouring itself, passing virtually unnoticed from body to antibody to nobody.

Nevertheless, the inescapable indictment that we do actually have the radio we deserve should never be permitted to obliterate the anticipations of an *other* radio we may someday desire.

This work was first published in *Ear Magazine*, Winter, 1986.



Mystery Tapes

Mystery Laboratory

« listen »

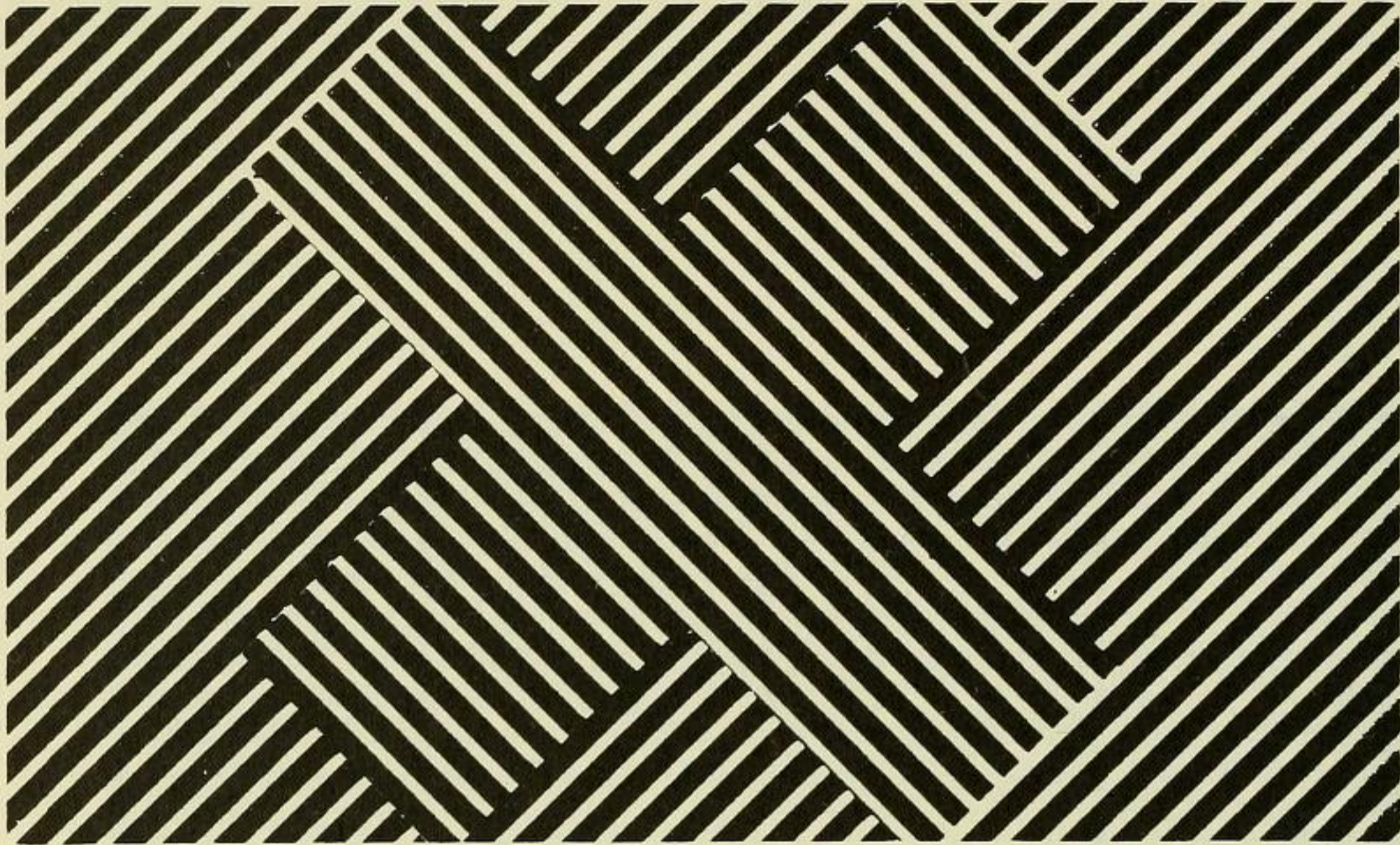
The known world is a noisy ball.

Party to this magnification since 1953, *Mystery Laboratory* has instigated unique research in sonic phenomena. These investigations, conducted both in the little world ranging audio safaris and by intensive hiber teams at home base, include a broad spectrum of primary research in, for instance, alien graffiti, monotostomaticism, plunderphonics, time compression, pop grafting, animal / human voice transposition, producer / reproducer inversion, gender shift, magnetic dousing, black boxing, manual / digital arms, splendorsonics, chaos music and auralography. Of the many manifestations of these activities that can be appreciated by the public at large, the *X-tape* series of auralphidelic K7s fulfils a need amongst a permeation of dull redundancy for wonderful sounds for wonderful ears.

X-tapes are available only through the mail, a primitive but nonetheless indirectly corresponding and high resolution form of communication. Because of the relatively low costs of this mode of transportation, *Mystery Lab* can boast a democratic system of global access: inhabitants of Antarctica can obtain *X-tapes* for the same pittance as do residents of Hollywood.

X-tapes are produced and manufactured on the premises with a remarkably high fidelity to the virtual master versions, according to tolerances set and maintained by the originators on special equipment tweaked regularly by expert staff technicians. The *X-tapes* themselves contain dozens of items of a rare, perhaps perplexing and strictly confidential nature. The listener ideally has no idea what is going on but will suspect many things. The music and sound ranges from the unbelievably familiar to the absolutely arcane and evocative.

Beyond the madness emanating from the pit was a wilderness on tape; and the audience went wild.



X

No Define: *X / Mystery Tapes*: Titleless and identityless, a *Mystery Tape* exists entirely in its aural manifestation. The initial package is devoid of the usual indications of genres, artists, styles, categories and considerations of whether these classifications are covered in a broad range, or are specifically focused on a particular tape. Actually, *Mystery Laboratory* is indifferent to the enforcement of such categories, preferring to offer the listener a nebulous potential for appreciation. What you don't know won't impair your hearing.

Sequenceless?: In cases where a particular *X / Mystery Tape* is episodic or transpires more than one region of activity, the borders have not been separated for convenience of selection. In cases where there are relative silences and intervals between sections, these have been thus placed, purely for their content, not to segregate pieces within the somewhat whole. This is not to say tapes must be listened to in their entirety; the aural brain is busy differently. Indeed, sides are often compiled with the usually distracted fragmentary nature of modern audition in mind. Normally, listening is selective, both vertically (the potential for perceivable events at any given moment) and horizontally (transitions, sequences, continuities and disjuncts in time) relative to the notational tradition.

De-grouped: Please note that the two sides of any given *X-tape* are not arranged in sequence (that is, there is no side A / side B) and there is no particular ordering amongst the various tapes available. Until recently, the fixed basic unit was the X side (of approximately one half hour in length). In the present catalogue these independent sides have been fixed into groups of two (two sides to a tape) in combinations considered, for one reason or another, to be compatible and identified by an X number or letter indicated on the side surface. Because of the long complex gestation period and the occasional revision and embellishment of the tapes, the original numerical coding (that is, X,¹ RX, etc.) has no chronological significance.

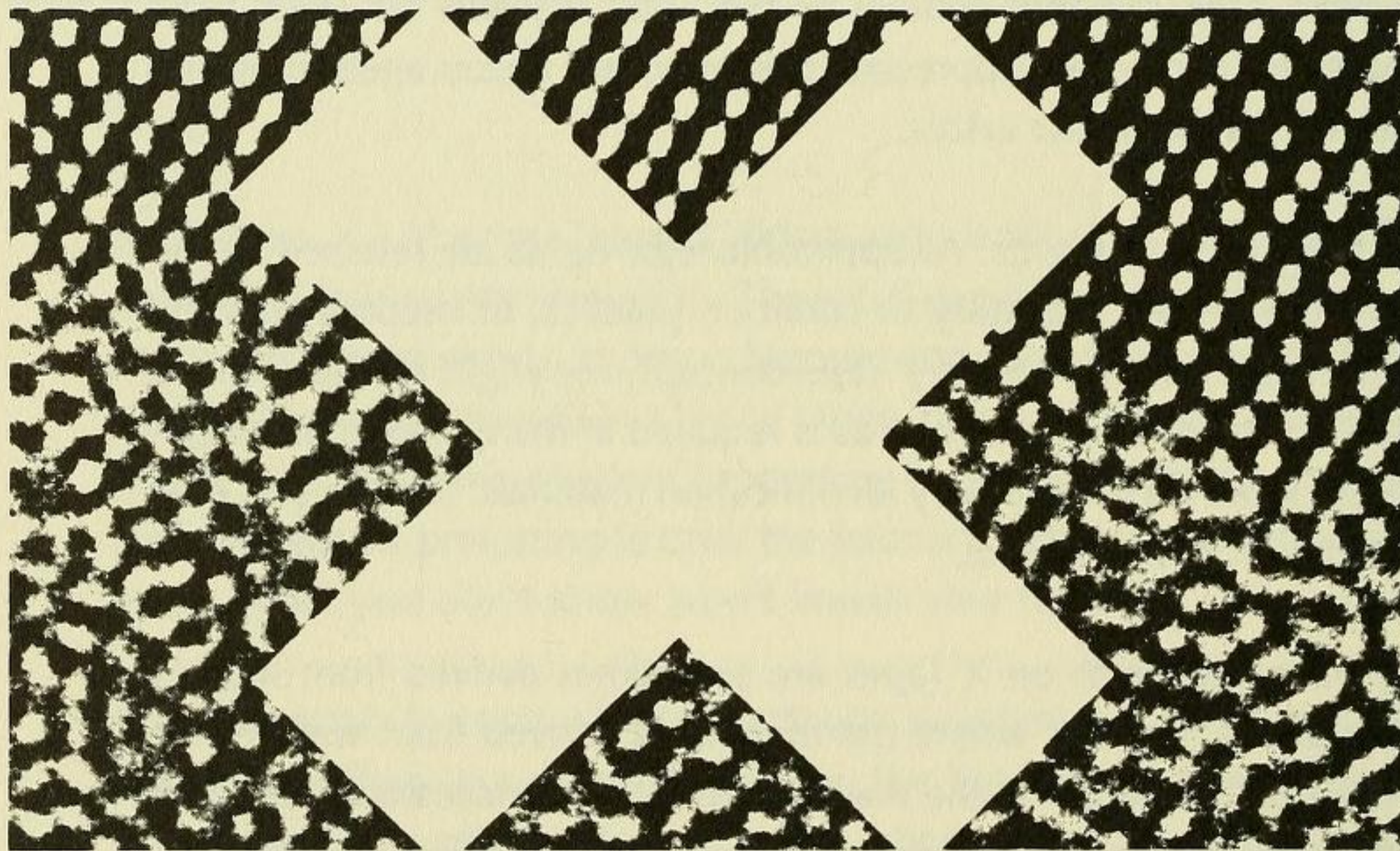
Identification Potential and Procedure: Many X listeners prefer to never know the what and why of *Mystery Tape* listening, which is what makes them *Mystery Tapes*. However, in cases of nagging curiosity, or a wish to pursue further material by a particular artist, all identification will be available upon request, usually by the forwarding of a stamped, self-addressed envelope (IRC, international reply coupon available at post offices). Informative lists of particular X sides have been prepared that contain all the facts available on titles, artist identity, dates and addresses. Appreciative listeners are encouraged to pursue further materials by particular artists.

Artist's Rights / Listener's Rights: All applicable legal rights are retained by the particular artists involved. Contrary to common practice, in keeping with the anonymity pertaining to the *Mystery Tape* concept, copyright identification is not indicated on the product package as is required in many countries. Applicable rights are listed on the auxiliary identification materials. Some artists may waive copyright on their material.

In addition, particular items on *X Tapes* are sometimes derived from sources already copyrighted. In cases where the material is derived from well known sources and readily available via the mass media (but not necessarily legally in the public domain) this derivation may be without the permission of the copyright holder. *Mystery Lab* endorses such borrowing only when it in no way infringes on the product reputation or commercial marketing of the original. The necessity for resorting to this popular material is based on transformational familiarity research for artistic purposes. There is no intention or desire to capitalize on the primary artist's reputation, as in the case with pirate and bootleg recordings. In the case of these derived materials, full legal royalties are being retained in trust for the copyright holders.

Listeners have the right to audition the tapes in any way they prefer. As stated above, direct pirating and copying or use for profit is illegal. Home dubbing is discouraged because copies will be of inferior quality and this unauthorized copying does not support the artists involved.

Manufacturing: Each cassette is produced to be, in and of itself, a successful sound object rather than a fidelic document of any event or recording. However, most of the tapes are accurate reproductions of an X master. Considering the broad range of tape types used (both chrome and ferric, each with its particular advantages) and the even broader range of likely reproduction equipment, play-back specificities such as EQ and decoding are not always indicated. It is advised that the listener experiment with flipping play-back switches until the most satisfactory result is achieved. Some *Mystery Tapes* have undergone constant revision. The result is that occasionally a listener will receive a rare or unique version of a particular tape. Information is available on the pedigree of your purchase. Official *Mystery Tapes* are very valuable and worthwhile.



Radical Radio

R. Murray Schafer

What was the origin of radio? Of course it is not new. It existed long before it was invented. It existed whenever there were invisible voices: in the wind, in thunder, in the dream. Listening back through history, we find that it was the original communication system by which the gods spoke to humanity. It was the means by which voices, free from the phenomenal world, communicated their thoughts and desires to awestruck mortals. The divine voice, infinitely powerful precisely because of its invisibility, is encountered repeatedly in ancient religions and in folklore. It is the sound of Thor, of the hundred-headed Typhoeus, of Mercury the messenger. It is frequently present in the Bible: 'In the dream the angel of God called to me: "Jacob!" and I answered: "I am here."' (Genesis 31:11)

In those days there was nothing but religious broadcasting. The schedules were arbitrary; the programs began when least expected. The power of the broadcasts was often terrifying, as when Yahweh thunders at Job, 'Have you a voice like mine?'

Radio remained an awe-filled medium even after it was desanctified. Legends tell how the ancient kings of Mesopotamia and China could transmit messages sealed in boxes to governors in distant provinces, who would open the box and hear the commands of the king. To have an 'audience' with a king implies that one dares not look at him. Audience comes from the Latin verb *audire*, to hear. The same root provides the word 'obey' (*obaudire*), meaning to hear from below. Hearing is obeying.

That is the first thing to remember about radio. It is a fearful medium because we cannot see who or what produces the sound: an invisible excitement for the nerves. This is why I call it schizophonic (split sound) and also why McLuhan called it a 'hot' medium.

When radio was invented in the early part of this century, two models of broadcasting grew up: the political model, born of the rage

for power; and the 'enlightenment' model, born in opposition to it. Hitler gave us a vivid illustration of the first type when he wrote: 'We would never have conquered Germany without the loudspeaker.' But even today, when one listens to politicians on the radio, there is a hectoring tone to their voices, occasioned by the enlargement of personality promised by the microphone.

When David Sarnoff argued the case for radio in the United States in 1916, he referred to it as a modern 'music box,' thus setting in motion the idea of radio as an entertainment medium, a toy. These are the theorems of broadcasting all modern programming endorses. How far has modern radio departed from radical radio in its pre-technological phase? Considering what radio once was, all contemporary models have profaned it.

When I taught in a communications department at a university, I used to give students this exercise: Consider yourself a visitor from another planet; your spaceship allows you to cruise close enough to pick up twenty-four hours of North American radio; report back to me everything you learn about North Americans.

You can imagine the results. They are obsessed with body odor. Their favourite colour is extra-white and their favourite game is trying to predict the weather. They dress in armour and move about on wheels. Their religion takes the form of a ceremony in which a sacred relic is chased about a field by opposing sects. And so forth.

Let us become anthropologists for a moment and ask what might have happened had radio been invented by someone else. Supposing the Lendau tribe of Central Africa had invented it, would they have broadcast their rain ceremony? (But that only occurred in times of drought.) Or supposing the Egyptians had invented radio, would they have broadcast the Osiris Festival at Abydos? (But that lasted non-stop for several days.) Or supposing the Bernardines of Martin Verga had invented it, would they have broadcast the singing of matins? (But that took place in the middle of the night.) Rhythms of other societies are quite different from our own. Western broadcasting is tyrannized by an instrument we have accepted as inviolable: the clock.

Both Oswald Spengler and Lewis Mumford have spoken at length of how the clock came to regulate the destiny of the Western world. How it drove a wedge between the hours of work and the hours of leisure, regulating eating and sleeping as much as the life of

the factory. Radio has become the clock of Western civilization, taking over the function of social timekeeper from the church bell and the factory whistle. Throughout the day, events are shaved off to the split second. The news comes at 8 on the way to work, at 5 on the way home, at 11 on the way to bed. (Recently the Canadian Broadcasting Company moved its evening news back to 10, for reasons I will discuss in a moment.) For those on the run, there are the news and weather flashes throughout the day. Between these the tapestry of the broadcast schedule is strung.

Several years ago I proposed an idea to the CBC to do a program on the sounds of the ocean. The producer wanted to know how much time I required. Without thinking I answered 'twenty-four hours.'

One could not do justice to the rhythms and likes of the ocean in less time than this. I was given an hour and a half to create *Okeanos* and it was made plain how many problems would have to be overcome to make even this possible. But such problems can be overcome, as the Irish Radio proved when they broadcast Joyce's *Ulysses* as a 36-hour program.

Radio today is the pulse of a society organized for maximum production and consumption. Of course, this is temporary; radio will not keep this beat forever. The advantage of the quartz watch is that it doesn't stop or need to be reset, so the ceremonious timekeeping of radio is already anachronous. And if industrial civilization is in decline – and it is – alternative radio rhythms may be closer than we think.

The rhythms of life are enormously complex. Consider, for instance, the extended jubilation of the village wedding, the rhythms of the sleeper, the swimmer or the long-distance runner. Let us recall the natural rhythms of the tides, sand spinning on the beach. Let us measure the durations of melting snow, the waning of the moon; let us become reacquainted with the counterpoint of birds and frogs and insects. Let us know these things, and when modern radio begins to buckle, we will be ready to change the pulse of the Western world. You may say that such rhythms do not belong in the territory of radio; but they belong to it as much as hyperbiological rhythms do. If modern radio overstimulates, natural rhythms could help put mental and physical well-being back in our blood. Radio may, in fact, be the best medium for accomplishing this. And when the discovery that our continued existence on this planet depends on re-establishing this continuity with all living things, I suspect that radio

will reflect the discovery and play its part.

A few years ago Bruce Davis and I had an idea for what we called *Wilderness Radio*. The plan was to put microphones in remote locations uninhabited by humans and to broadcast whatever might be happening out there: the sounds of wind and rain, the cries of birds and animals – the uneventful events of the natural soundscape transmitted without editing into the hearts of cities. It seemed to us that since man has been pumping his affairs out into the natural soundscape, a little natural wisdom might be a useful antidote.

The rhythms of radio are always changing. Rhythmic patterns dictate content; never the other way around. If you can put your idea into a three-minute capsule, you can move it onto radio; if you can't, you can't. This brevity shapes the treatment of all material, producing what John Leonard called the 'flat shriek' of contemporary radio:

Instead of stories, canned opinion; instead of discussion, sirens; instead of sadness, the gruesome details; instead of play, heavy breathing, fists.

The limitation is not technical but cultural, for technically the radio signal is continuous and can be shaped in any way desired.

Let me tell you about one rhythmic change that I expect to show up in the near future. We all know that the average age of Western humanity is rising. Already social scientists are aware that geriatrics is an interesting research area and governments are promising to fund programs dealing with the aged.

Now older people seek a different kind of comfort from radio than youngsters. They have their favourite programs and are less inclined to require a continuous curtain of sound to blanket their daily routines. The music they enjoy is slower and softer. The voices are older; there is less edge to them.

How long will it be before radio rhythms begin to decelerate to please this growing (and incidentally affluent) public? Already, the CBC has moved its prime evening newscast an hour earlier because older people go to bed earlier. Older people also spend less time driving. They live in quieter environments; they fear silence less than the young. These considerations will show up in revised broadcasting patterns in the age and tempo of the announcers' voices, in the choice and dynamics of the music, in the topics of discussion, and in the methods of joining all this material together.

Listening to radio in the presence of noise (the car radio is a good example) has had a very interesting effect on programming: it elim-

inated it. In any noise-prone system, information has to be reduced and redundancy increased. Programs with a high information quotient (educational and cultural) are swept aside for those in which basic modules are repeated or varied slightly. The hit parade and news and weather burps are examples of such repeaters. This is not merely a matter of taste; it results more from technical considerations affecting audience environments. Britain, Canada and France have had a broadcasting history emphasizing high-level intellectual programming – at least up to the time when the car radio and the shop radio and the street radio bumped it down into the Agora.

In the old days, radio programs existed for special interest groups. Program guides were published and consulted. I know people in Canada and Europe who would mark up the guide each week and then stay at home instead of going out to a film, a concert or the theatre.

An excess of environmental noise produces sloppy listeners. We no longer listen to the radio; we overhear it. It stays on, shielding us from the coarseness of modern life. Radio has become the birdsong of the twentieth century, decorating the environment with 'pretty.'

Buckminster Fuller used to say that garbage was an unpackaged product. Noise is garbage. Headphone listening puts a protective seal between it and the customer. It is not a corrective against noise pollution but a prophylactic. It represents a determined effort by the public to escape sonic interruptions and regain the serenity of sustained, selective listening. This too is a matter creative broadcasters should not ignore.

Any art form must produce a meta-language by which it can be adequately described. Poetry and painting are art forms because we have a theory of poetry and painting. Radio, as we have it right now, is probably not an art form. It lacks an exegetical apparatus (or even an adequate program guide) for external analysis. In *The Tuning of the World*, I called attention to the poverty of criticism dealing with this rich and potent contemporary soundscape. What we need is the study of broadcasting in terms of semiotics, semantics, rhetoric, rhythmic and form. A good radio program deserves the same critical attention as a good book or a good film. And the shapes of broadcasting ought to be as interesting to the sociologist or the anthropologist as the shape of life itself. With an analysis of radio, the serious criticism of broadcasting could begin, and with it, the serious reforms.

Your commentary is only valuable to others if they know they will also be able to see or hear the things you are discussing. Radio which thrives on novelty and immediacy does not encourage critical attention. But this too is a fashion.

This era is intimately wedded to McLuhan's name since he was the first to catch the pulse of it. Electricity, said McLuhan, is total information. Suddenly broadcasters became aware of the all-at-onceness of the radio signal. Lawrence Blair describes it this way:

No language seems a barrier to the hidden brotherhood of 'hams' and professional radio operators. They sit, all over the world, thousands of miles apart, yet connected by electronics – the only clue to their existence being the prongs of steel emerging from their attics. This international brotherhood never sleeps, but continually monitors and feeds the thought-forms of the planet: the political upheavals, the new discoveries, the disasters, are all exchanged within moments. Teilhard de Chardin's hypothetical 'Nosphere,' an envelope of 'thought' around the world, is now quite real.

This is what we all believed 20 years ago, and I wouldn't like to estimate how many licenses were granted to broadcasters as a result of promises to bring the world to the doorsteps of larger and more remote groups of people. That was the camouflage hiding the intention to use the license to print money.

The deception still thrives today. It is called 'information radio.' Its claim is to connect the listener instantly to vital events wherever they may be happening on this globe. Its aim is to maintain everything on the razor edge of the present tense.

We have been led to suppose by its advocates (and McLuhan is certainly not innocent of this) that the potential of the medium is best realized in this way. In fact, a potential is realized. But when interest in it passes, information radio becomes a fashion like everything else, and fashion, as Cocteau once observed, is what goes out of fashion.

I used to have students monitor radio stations and then draw maps on which they fixed dots for every toponym in the programming – the names of towns and countries, the location of all events. What emerged in almost every case was a network of dots clustered around the community itself, with a vague sprinkling over the rest of the world. Looking at these maps, one couldn't avoid the conclusion that radio was intensely regionalist, mildly nationalistic and totally

uninterested in the rest of the world except when it meant trouble.

The whole globe may be transmitting, and satellites may be moving these transmissions around with fantastic precision, but the most healthy form of radio broadcasting today is community intensive. It resists invasion. In fact, I doubt whether in its whole history, broadcasting (on either radio or TV) has broadened understanding for the people of the world to anything like the extent of the book. And despite all claims to the contrary, I don't think broadcasters ever intended to do this. Radio has been much more an instrument of nationalism than of internationalism; and when the transmitters were beamed abroad it was only for the spreading of propaganda. Commercial radio is even more tightly territorial, with networks buying up franchises as if they were grocery stores or parking lots.

Broadcasting everywhere is beginning to give way to narrowcasting. Technical people also assure us that the limitations of 500-1600 kilohertz and 88-108 megahertz will soon be overcome, making possible hundreds and finally thousands of new audio channels, fracturing the audience into a myriad of special interest groups. As these developments unfold, radio ought to become a more responsive and 'cybernated' medium, allowing listeners to become more actively involved.

In a sense, this began with the hot-line show, which is a conversion of radio back into telephony; but it must not end there. If listeners are to become a true force in reshaping radio, they must be allowed to participate in the choice of subject matter. They must not be hectored and manipulated by slick radio hosts. In Holland, for instance, Willem de Ridder operates a radio program in which any listener can make a cassette tape on a subject of his choice and it will be played on the air. The variety is astounding and refreshing.

In a similar way, I have often thought if we could just place microphones in restaurants or clubrooms or any of the places where people gather and exchange concerns, the results could be quite invigorating. A small town Kiwanis Club meeting, women at a tea party, high school students smoking behind the school house, bums on a park bench, farmers in a general store, without a host to keep their thoughts on target. These or a million other situations would yield more interesting material than opinions on the headline topics currently solicited from listeners. This too is technically possible. What prevents it is the arrogance of broadcasters.

Art is the enemy of the present; it always wants to change it by

introducing other tenses. It alters the perceived world by introducing new rhythms, forgotten, ignored, invisible, impossible.

What if radio became an art form? Then its content would be totally transformed. No longer would it spin as the slave to machine technology, mechanical and clocked. No longer would it palpitate with the spasms of production and consumption. It would outstrip the impediments of mechanization, it would drown the fury of the hawkers and hucksters, and it would muzzle the voices of newscasters.

All these excrescences of the 'more' society would be shoved into the ash-bin of oblivion. Radio would ring with new rhythms, the bio-cycles of all human life and culture, the bio-rhythms of all nature. There are people in the world today – and the history of humanity is made up almost totally of such people – who live organic lives within the great natural cycles of the universe, which they accept and respect. Only in that condition could radio be reunited with the primevally divine, charged with the energy of the sacred and restored to its original radical condition.

What I am urging is a phenomenological approach to broadcasting to replace the humanistic. Let the voice of the announcer be stilled. Let situations be presented as they occur without the interruption of sponsors, clocks or editorial manipulation. A radio station in rural Quebec has the following logo:

A note of music, the song of a bird, a poet, an idea, and sometimes also silence, on the waves of CIME FM 99.5 megahertz. You are listening to life.

Unfortunately the contents often do not live up to the claim; but it is approaching the theme I am announcing. Phenomenological broadcasting instead of humanistic. Let the phenomena of the world speak for themselves, in their own voices, in their own time, without the human always at the centre, twisting, exploiting and misusing the events of the world for private advantage.

Why shouldn't radio register the minutest changes in the soundscape? It is the perfect instrument to do this. Why not record the changing of the seasons in the sound of autumn leaves, or the coming of birds in spring?

And why not disclose these themes with the voices of those who best understand them? The monologue of an Indian chief, complete with the deliberate and calculated silences that formed such an

important part of his eloquence – and infuriated the white man. Why not take hold of the pulse of another civilization, say the reading of Victor Hugo's *Les Misérables* non-stop for as long as it takes? Or story-tellers from around the world bringing us the miraculous tonalities of the unknown; for instance, a reading of the *1001 Nights*, the perfect serial, pausing, as the story-teller intended, at dawn in the middle of each episode, and continuing the next night at sundown. Or the music of Africa and China and South America and Asia, the music of bamboo and stones, of crickets and cicadas, of water-wheels and waterfalls, uninterrupted for hours – just as they are in the making.

For many of these themes we will have to move out of the studio. But why not? Get out into the open. Go into the streets, the meadows, the jungles and the ice fields. Create from there. Flip the whole broadcasting model around and you will be amazed at what new ideas surge within you. You will need new equipment but that will follow. Stake out the new territory and it will be designed for you – a microphone to record the percussion of the battlefield, plunge into the ocean depths or catch the vibrations of molecules.

It's nearly fifteen years now since we began to produce a series of radio programs entitled *Soundscapes of Canada* for CBC. In one program we traveled from Newfoundland to Vancouver by splicing together all the answers received to the question 'How do we get to...?' What the listener heard were directions on how to get from one village or town to the next, clear across the country, given in all the dialects and languages from every region in between. Another program consisted of nothing more nor less than three bells from a village church in Quebec. Another had all the sounds of games recordists had heard on their travels: outdoor games on sandlots and hockey rinks, indoor games on billiard and card tables, games with sticks and balls and words and counters, arranged in a montage that was almost musical. We once made a twenty-four hour recording on a summer solstice in the countryside near Vancouver, and from this, extracted two minutes from each hour to form a sort of circadian day and night. The CBC, who commissioned the series, were not very thrilled with it. They considered it boring. They had not learned to listen, as we had, with new ears.

It was a start. Radical radio is the means to do it. Radical negation and radical affirmation. The creatively destructive and the destructively creative. It is a Nietzschean theme, but it is more than

that. It is the theme of the living universe. Place your microphones there and you will catch the voices of the gods. For they are still there, Osiris in the inundation of the waters, Mercury in the alchemist's fire, Thor and Typhoeus in the storm clouds, and the voice of God everywhere.

This essay was previously published in *Ear*, Winter 1987.

Piano Transplants (1968-82)

Annea Lockwood

1. Piano Burning (1968, London)

set piano upright in an open space with the lid closed. spill a little lighter fluid inside, near the pedals, and light.

staple inflated balloons all over it. play whatever pleases you for as long as you can.

2. Piano Garden (1969-70, Ingatestone)

dig a sloping trench and slip an upright piano in sideways, so that it is half interred. plant fast growing trees and creepers around and under the piano. do not protect against the weather and leave the piano there forever.

set the piano down amongst young trees.

3. Piano Drowning 1 (1972, Amarillo)

find a shallow pond in an isolated place. the pond should have a clay bed. anchor it (by rope to a stake) against storms.

slide piano into position vertically, just off-shore.

take photographs every month as it sinks.

4. Piano Drowning 2 (1982, Rimini)

bolt a heavy ship's anchor chain to the back leg of a concert grand.

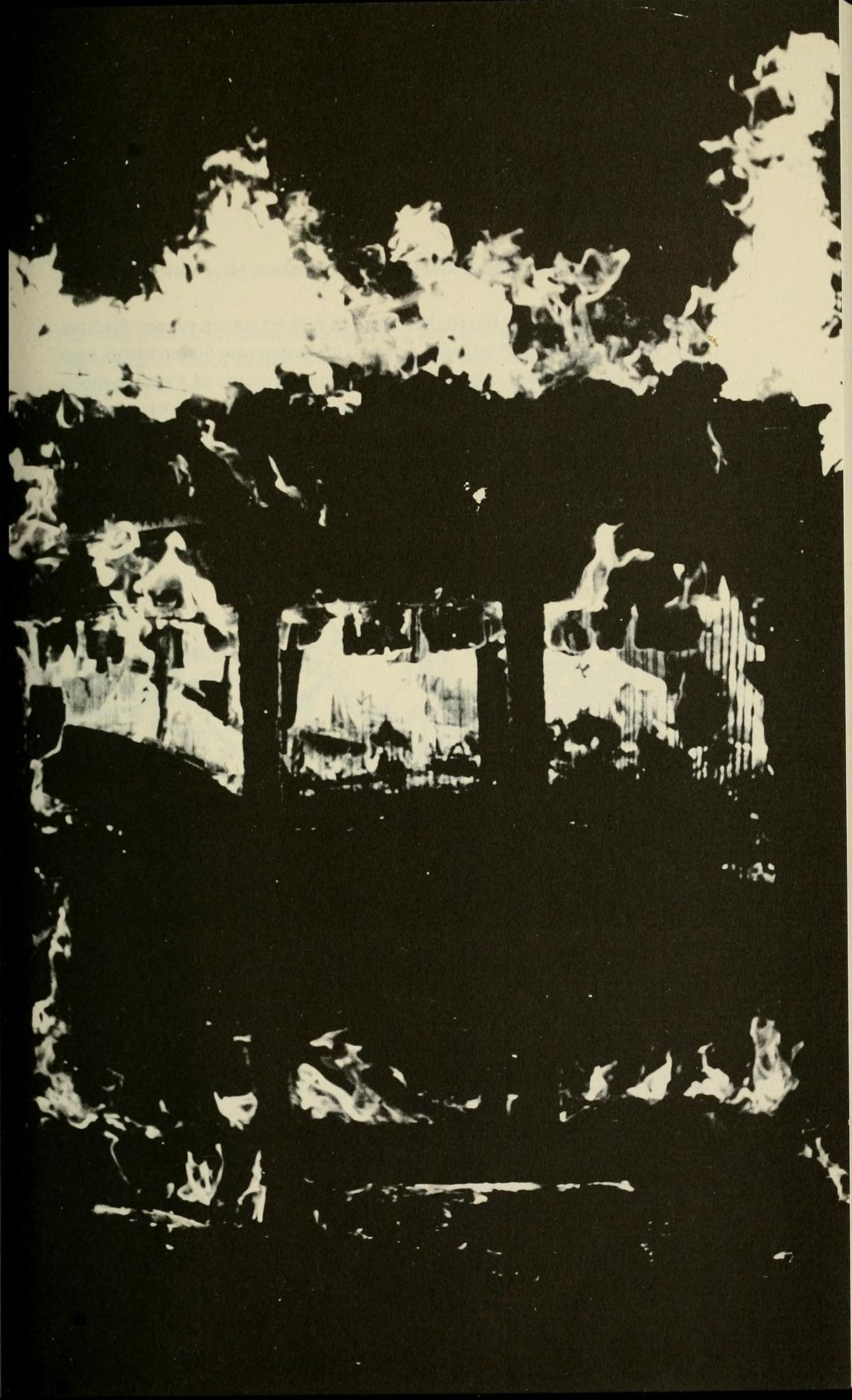
chain an anchor to the piano leg and leave the piano there until it vanishes.

set the piano in the surf at the low-tide line at Sunset Beach near Santa Cruz, California.

open the lid.

Piano Burning

Best to use an upright piano – overtune the strings as high as possible so as to get maximum sound when they snap with the heat – cover two cheap dynamic microphones with insulation and fasten them inside the piano – place one near the hammers in the middle registers and one by the pedals and near the bass strings – feed the microphones to an amplifier – connect speakers to the amplifier – disperse the speakers throughout the area – be sure to wrap insulation around the microphone lead wires that are inside the piano and extend it to three feet outside of the piano – coloured balloons can be placed on the piano – also firecrackers and rockets, especially if the burning is done at night – another option is to have a seance for a figure such as Beethoven – note: to start the fire splash a small amount of kerosene at the back of the piano, in one corner, so that the fire spreads slowly.

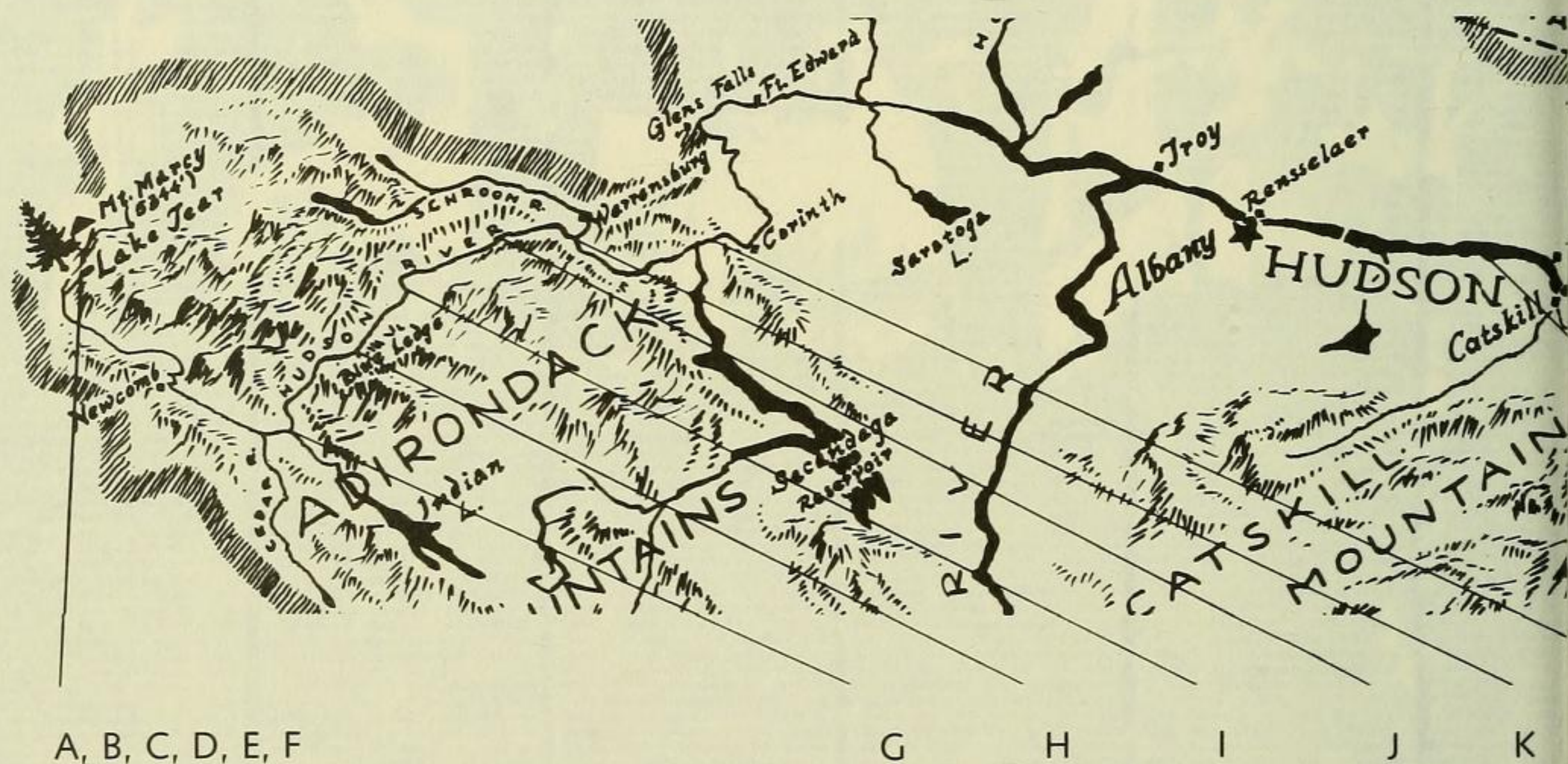


A Sound Map of the Hudson River

Annea Lockwood

(commissioned by the Hudson River Museum, Yonkers, New York, 1982)

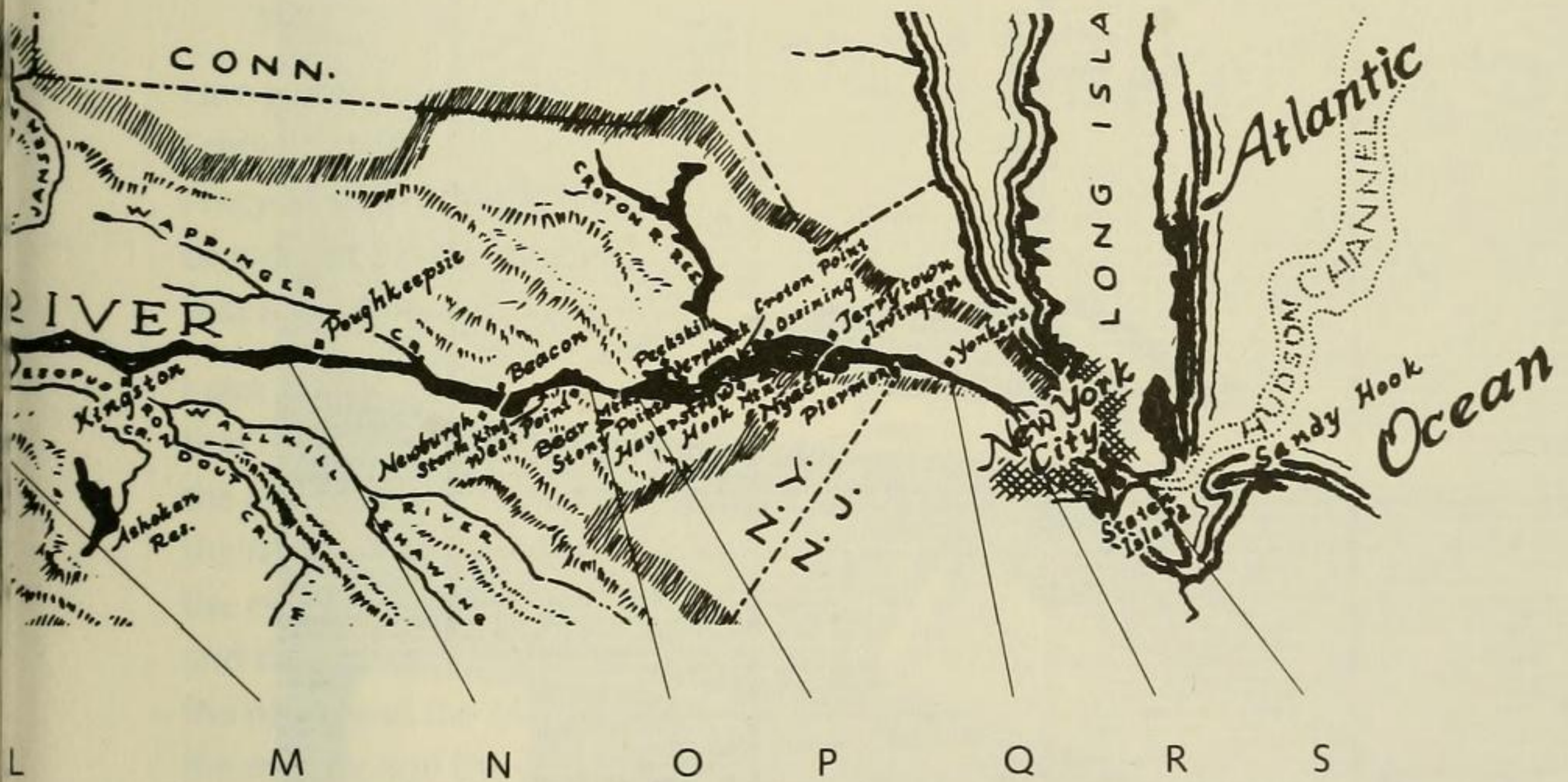
A two-hour aural trace of the Hudson from its highest source stream, Feldspar Creek, in the Adirondack Mountains, down to the ocean near Staten Island, near New York City. Many sites were recorded, during the course of a year, in mono and stereo along the full length of the river, excepting those areas of water stilled by weirs and locks. Each stretch of the river has its own sonic texture, formed by the terrain and modified by season and weather and, downstream, by human activity. The tapes are continuous and the sections are dove-tailed



- A. Lake Tear of the Clouds June 19, 1982 2 p.m.
- B. Feldspar Brook, a tributary of the Hudson June 19, 1982 12 noon.
- C. Calamity Brook, a tributary of the Hudson June 18, 1982 1 p.m.
- D. Lower Twin Brook, a tributary of the Hudson June 5, 1982 12 noon.

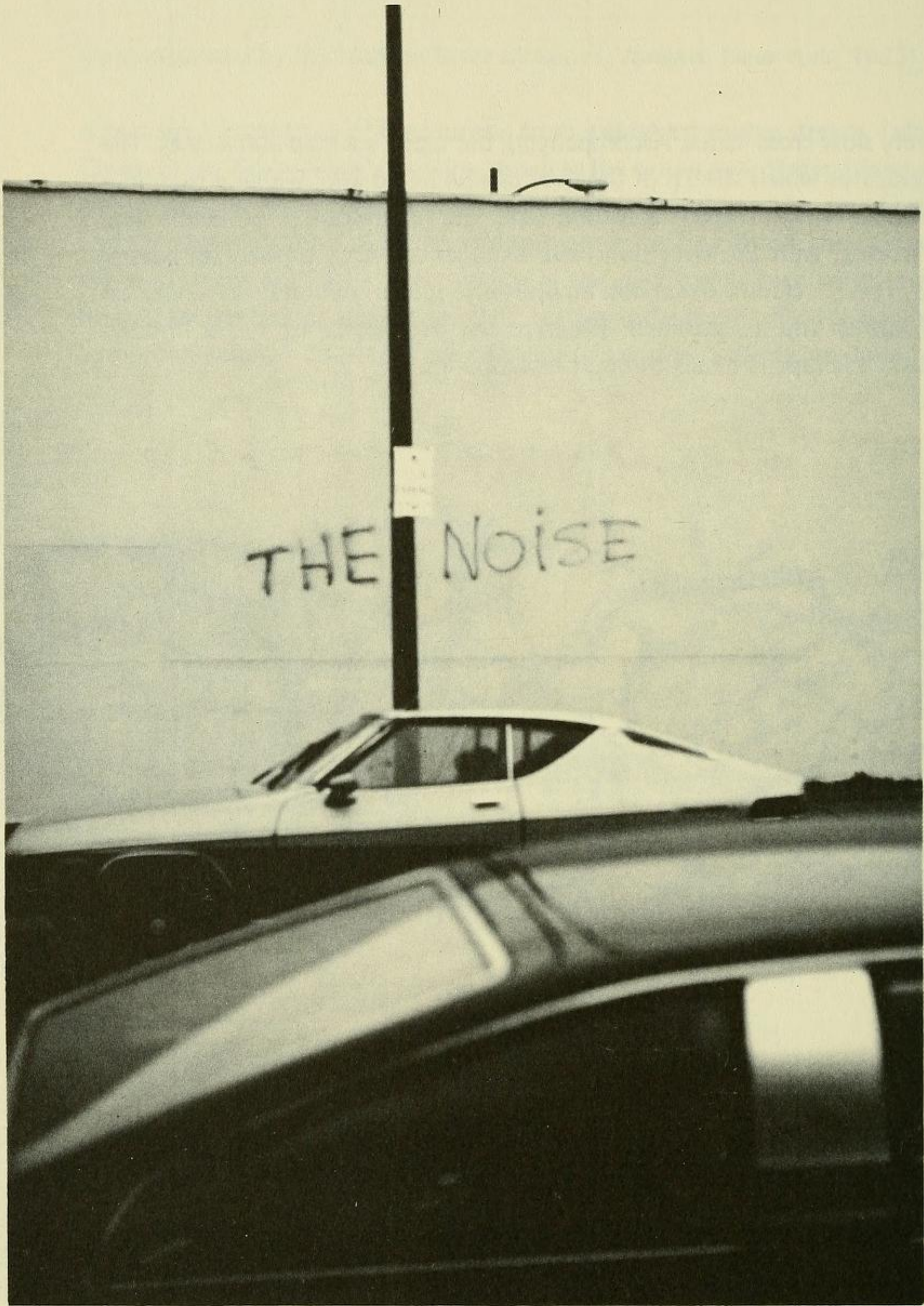
- E. Opalescent River, a tributary of the Hudson, June 5, 1982 10:30 a.m.
- F. Hudson River at Mt. Marcy June 5, 1982 8 a.m.
- G. Confluence of the Hudson & Indian Rivers October 22, 1982 11 a.m.
- H. Blue Ledge: the Gorge October 27, 1982 5 p.m.
- I. North River May 2, 1982 12, 7:30 p.m.

with very slow cross-fades. Accompanying the tapes is a map and a clock. The map indicates which stretch of the river can be heard and, within a two-hour time frame, when. There is a second tape: the reminiscences of people who have worked with the river and have experienced it as a powerful natural source. These include a river pilot, an upriver judge, an Adirondacks ranger, an island farmer and a fisherman. Whereas the river tapes are heard through speakers, this tape is heard through headphones.



- J. The Glen May 2, 1982 12 noon.
- K. Confluence of Patterson Brook & the Hudson River May 2, 1982 6 a.m. & May 1, 6 p.m.
- L. Luzerne May 1, 1982 3 p.m.
- M. Stuyvesant May 23, 1982 6 a.m.
- N. Staatsburg (the marina at Norris Park) April 26, 1982 6 a.m.

- O. Garrison October 31, 1982 5 a.m. & May 9, 1982 6:00 a.m.
- P. Iona Island & marsh April 17, 1982 5:30 a.m. & September 12, 1982 7:30 a.m.
- Q. Twombly Landing May 14, 1982 6 a.m.
- R. Englewood Brook Falls October 19, 1982 7 a.m.
- S. Great Kills Beach, Staten Island December 5, 1982 7 a.m.



Photos: Hildegard Westerkamp.

Cool Drool

Hildegard Westerkamp

A transcript of a performance work for voice and audio tape

Male announcer's voice: Easy listening music, 24 hours a day. Whether you're at home or away from home, let us keep you company. All day and all night. Set a special button for your favourite music. Stay and relax. All day and all night. In stereo. Whatever you're doing, thanks for having us with you. Thanks for having us with you.

I am a composer.
I recycle sound.
I recycle sound that is ignored,
sound that passes unheard,
that is not listened to.

I pick up the pieces
that have not been heard:
the noise and the silence,
the Muzak and the siren,
the child's voice
and the traffic,
the music and the Muzak,
the melody and the word.

I take the sounds in because
they enter relentlessly.
I grab them,
work with them,
let them out again,
so that you can hear them,
listen to them carefully
and find meaning in them.

I want to share that meaning.

female voices: oh oh yea yea
I love you more than I can say
I love you twice as much tomorrow
Love you more than I can say

male voices: oh oh yea yea
I miss you every single day
Why must my life be filled, with sorrow
I love you more than I can say

Don't you know I need you so-o
Oh tell me please I gotta know
Do you mean to make me cry
Am I just another guy

male & female voices:
ah ah ah ah ah
ah ah ah ah ah
ah ah ah ah ah
do do do do do

oh oh yea yea
I love you more than I can say
I love you twice as much to-morrow
Love you more than I can say
Love you more than I can say
Love you more than I can say
oh oh yea yea ...

Muzak was not created to be listened to. It is decoration with sound. It must be heard but not listened to. Let's listen to Muzak.

Laughter. An instrumental version of *Nobody Knows*. A tape loop of a man's voice: You wait again. After that you wait again, you know. That's all you can do. You wait for nothing ... (repeats).

I recently conducted a questionnaire in a medical building in Vancouver, one of those buildings with large open-area waiting spaces that are shared by several doctors' offices. I wanted to find out how consciously people perceived the

background music that is piped into these spaces and what they thought about it.

The most surprising thing that I found was that nobody objected to the Muzak, no matter what age or sex, no matter what their state of mind or body was. Everyone found it soothing, relaxing and restful. One person found it 'dull but benign.' Everyone wanted the music left the way it was. One wanted it louder. One woman said she found it objectionable because as she was filling out the questionnaire she started to think about the music.

Normally people have a very particular musical taste and will refuse to listen to anything that does not fit this taste. Why did everyone then accept the Muzak in this space? Let's think about this for a minute.

It is an anonymous waiting area. People are strangers to each other. The only thing they have in common is waiting. Waiting time usually means boredom, passivity, a time in limbo. It is a time when we are most receptive to distractions, when we are vulnerable to outside influences, especially while waiting for a doctor's appointment. Not only are we waiting but we may also be in pain or feel anxious.

In such an environment, even this music, with its hints of familiar tunes, serves as a welcome distraction.

I want to listen to background music because it affects me. The worst schlock can make me cry, especially if it is in a minor key or if it's a Christmas song or if I feel vulnerable. It makes me angry when that happens.

We are all sophisticated listeners here? How can we stoop so low and helplessly sink into the swamp of Muzakland? It is interesting to note that between 1963 and 1971 the Muzak Corporation was a wholly-owned subsidiary of the Wrather Corporation, who also owned the *Disneyland Hotel* and the TV film series *Lassie*, *The Lone Ranger* and *Sergeant Preston*.

It seems politically and ideologically incorrect to cry to the tune of Muzak.

Nevertheless, it does affect me. If it affects me it must affect others. The Muzak Corporation itself, through its Human Engineering Laboratories, has done enough research to prove that it not only affects people but it affects them in very specific ways. I quote from Muzak's own publicity material:

People are encouraged to work harder and to be more relaxed at jobs which, by nature, may not be exciting or motivating.... The music should be barely noticeable and non-distracting: a soft fog, or music you can 'breathe.' It is not the music itself that increases production, but rather, the relief from the monotony of the work that music provides.

The sound of *Ave Maria*

We are at Eaton's. A few days before Christmas. This is the men's clothing department. Two loudspeakers are placed close to the cash register.

At this point someone asks the artist what is she doing. Her comment is, 'recording the music.'

The music invokes the image and atmosphere of a cathedral and thereby the memory of religious celebration. It creates a holy atmosphere around the cash register, transforming it into an altar. It is as if one is involved in a holy act while paying for the goodies.

An instrumental version of *Blackbird*

Recently Muzak announced plans to enter the 'foreground' music market. It would market a service based directly on record company releases and would not re-record these as the Muzak background service does.

This could very well mean that the background music service of Muzak has lost its competitive edge, since the recent appearance of 'foreground' music producers on the market. Perhaps also Muzak, in the traditional sense, is simply not heard any more. Here is an advertisement for 'foreground' music:

You know about background music. Lots of strings. Forgettable melodies. Music that just lies there. Foreground music isn't like that at all. It is meant to be heard, with just enough presence to be an active, enjoyable part of people's dining, service or shopping experience.

I had a dream about a 'fast-music-place' sort of a MacDonald's for music. It is a place for tourists. There were instruments that were made available. Everyone was trying to make music together but nobody had much time so, nobody bothered to tune their instruments, nobody listened.

The sound of applause.

Listening and Soundmaking: A Study of Music-as-Environment

Hildegard Westerkamp



It is my claim that the music we encounter in the public sphere of the urban soundscape (music-as-environment), constitutes a dominant voice, throwing the relationship between listening and soundmaking off balance. Not only does this music have the power to silence us but it can also change our relationship to listening, that is, it can make us passively accept what we hear. Music-as-environment has become an inescapable presence in the public sphere of our lives. Via the loudspeaker, it is transmitted into shops, malls, restaurants, lobbies and banks, onto sidewalks and over telephones. It has become an environmental sound in the urban landscape. It is acoustically interwoven and perceived simultaneously with other sounds in the environment. This music-as-environment is a widely accepted, often desired sound which is at the same time ignored.

Music can be defined as environmental when it accompanies the activities of daily life. In other words, when the activity is the focal point and not the music. This definition applies to any music that has been put into the environment with or without our choosing and

with the specific purpose of forming an acoustic backdrop to another activity. There is an inherent contradiction in music-as-environment: the more of it there is, the less it is listened to; the more its presence suggests a musical status quo in the soundscape, the less we tend to use our *own* voices to make our own music. It has the power to reduce us to passive listeners and discourage us from soundmaking. It can, in fact, rob us of our desire to listen and make sounds.

Music-as-environment channels a basic cultural need in us for active participation in music and soundmaking into the activity of commodity exchange. Music-as-environment sets the tone for many people's favourite pastime: consuming. It puts us 'in the mood' and may give us the illusion of partaking in a cultural event. Music-as-environment has been placed squarely into the realm of commerce. It is the voice of money and as such is given authority and accepted as a dominant voice – one that has the power to replace our own voices. It has become a necessary presence for many people and, ironically, perhaps the only one that provides some kind of atmosphere in our urban existence:

Today, it is unavoidable, as if, in a world now devoid of meaning, a background noise were increasingly necessary to give people a sense of security. And today, wherever there is music there is money.¹

Music-as-environment, itself a commodity, determines the tone of commodity exchange. It is a fetishized object that conceals, through its very 'tone,' its relationship to money and power, its function as mediator of human relations and its functions as 'mood-setter.' Without it, or so its producers would like us to think, we may not be able to interact; may not feel safe.

Music-as-environment engulfs us acoustically, shuts out the problems of the outside world and creates the illusion that the consumer environment is 'where the action is.' It has established itself as a cultural system, a 'place' in the world, the 'womb' of twentieth century urban living. But it is a false womb. It does not provide basic physical and spiritual nourishment to us as it can only exist inside the world of money. Poor people will not find nourishment there. When we examine the historical development of music-as-environment it becomes obvious that its 'voice' has become louder and more present in the urban soundscape. It started out as quiet background music that was barely noticeable. However, the new style of leased

music that has recently emerged is more aggressive, usually louder and is called 'foreground music.' This latter style is original music, not re-recorded or re-orchestrated as background music is, but performed by the original artists.

Muzak by Muzak was the first company that played a major part in introducing background music into the environment and as Jacques Attali says, 'one of the most characteristic firms dealing in the music of silencing.'² Its appearance as an antidote to lo-fi soundscapes and stressful work situations laid the basis for the widespread acceptance of music-as-environment. Its very specific philosophy and the specific intent behind its 'psychological design' have largely been responsible for its success. Music-as-environment laid the foundations for the domination of one sense of time over all other senses of time.

Muzak originates in the United States, which calls itself a democracy. Yet Muzak and its manner of transmission have all the qualities attributed to totalitarian regimes: tonalism; primacy of melody; distrust of new languages, codes or instruments; a refusal of the abnormal.

A detailed examination of these qualities may be in order here, since the quality of the musical sound itself can expose to the candid listener the ideological belief system that is at the roots of its design.

How does Muzak's quiet sound manage to be a dominating voice? The traditional Muzak sound is 'engineered' music. Familiar tunes, varying styles of music and musics from other cultures are absorbed, melted and blended into a uniform sound of background music. This sound is mostly instrumental and rarely contains solo voice or lyrics. It is the sound of a string orchestra, quietly undulating in and out of song and in and out of silence. It never provokes the listener's ears.

If in its overall sound, Muzak is a melting pot of varying styles of music; it is, within each individual tune, a melting pot of two opposite sounds: the sound of the dominant culture (the orchestra) and the sound of popular culture (the tune / melody and sometimes the beat). The orchestra gives timbral, textural and structural shape to the melodic line of the popular tune. On the micro-level, this is an example of the containment of popular culture within dominant culture. The orchestra is the dominant voice, the sound that sets the tone of the selected pieces that are to be re-orchestrated under this system.

Another kind of containment is achieved in the way the Muzak is presented in most environments. The loudspeakers are positioned evenly over the whole space of a mall, restaurant or supermarket, to ensure that the customer never gets away from the influence of the Muzak. This is as much a part of the intentional design as the Muzak itself. In addition, Muzak comes from above, as the speakers are usually installed in the ceiling. As a result Muzak tends to have a celestial, angelic sound (as of a thousand strings). It is not just the instrumentation that causes this but also the acoustic properties of the loudspeakers themselves. The frequency range that they transmit is fairly narrow, with emphasis on the middle and high frequencies and poor response in the low. This brings out the high string sounds in particular.

Every so often one hears a familiar tune. When this happens the listener's perception shifts, yet never quite into the foreground, because even the familiar tune does not jump out at the listener. It is safely embedded in the same format of orchestration: it is not the original setting of the tune. It is like seeing a friend from a distance, feeling a bit of joy about this distant vision but never actually meeting. It will liven one's perception (stimulate) for a short time and possibly give a glimpse of pleasant emotions but then it will pass. In other words, the music not only undulates in and out of the ambience, it also creates undulations of emotions in us that we are only vaguely aware of and that we can hardly prevent from happening. Familiar tunes remind us of certain times in our lives and of emotions associated with those times. Even if the tunes are not directly known to us, they often resemble a mood and an atmosphere that is familiar. They conjure up a mood and they impose that mood onto the environment. And Muzak itself is well aware of this effect:

Functional music is designed to have a definite effect on people in a store, plant or warehouse. It effects their moods and attitudes and makes them feel better.³

To speak of Muzak is not just to speak of a specific musical sound but also of an ideology that is deeply rooted in North American culture:

Muzak is the logical product of the melting pot ideology which seems to find its highest cultural expression in Disneyland, *The Lassie Show* and *Lawrence Welk*. True, it brings together music from several countries

(primarily Western European or those heavily influenced by Western European culture) ... but this music is, to use Muzak's own words, absorbed, melted and blended into a bland, characterless, colourless concoction.... No matter what country the music comes from, it ends up, when Muzak is finished with it, sounding Americanized.

Muzak penetrates every one of us a little bit, no matter what socio-cultural background we come from. It does this by absorbing, melting and blending various styles of music from different cultures into the uniform sound of background music. By doing this, it in fact 'melts' the musical and cultural vitality out of them. It establishes itself, with the help of the tools from so-called high culture, as the dominant musical sound that can contain all musical sounds, even if they were once oppositional. The essence of the melting pot ideology lies in the dissolving of cultural vitality – the silencing of voices – of which Muzak is the most sinister expression.

Muzak's success lies in the fact that it has been in existence for years with little protest. People have accepted it as an acoustic backdrop to their lives, their work and their leisure activities. It has masked noise and has managed to mask problems that underlie a stressful work station. It has created environments of human silence, where people neither listen or make sound.

Foreground Music

Moody's 1981 industrial manual states that 'Muzak announced plans to enter the foreground music market.' Up until that point Muzak was a background music producer and as such was successful in creating the distracted listener. The new style of leased music, called foreground music, is more aggressive in its presentation. It consists of original hits by the original artists and the musical license is purchased from ASCAP, BMI, CAPAC, PROCAN, etc. When one hears foreground music in a public place it is usually played at a higher volume than Muzak. It has an uninterrupted, more driving flow. It is a sound that wants to be heard and listened to. It is a sound that wants to be present and to participate in the listeners' lives. Often this music is heard in smaller contexts such as trendy dentist offices, stylish clothing stores or restaurants – in places that have popular appeal to a younger clientele. The music is not only designed

to suit the 'moods of the day' but also to suit various styles and tastes of the 1980s:

musical selections are based on demographic appeal to specific age groups and eras, and by tempo.

The fact that foreground music is so successful probably means that the background music service of Muzak may have lost its competitive edge. Perhaps Muzak, in the traditional sense, is simply not heard anymore. It is interesting to note that, with the emergence of foreground music, Muzak has given its traditional background music a new name: Environmental Music by Muzak. With this naming the Muzak Corporation is officially stating that its background music is, indeed, an ambient, environmental sound which is ignored like all other urban environmental sounds. By contrast, here is some advertising for 'foreground music' from EMS in Seattle:

Foreground Music. The Competitive Edge. It's not just background music anymore.

AEI (Audio Environments Inc.) advertises in a similar vein:

You know about background music. Lots of strings. Forgettable melodies. Music that just lies there. Foreground music isn't like that at all. It's meant to be heard. Meant to make your customers excited to be in your establishment. With just enough presence to be an active, enjoyable part of their dining, service or shopping experience.

Where background music wants to create a hidden relationship to money, foreground music is explicit about its overt connection to money-making. The cover of the AEI foreground music pamphlet, states, 'we can teach you how to make money playing music.' And on the back cover can be read:

Teach your cash register to sing with foreground music from AEI. It's the most beautiful music of all. The ringing of increased sales. And it's part of the music you'll be hearing when you install an AEI foreground music system. So call our sales representative today. And learn how to make money by getting into music.

Foreground music tends to consist of an uninterrupted flow of sound: silence is avoided. The intention behind this is similar to that of background music: do not startle the listener into a more alert listening stance. With foreground music, silence would be a mistake

because it would interrupt the established flow and thereby the established perceptual stance. In the background music context, the listener is kept in a passive listening stance because the music moves quietly in and out of silence. In the foreground music context, the listener is kept in a continuous state of stimulation because the fast pace never changes. The end result is not that different. Because there is no change and no surprise in the overall flow of sound, the ears lose their alertness and become passive receptors of an even louder and more aggressive musical sound.

However, even though we are hearing original music, the overall musical sound of foreground music has a certain uniformity. The fact of the matter is that a lot of 'original' music is created to fit into this uniform format:

It is not that song has become more debased; rather the presence of debased songs in our environment has increased.⁴

Even though foreground music producers supply a variety of musical styles, the overall acoustic impression one gets from hearing music-as-environment is one of sameness. The music functions merely as an accompaniment and its listeners' distraction gives the impression of uniformity.

Foreground music differs from popular music in that it excludes certain types of popular musical production. More specifically, it excludes music that has an oppositional voice, a voice that comes out of subcultural groups, such as Blues, Reggae, New Wave, a voice that shouts out its suffering and that has something specific to say. Such music has its own unique voice which takes a critical stance towards society and questions or disturbs the status quo. Foreground music companies exclude this kind of music because it would startle or alert both those that would be alienated by it and those this music speaks to. Popular music, in its original sense, implies that the music comes out of a community with oppositional social relations to the dominant culture. If such music is eventually integrated into the foreground music market, it is because its oppositional quality has lost its edge. However, it does retain memories of an oppositional time that was meaningful for those who participated in its production. Hearing traces of those memories can give us a sense of connection and the feeling that we share something significant with the business or consumer context that plays the music. The music sets the tone and, as with Muzak, the emotions

and desires that it evokes get channeled into commodity exchange. This whole dynamic is much more in the foreground here than it was in the case of Muzak. The connection between music and money is an accepted one. It is indeed abnormal these days for a store not to have a musical voice, since the music is meant to reassure us that this is where we belong: this is 'our place' for consuming.

The various styles of foreground music have the same effect as Muzak: it takes us away from who we are at present. It takes us into an artificially created space, enclosed and isolated from the outside world; a space that speaks of another time. It is not our own voice we hear.

Notes

1. Jacques Attali, *Noise: The Political Economy of Music* (Minneapolis: University of Minnesota Press, 1985), p. 3.

2. *Ibid.*, p. III.

3. William C. Rogers Jr., Regional Manager for Muzak Corp., quoted in *Hardlines Wholesaling*, April 1978, p. 39.

4. Jacques Attali, p. 109.

VEC AUDIO EXCHANGE

Rod Summers

Way back in the late seventies, before knowledge of universal corruption became universal knowledge, there was a survivor from the sixties who, for unexplainable reasons and despite a career in the Royal Air Force, had managed to retain a few of his original brain cells in a more or less pristine condition.

This survivor had an idea which was going to change the world population's concept about how one c / should approach art without making musicians jealous that would challenge the very superiority of vision at the same time! You, being the intellectual type, will realize that we are talking renaissance format monumentality here.

In 1978 this same artist had just returned from a triumphant audio performance at the Student Union of Warsaw University's Social and Cultural Cellar. After pausing, only to remove his RayBurns and polish his brass tooth with *Gol-dodo*, he dashed off a quick letter to some artists / friends who had sent him audio tapes. In the letter he asked his friends for permission to allow him to collage the material they had sent him and to publish it on cassette. These friends were Paul Carter (England), Leonhard Frank Duch (Brazil), John M. Bennett (USA) and Anna Banana / Bill Gaglione (Canada / USA).

Having faith in their friend, all agreed. A noisy C60 was born, it was christened HERE, and the VEC AUDIO EXCHANGE was launched. It took less than six weeks from concept to posting of the first copies of HERE. The VEC AUDIO EXCHANGE project did not stop until a total of 16 different one-hour programs had been made.

The idea of making the cassettes *available by exchange only* was an integral part of the initial concept. The idea of *exchange* is a ground rule of mail art. My idea, to produce audio collages on cassette available in exchange for other audio works, obeyed this rule to the letter.

A further demand of mail art is that *everybody who sends is exhibited*. In the VEC AUDIO EXCHANGE everyone who sent tapes was represented on the programs. Information about VEC AUDIO EXCHANGE programs was distributed through the mail art network and was republished widely in mail art and underground publications. In 1982 I exchanged 340 copies of VEC AUDIO EXCHANGE programs for artists' audio.

Between HERE, published in 1978, and the final program TCHING (The End), published in September 1983, I sent out more than 1500 copies of the sixteen programs.

VEC is a blanket term for a project that is my personal investigation into poetic / artistic communication and I do not receive any official subsidies. Audio is an element of my work, not the whole. By 1983 the VEC AUDIO EXCHANGE was absorbing all my time and available resources. Postal charges increased viciously. More than 50% of the cassettes received contained new wave music. I was getting bored with making this particular form of audio collage and was becoming increasingly interested in the possibility of using a computer for poetic display and spoken presentation. Therefore, I decided to close the EXCHANGE for an unspecified period.

A further consideration for making this decision was that the two cassette recorders and the master half-track tape recorder were beginning to show distinct evidence of the amount of work that they had done and were becoming restrictively temperamental. Although I still intend to publish anthologies of collaged audio art and sound poetry when I replace the equipment, the VEC AUDIO EXCHANGE will not restart. It was a project specific to its time.

Of course, I could still change my mind about restarting the EXCHANGE.

It should be especially noted that it was the *audio cassette* that made the VEC AUDIO EXCHANGE project possible. The audio cassette is (still) the only truly internationally compatible magnetic recording format. They're still groovin' to VEC sounds on audio cassette from Kuala Lumpur to Buenos Aires and from Perth to Reykjavik. I am still dispatching copies of the programs to cassette deck owners world-wide.

In 1986 the Documenta Archive in Kassel bought a complete set of VEC AUDIO publications.

The next innovation for artists' use is the DAT recorder. With it we shall paint sound images on an invisible canvas. I shall instruct my computer to transmit my latest audio work to your computer. I advise you to use stereo headphones for play-back.

Radio days are here again.



Pedigree

1. HERE – C-60, 1st copy November 28, 1978, with / Rod Summers / Paul Carter / Leonhard Frank Duch / John M. Bennett / Anna Banana & Bill Gaglione / VEC.
2. LISTEN – C-60, 1st copy April 10, 1979, with / Paul Carter / VEC / Klaus Groh / Rod Summers / Tony Bradley / Carl Loeffler & Bill Gaglione / Betty Danon / Bob Davis / Eldon Garnet / Aaron Flores / John M. Bennett / Mani Leitner & Harald Issing / Ruedi Schill / Pawel Petasz.
3. CLEAR – C-90, 1st copy June 28, 1979, with / Ruedi Schill / Leonhard Frank Duch / Jenne van Eeghen / Marek Krolczuk / Adam Scott / Fahnmuhle Family / Robin Crozier / Vittore Baroni / Steve Hitchcock / Paulo Bruscky / Jockel Heenes / Tony Bradley / Ron Crowcroft / Abdada Leclair / Geoffrey Cook / Los Microwaves / Dave Forbes / Pawel Petasz / Larry Wendt / John M. Bennett / Paul Carter / Denis Zanoni / Herman Herdick & Henryk Gajewski / Rod Summers / Jesse Glass Jr. / Bris Burgess / Johan Cornelissen / Nicola Frangione / Tommy Mew.
4. GLISTEN – C-60, 1st copy September 20, 1979, with / VEC / Limmy Scheres / Klaus Groh / Nic Thompson / The Audio Players / Betty Danon / Philip Loarie / Marianne Heske / Diederick van Kleef / Nicola Frangione / David Zeck & Niels Lomholt / Geoffrey Cook / Richard Olson / Rod Summers / Marek Krolczuk / Bob Davis / Peter Below / Steve Hitchcock / Tony Bradley / Ron Crowcroft / Julien Blaine / John Duncan / Tommy Mew.
5. EARZEAR – C-60, 1st copy December 29, 1979, with / Paul Carter / Nicola Frangione / Betty Danon / Joyce Cutler Shaw / Tohei Horiike & Lon Spiegelman / Vittore Baroni / Leonhard Frank Duch / Klaus Groh / Rod Summers / Tony Bradley / Richard Olson / Gary Jacobelly / Ron Crowcroft / Paulo Bruscky / Pawel Petasz / Servie Janssen / Lou Schoonbrood / Witold Popiel / Michael Andre / Steven Berkowitz / Los Microwaves / VEC.
6. GATHERED HEAR – C-60, 1st copy April 2, 1980, with / Marek Krolczuk / Nic Thompson / Carel Lanters / Tom Winter / Diederick van Kleef / Idid Idid / Henryk Gajewski / Vittore Baroni / Philip Loarie / Bat Space / Pam Minor & Bob Davis / David Javelosa / The Audio Players / John M. Bennett & C. Mehrl / Jesse Glass Jr. / Opal L. Nations / Michael Gibbs / Bria Burgess / Ron Crowcroft.
7. SEPTIC – C-60, 1st copy October 1, 1980, with / Bat Space / Giovanni Fontana / Marek Krolczuk / Audio Players / Ron Crowcroft / Maurizio Bianchi / Michael Gibbs / Leonhard Frank Duch / Johan Cornelissen / Vittore Baroni / Lon Spiegelman / Klaus Groh / The Krauts / John M. Bennett / Magnus V. Gudlaugsson / Daniele Ciullini / Nic Thompson / Jurgen Olbrich / Paulo Bruscky / Bria Burgess & Janet Oye / The Statics (from Audio Arts edition).
8. STILL – C-60, 1st copy February 20, 1981, with / The VEC Spy / Tacky & The Original VECettes / The Renegade Dei Marmi / The Idid Idid Rockers / The Modern Farmers / Carlo Pittore & Bern Porter / Tilt / Artpool / The National Voice / Bob Davis / Rara / Brio / Jenne van Eeghen / Jurgen Olbrich & Rolf Behme / Organ Bank / Mental / Marek Krolczuk / Agnieszka Hamerska / Neils Lomholt / MB / C. Mehrl / Ruedi Schill / Lon

Spiegelman & Friends / Diederich van Kleef / Peter Below / I Rod & Winterfari.

9. ULISES' DOG – C-60, 1st copy July 28, 1981, with / Michael Bright / VEC / Tom Winter / Andrew Darlington / Ron Crowcroft / Dave King / Fritz Stier / Rod Summers / Giovanni Fontana / Jim Price / John M. Bennett / Kenneth Pobo / Suvi & Silja Leitner / Helenka / Carel Lanters / Klaus Groh / Piotr Rypson / Jesse Glass Jr. / Bria Burgess / Richard Kostenlanetz / Michael Gibbs / Opal L. Nations / Mario Rondi / Sylvia James / Stefan Weisser / Ruggero Magi / Jurgen Olbrich / Henryk Gajewski & I Spy / Daniele Ciullini.

10. PYTHAGORAS' BUDGERIGAR – C-60, 1st copy August 25, 1981, with / VEC / Mental / VEC2 / Idid Idid / Jim Price / Lt. Murnau / Rara / Charlotte Tease / John M. Bennett / Diederick van Kleff / Emilio Morandi / Die Endzeitakrobaten / Biagio Donati / Marek Krolczuk / Benjamin Allen / Mind Invaders / Marga & Brause Lutscher / MB / Ad de Koning / Maurizio Andrioletti / Carlo Pittore / Audio Players / The Audio Players / Ron Crowcroft / Modern Farmers / Die Krauts / Poprockers / Carel Lanters / Tacky / Lon Spiegelman / Philip Loarie / Peter Below / Bob Davis / Rod Summers / Nicola Frangione / Michael Bright.

11. GRATE – C-60, first copy January 7, 1982, with / Anna Banana / Morning Cure / Oscar Wagenmans & Carel Lanters / Event Group / Willem E. Bennett / Giancarlo Martina / Nic Thompson / Ben Allen / MB / Enrico Piva / Vittore Baroni / Ron Crowcroft / Bria Burgess & Gail Tolley / Nicola Frangione / Ruedi Schill / Eddy Fontaine / Dermot Mahon / Ward Weis / de Downers / Emilio Morandi / Jesse Glass Jr. / Robert I. Gillham / Piotr Rypson / Daniel / T. Lipinski / M. Krolczuk / T. Szczecinski / H. Hamerska / Henryk Gajewski / A. Hamerski / Kryzys.

12. RINGADE – C-60, first copy May 12, 1982, with / Druids Come Back / Guy Sherman / Vittore Baroni / Lon Spiegelman / Ken Montgomery / John M. Bennett / It Rasch / Mogens Otto Nielsen / Robert I. Gillham / Port Said / Thor Elis Palsson / A. de Koning / Diederick van Kleef / Dermot Mahon / MB / Bria Burgess / Enzo Minarelli / Andy Darlington / Amok / Sergio & Emilio Morandi / Ben Allen / Limmy Scheres / Carlo Pittore / Julien Blaine / Artfoot / Emmett Walsh-Post Industrialism / Magnus V. Gudlaugsson / Eddy Fontaine / B Sides / Les Chats / Christophe Bourseiller / Ginny Lloyd.

13. ETHER – C-60, 1st copy October 7, 1982, with / Tilt & Brygada K. / Idid Idid / Szkarosi / Ben Allen / Baroni, Bianchi, Ciani, Ciullini / Rob Cuypers / Pete Horobin / Mani Leitner / Richard V. Dellen / Monster Zonder Warde / Nic Thompson / Dislokate Klammer & Alex Igloo / Klaus Groh / Vittore Baroni / Peter Meyer.

14. HARK (Hard as you like) – C-60, 1st copy October 7, 1982, with / Asta Olafsdottir / John M. Bennett / Alexander Zeit / Dermot Mahon / Pete Horobin / Lady C. / Lugo / Sylvia James / Jannick Journaux / Richard Boulez & Henryk Gajewski / Erik Malzner / Serse Luigetti / Artfoot / Ruggero Maggi / Edgar Allen Bushmiller / Mogens Otto Nielsen / Jesse Glass Jr. / Richard & Lon / Bedeschi, Ponzi & Pittore / Ezio Abrile / Klaus Groh / Robert I. Gillman / Giovanni Fontana / Nicola Frangione / Furry Couch / Tentatively A Convenience / Morandi Conspiracy / Aeiou & Volker Hamaan / Alex Igloo & Dislokate Klammer / Brigada K.

15. AURICLE IN G – C-60, 1st copy February 1, 1983, with / Thor Elis Palsson / Jeff Stoll /

Pete Horobin / R. I. Gillham & Trev Faull / Carlo Pittore / Per Holmstrom / Lon & Friends / Carsten Schmidt Olsen / Daniele Ciullini / Bob Davis & G. P. Skratz / Peter R. Meyer / Magnus V. Gudlaugsson / Bria Burgess / F.O.M.T. / Dermot Mahon / Niels Lomholt / R. Stevie Moore / J. Christensen / C. Schmidt Olsen, V. Haman & J. Olbrich / John M. Bennett / Helgi Fridjonsson / Carel Lanfers & Deiderick van Kleef / Paulo Bruscky & C. Marcondes / Klaus Groh / Ben Allen & Friends / Ken Montgomery & Isaak Jackson.

16. TCHING (THE END) – C-60, 1st copy September 7, 1983, with / Rod & Tom / R. Stevie Moore / de Frabiek / Psycho / Dermot Mahon / Head Cheese / Peter Downsborough / Gustaf Mahler Band / Roland Zinders / Bob Davis & Soon 3 / Prima Boys / John M. Bennett / Finnbogi Petursson / Edition 23 / Tor Elis Palsson / Bulbo Raquided / Jesse Glass Jr. / Ruggero Maggi & Morandi Conspiracy / Anna Banana / Port Said / Opal L. Nations & Bob Amos / Radio Moscow / Larry D. Smith / Antoinette Tisa / Morandi Conspiracy / Pete Horobin / Aconite / R. A. Fielding / Paul Thomas / Alan Vizents / Portman-teau / Ubaldo Giacomucci / Erik Malzner / Mike Kane / Jeff Stoll / Trux / Ezio Abrile / Carsten Schmidt Olsen / Klaus Reichling / Richard Kostelanetz / Klaus Groh / Alex Douglas / Roberto Fischer / Frank Rogue / F.O.M.T.

Very Nice, Very Nice

Ihor Holubizky

Even a cursory glance at contemporary art activity in the twentieth century will reveal an astonishing range of artists who have, at one time or another, considered sound in some form: Marcel Duchamp, Jean Dubuffet, Alexander Calder, Robert Rauschenberg, Joseph Beuys, Dennis Oppenheim and Bruce Nauman, to name a few. Ironically, there is no work in 'sound' that has been accepted as significant in the history of twentieth century art, if one accepts the common practice of assigning such importance to individual works of art. Sound work and sound sculpture have been relegated to that unfortunate limbo accorded other 'marginal' and technological time-based works. If there are any landmarks in time-based works, they are accepted only in the context of popular culture. Therefore, *Citizen Kane*, not *Un Chien Andalou* or Syberberg's *Our Hitler*, is regarded as the most significant film of the twentieth century. *Sgt. Pepper* is praised as a major achievement in recorded music, not Cecil Taylor's *Unit Structures* or Robert Ashley's *Private Parts*, or any other non-pop record you care to name. Even Laurie Anderson, the most successful of the artists who have 'crossed-over,' is understood in terms of her work in pop culture, performance, films and recording, rather than her earlier sound sculpture and installation.

The problem in defining an aesthetic territory for sound sculpture is a complex one stemming from the nature of technology and its use in 'Fine Art.' As technology and automated functions become commonplace, the operation of technological tools become simplified. Anyone can shoot video. Anyone can take a photograph. Anyone can operate a sampling keyboard. Instant response becomes instant gratification. Consequently, the skilled practitioners, composers, musicians, filmmakers and others, find themselves distanced from the vernacular and may deliberately protect their craft through the mystique of the profession. For the general public, popular cul-

ture satisfies their aesthetic expectations and art alienates. For the artist working with sound, it is the worst of two possible worlds; disregard from 'those who know' for being naïve and undisciplined, and disinterest from the public, for being too egocentric.

A secondary, but critical issue is that we (and I use the collective term in a provocative sense) are generally oblivious to the sounds of our environment. We assume that sound is either noise, and therefore should be eliminated or ignored, or it is music and only worthy of attention if it falls within the cultural parameters of 'serious' composition or entertainment. If music can be seen as a formal act in organizing sound, the role of the artist in the twentieth century has been that of investigating alternative compositional systems. The Futurist painter Luigi Russolo proclaimed, in his 1913 manifesto *The Art of Noises*, that noise was born from the invention of the machine and was a viable form of music. Russolo gave his first performance of 'noise music' in 1913 using specially constructed sound projectors.

In 1937 American composer John Cage added to Russolo's concept in his essay 'The Future of Music: Credo.' Because we are surrounded by noise from a profusion of natural and man-made sources, Cage argued that these noises could be controlled and used as musical instruments or voicings. It would therefore be possible to 'compose and perform a quartet for explosive motor, wind, heart-beat and landslide.' Cage was in fact suggesting a new vocabulary for composition, one based on phenomenon rather than any existing scale system or notation.

His work led him to altering conventional instruments for deliberate effects; compositions for *prepared piano* utilizing a standard piano in which the strings were jammed with various materials that would either mute or increase resonance. Cage's explorations into alternative composition systems were eventually refined to his now (in)famous work *4'33"*, a piece in which the performer / musician sat at the piano keyboard for four minutes and thirty-three seconds, silently moving her / his arms three times (it was a movement in three parts) but not actually playing.

Cage set up a challenge to the hegemony of the composer as author and the role of the audience. Anyone understanding the requirements of *4'33"* could in fact 'perform' it without any level of technical skill or virtuosity. (How democratic!) But, like the democratic ideal in politics, the mere presence of such a system does not

automatically assure that the participants understand its consequences. Cage returned the meaning of composition to the audience and the audience was uncomfortable with that role because the issue here was one of critical perception rather than passive reception.

The most visible evidence of Cage's influence can be seen in the work that emerged out of the Fluxus group in the late 1950s (see Appendix A) and, specifically, in the work of Nam June Paik. Primarily recognized for his pioneering work with video and installation, it is often forgotten that Paik's training was in music. Paik became more than a mere disciple of Cage, even in the performance of many of Cage's works. His own *prepared piano*, *Klavier Intergral*, evolved over a five-year period (from 1958 to 1963) into an object, eventually being 'embalmed' in the collection of the Museum Moderner Kunst in Vienna. *Klavier Intergral* is still recognizable as a piano, but is quite obviously an instrument that only Paik could comprehend and 'play.' As such, it exists both as a symbol of Paik's concerns and approach to the issue of sound and performance and as a sculpture.

The equation of instrument and sculpture appears in a number of Paik's other works, but arguably, *TV Cello* (1971) is his most significant. Rather than starting with the existing instrument, Paik re-invented the cello through a mutation with the prevailing form of global communication: television. Three modified monitors, encased in plexiglass, replace the craftsmanship of finely worked woods. It is more than a visual pun. It embraces the concerns of audio and visual information. Paik's interest in this instrument predates *TV Cello*, having turned himself into a living cello for his performance of Cage's *26'1.1.499"* (1965).

The performer is the instrument. The instrument is the body. The body is sculpture. There are, of course, many convergences in the visual arts. In 1961, the Italian artist Piero Manzoni signed selected people as 'living sculptures.' Gilbert and George positioned themselves on a table, at the Sonnabend Gallery in 1971, lip-syncing to an English music hall classic *Underneath the Arches*. They described themselves as a 'sound sculpture.'

It is important to note that the interpretation of sound in the pictorial plane was explored by artists as soon as abstraction and the non-referential was embraced. Kandinsky's *Sounds*, a book of poems from 1912, included numerous woodcuts that suggested the phenomenon of music through colour and form. In the post Second

World War era, a generation of American painters found a sympathetic voice in the improvisation and spontaneity of the then emerging bebop movement. Ornette Coleman returned the compliment with his own abstract painting used for the cover of his album *Art of the Improvisors* (1960). And sitting as a watershed mark is the retinal charge and musical reference of Mondrian's *Broadway Boogie Woogie* (1942-43).

The Long String

The extension of the instrument – its deconstruction as a tool and its repositioning within a visual concern – has a continuous, if disconnected, history. Artists and musicians have, in many different countries, independently explored sound as phenomenon and the re-contextualization of the performance ritual. Max Neuhaus, like Nam June Paik, was trained as a musician but began experimenting with sound installations in the mid 1960s. Rather than locating a place for the audience, many of Neuhaus' installations were located where the unsuspecting passer-by would enter into its sonic range. Like Cage's *4'33"*, Neuhaus' work defines its space through the interval of sound and the viewer's discovery of what might be taking place. His installation, *Times Square* (1977), was one such intervention, in which electronically produced organ-like sounds are emitted from a subway grille at the intersection of Broadway and Seventh Avenue in New York. The sounds still continue twenty-four hours a day. In its visual anonymity, it becomes an integral part of the continuous sound environment and, ultimately, part of the visual associations.

Terry Fox produced a similarly ambiguous site work in a redevelopment area of San Francisco in 1978. Fox stretched piano wire of varying lengths in the basement of a building that had been razed. The immediate surroundings and ruins served as a sounding board, and his 'guitar,' as it was described in the media, was 'played' for a month. Existing somewhere between object (the reconstructed instrument), performance and intervention, its physical presence depended on variable elements of chance and phenomenon; the phenomenon of sound and the chance of an audience being present. After reading about it, people claimed that they had heard the work at a time when it no longer existed.

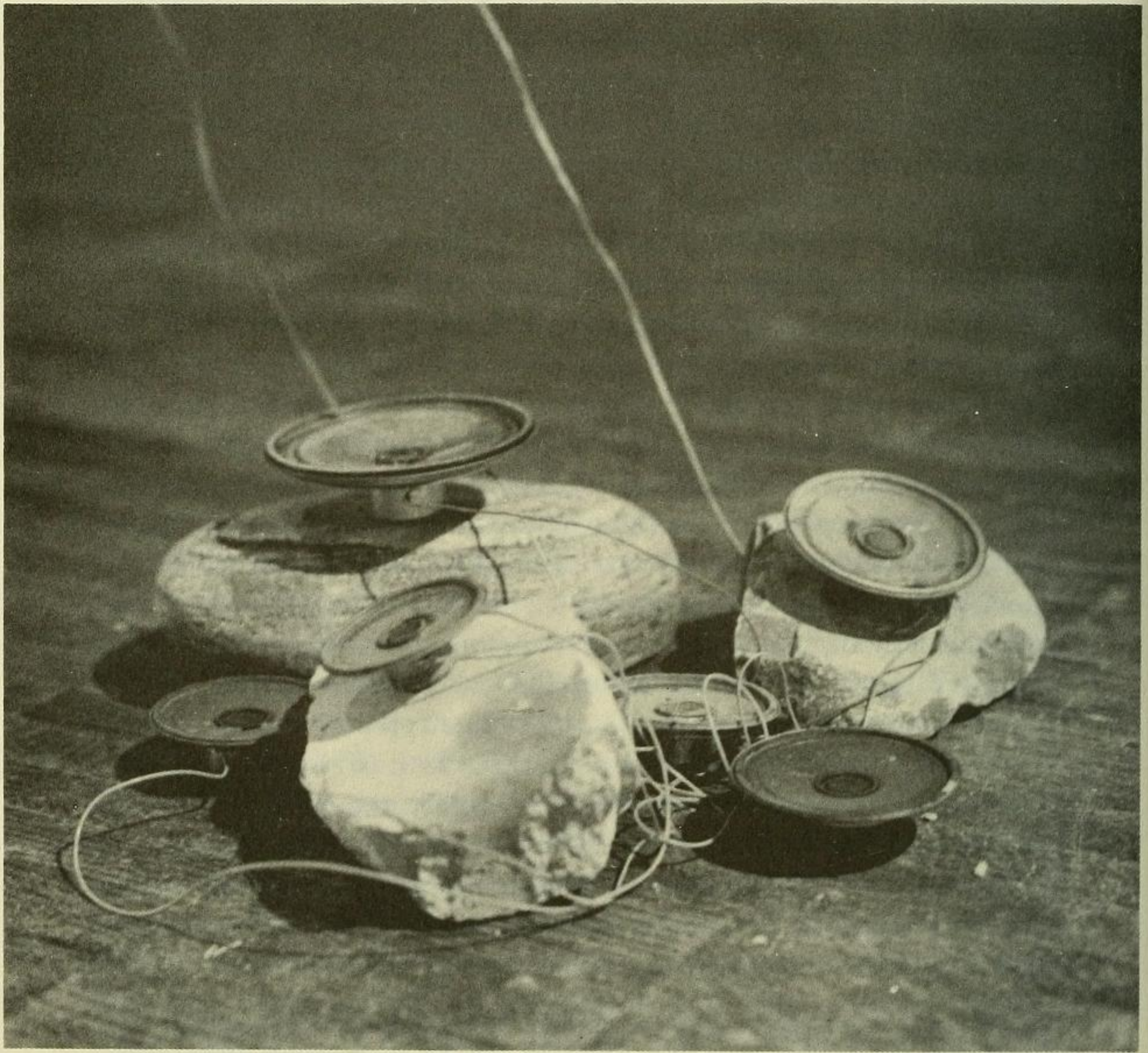
Paul Panhuysen and Johan Goedhart have collaborated on string

resonator installations, having executed more than forty such projects in North America and Europe since 1982. Although there is a common interest in the large scale and open-ended public event, Panhuysen and Goedhart have also re-introduced some formal aspects of performance (i.e. the presence of the performer) and have, for example, added electronically enhanced voice as a performance element into their installations.

Audio intervention in public spaces has also been explored by many Canadian artists and has been incorporated into permanently commissioned work by Norman White and Michael Hayden (see Appendix B). While it is unfair to single out any one project, Steve Higgins' untitled site-work from 1981 is an example of a clearly defined and well-executed public sound sculpture. Higgins constructed a one hundred-foot long wooden trestle-like structure that was installed along the water's edge at Harbourfront in Toronto. In spite of its imposing mass and scale, it did not appear out of place as this area was undergoing urban redevelopment. Higgins pumped sound from a tape source through an ABS pipe which was cradled along the entire length of the structure, emptying out, as it were, in the direction of an outdoor patio of a waterside restaurant. The sound tape was a compilation of noises one would associate with a waterfront urban environment; boats, machinery, etc. Several factors contributed to an audio dislocation. The structure itself could be viewed as passive, in that it could not be readily identified as the source. The question of source arose as soon as the lack of an audio-visual association was discovered (i.e. boat sounds, yet no boat). The sounds emanating from the pipe were also distorted, not enough to obscure them, but enough to give them a dream-like quality. The irony of Higgins' apparently urban-derived structure was that it was in part inspired by the Australian instrument, the didgeridoo.

There is, in all of these works, a deliberate strategy; to subvert the socially constructed conventions of experience, whether it is the gallery space or the concert hall. The sound wave does not depend on an enclosure. We receive its information merely by being within its sonic range. The body is the physical receiver. Terry Fox's statement from 1982 sums it up:

(Sound) enters the healthy ear without the impediments of language and prejudice. It enters the ear without the consent of the listener. It vibrates the eardrum. It requires no intellectualization.



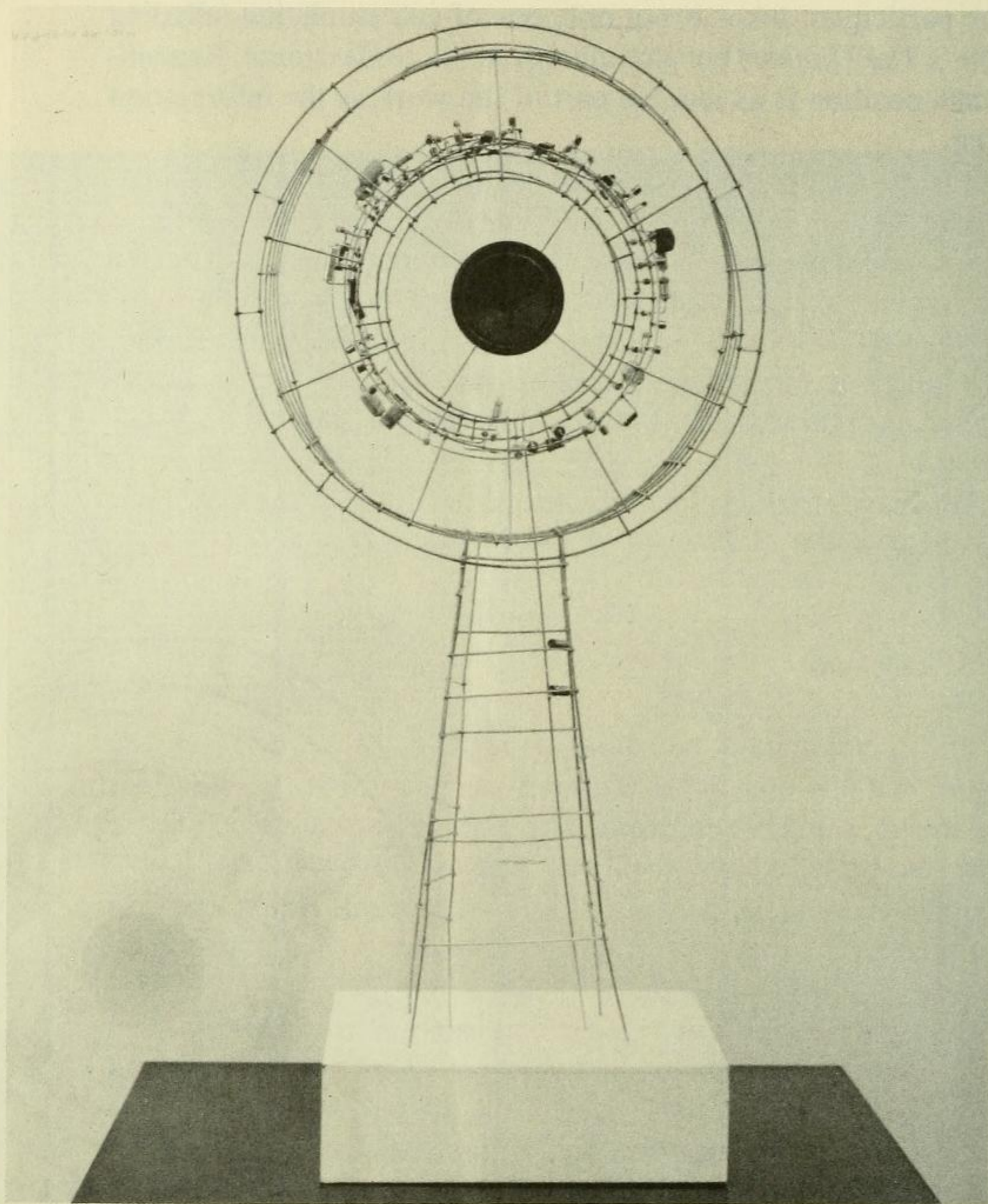
Julius, *Speakers Breathing*, 1986. Photo: Ihor Holubizky.

It is possible to alter even this experience of sound; to provide a context where that experience is physical and internal and not part of a collective experience. Laurie Anderson's *Handphone Table* (1978) is one such work. A photograph directs the participant to take the 'correct position' at a non-descript table, to sit with hands clasped over the ears and elbows resting on the edge of the table. The body becomes a physical link between the taped audio source hidden inside the table, the table itself and the body as resonator. The position the participant takes is not only one of contemplation (alluding to Rodin's *The Thinker*) but also alludes to the confessional. Remaining in this position is as much a part of the work as the information received.

Berlin artist Julius produced another work of engagement, entitled *Music for the Eyes* (1981). The listener is instructed to lie on the ground and place a set of small speakers over their eyes. The low volume audio track is 'heard,' as the title suggests, through the eyes. Like Anderson's *Handphone Table*, the listener is not only in a vulnerable position, but is also cut off from any visual information. Sound becomes the dominant sensory transmitter, and the body, for the duration of the experience, is completely and physically engaged in that single act. In both works the listener is as much the performer as in Nam June Paik's *Body Cello* performance.

The Plot Thickens

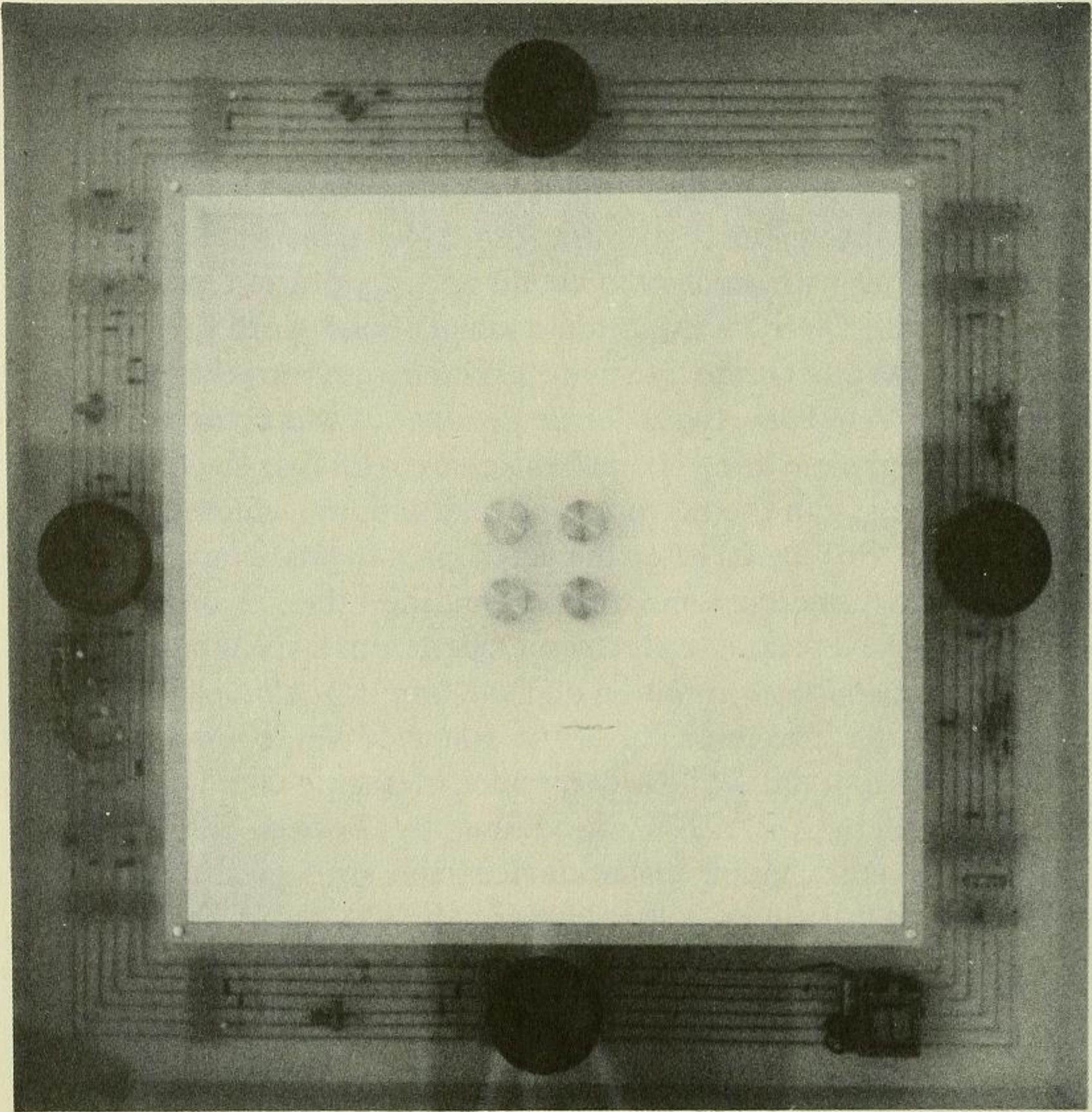
Given the development of sound, from Cage's performances to Neuhaus' installations, it is important to backtrack and consider other paths that have been taken. The embrace of the machine age, as suggested by Russolo's manifesto, opened up the possibilities of using any sound-producing device as an instrument. An unverifiable anecdote concerns the late Canadian filmmaker Arthur Lipsett and his interest in mechanical sound phenomenon. He was discovered one day sitting on the floor of his living room, surrounded by electrical appliances, all turned on and frantically whirring, buzzing and grinding. He made the claim (excuse) of a post-literate communication with 'them.' If the machine could be brought into the realm of instrumentation, then it was also possible to consider the machine as a surrogate for the performer, as the interpreter of the music and, even, as the composer – the creator of the music.



Peter Vogel, *Rondo*, 1975. Photo: courtesy the artist.

The Swiss artist Jean Tinguely was one of the first artists to explore these ideas through his de-constructed machine sculptures. In Tinguely's work, *Radio Sculpture* (1962), the housing was removed and the functioning components were allowed to act as the structure: function as form, rather than form following function. In *Homage to New York* (1967), Tinguely incorporated a piano with other mechanical elements, which consumed themselves in an act of celebration and self-destruction. For his retrospective at the Tate Gallery in London (1982) he constructed the ultimate mechanical band spectacle. Wheels rolled along electric organ keyboards, mallets swung down onto drums and cymbals, all set into motion in a purely behavioral and cacophonous manner. How is it possible to judge the merit of this machine music? There are no issues of interpretation or virtuosity. Years of training in the academies are reduced to anarchy and the archaic.

It was inevitable that the potential of electronic technology would be drawn into this work. Experiments in Art and Technology (E.A.T.) was only one of many collaborative groups that were formed in the late 1960s (see Appendix A). At the same time there were artists working with electronic sound and sculpture. German artist Hans Joachim Dietrich exhibited a small sound work for the 1971 New York Avant Garde Festival, entitled, not surprisingly, *Object for the 9th New York Avant Garde Festival*. It was comprised of a small cloth bag, measuring six inches square with two electrical tester leads hanging from the bottom. The instructions, which were written directly on the bag, directed the participant to hold one of the leads and to touch someone who was holding the other. A capacitance circuit emitted a primitive electronic buzz from a speaker hidden inside the bag: an ironic variation on Duchamp's *Sculpture With Hidden Noise* (1916). The intensity of the sound depended on how hard you were holding on, while any number of people could complete the audio chain. Dietrich's sound sculptures, from the late 1960s on, incorporated similar visual devices and strategies, in the form of concealed electronics, either triggered by viewer interaction or programmed to repeat at random. (One of these works was an homage to the late saxophone player, Albert Ayler.) The impact could be both brutal and serene, creating a contrast between what the viewer / listener could or could not see and the shock of the sound experience. Two other German artists working at the same time were Peter Vogel and Walter Giers. Vogel's sculptures incor-



Walter Giers, *Quadrobild*, 1973. Photo: courtesy the artist.

porated the electronic components into a visual structure, an extension of Tinguely's 'function is the form.' Many of these pieces were constructed as tower-like objects with a discreetly placed photo-cell included as a triggering device. Like Vogel, Walter Giers also incorporated electronic components directly into his works. Many of Giers' works were wall-mounted (literally sound pictures) and covered with clear plexi-glass but unlike Vogel's work they had specific and repeating electronic audio programs.

The distinction between the sculpture as surrogate performer and as object in performance (Paik, Fox etc.) is that, as surrogate, the decision process is to a large extent held outside of any subsequent intervention by the artist as author or performer: the works take on a life of their own.

To come full circle, American sculptor Norman Andersen takes existing instruments and re-constructs them to operate in a mechanical /behavioral mode. Rather than existing as machine-instruments, Andersen's works perform in a 'natural' way, re-inventing the music rather than the tool. They are closer in spirit to the instruments created by American composer Harry Partch in the late 1950s and 1960s, than to the machine sculptures of Tinguely. If a distinction can be made, sound enters Tinguely's work as a consequence of his interest in the mechanical, but Andersen's interest in music and sound leads him to making sculptures. To the trained ear there is no difference. To the untrained ear there is a world of difference.

Falling Asleep Watching Films

We are, by and large, conditioned to receiving sound from a specific source and as a result the association of sound to place or object become inseparable: the choral chant and the cathedral, the power cord and the electric guitar, the pop song and the 45 rpm record, to name a few. The association of sound source however, is best understood in film. Without re-animating the debate within film theory it is (relatively) safe to say that in its entertainment form film sound has been utilized in limited ways. Sound effects serve to reinforce action. Dialogue expresses character and carries the narrative. Soundtracks (music) evoke the desired mood of place and time. However, in the hands of the filmmaker as author, sound can and has functioned as an autonomous component. In Arthur Lipsett's short

film, *Very Nice, Very Nice* (1960), the soundtrack was constructed before the images were. The soundtrack was taken from found audio footage and served as an equivalent of the aural experience in contemporary urban life: snatches of conversation, noise and sound vignettes. As such, the soundtrack has an existence and meaning independent of the images, which like the soundtrack were collaged from existing stills and footage. The marriage of the two results in a composition, that is, on one level, humorous and ironic and, on another, terrifying. Because there is no story-line or conventional narrative we become voyeurs to Lipsett's view of the condition of our species in contemporary Western society.

Lipsett's use of sound is remarkably fresh and relevant 25 years later and many of the sound editing devices he used have appeared in other forms, from the found sound elements in popular music (the Byrne / Eno collaboration, *My Life in the Bush of Ghosts*, is only one example) to the radio broadcast performances of New York artist, Nicolas Collins. The manipulation of language and meaning in experimental film and recorded music is only a contemporary manifestation of a long-standing exploration by artists. Braque and Picasso incorporated words into the Cubist pictorial plane, so that its meaning could be considered outside of cultural usage. The Dadaists, in the 1920s and 1930s, investigated oral venues for the abstraction of language through sound poetry, the spoken word and oral 'gesture,' which had an equivalent in the non-referential approach to painting and sculpture. Tone intonation and cadence became the expression in Kurt Schwitter's sound poetry and he eventually performed his *Die Ursonate* (archetypal sounds) on radio in 1932. The broadcast medium was turned into a technological canvas.

Unencumbered by cultural references, language, like an instrument or a compositional system, can be de-constructed or, re-contextualized in order to retrieve its meaning. The works of Canadian artists Ian Murray, Ian Carr-Harris and Joey Morgan provide examples of this re-contextualization and form only a small part of a body of work appearing in the past 20 years that incorporates sound as a critical element and catalyst: a re-engagement of oral history.

Ian Murray's *Tutorial* (1977-1980) presents a situation of physical dislocation for the viewer, a space that denies the possibility of any perceptual crutch or external reference. To walk, or more appropriately stumble, into *Tutorial* is to enter into a black hole where the only references are after-images of object, place, sound and mean-

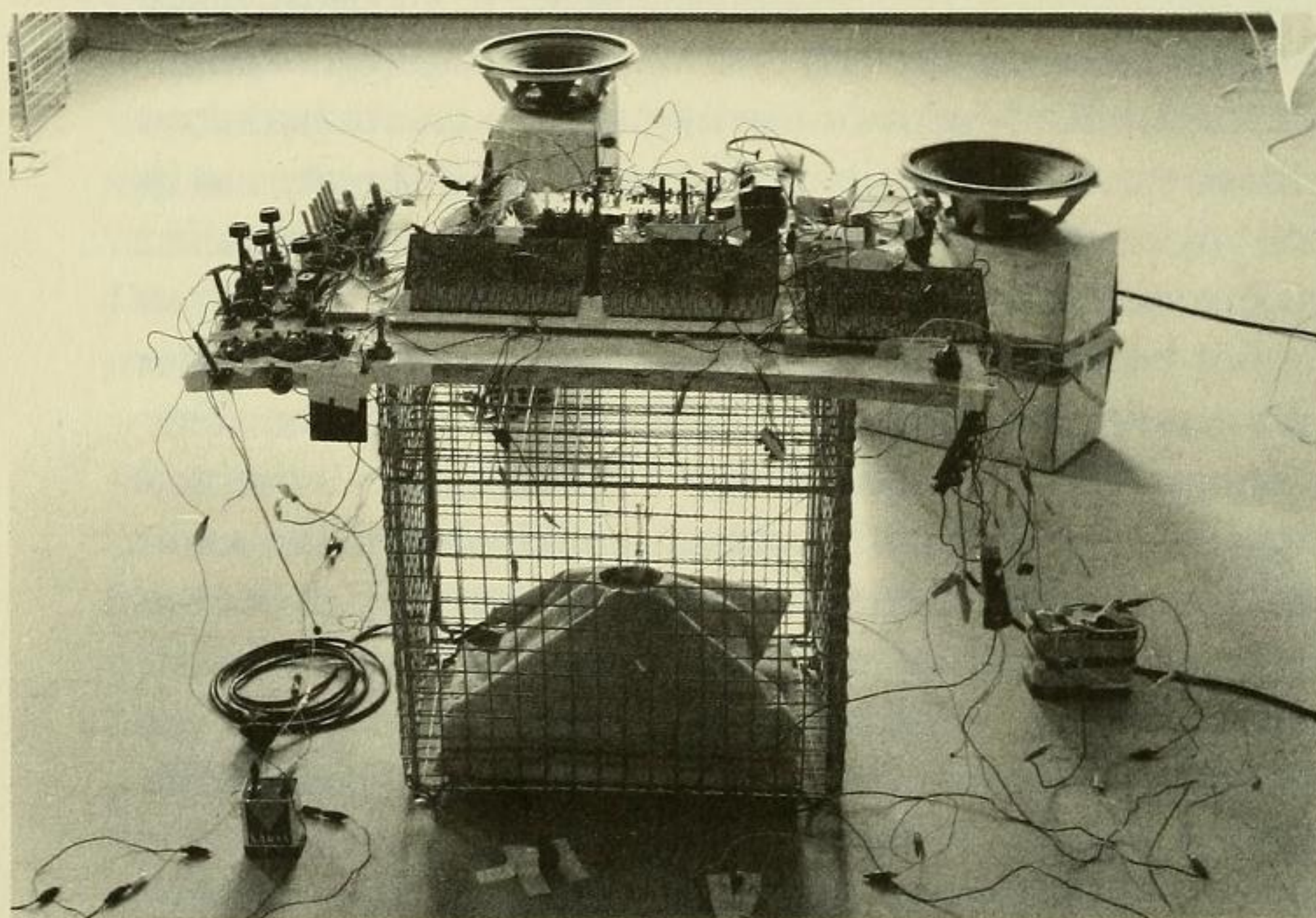
ing. We see, or believe we 'see,' a black table in a black room. There is text and an open book on the table, illuminated solely by a flickering desk lamp. On the audio track we hear a student attempting to read a text that unravels as an apparent statement of fact(s) from a Third World perspective. The irony of this work is that the 'Third World' issue is actually located in the context of a minority situation within a dominant socio-political system: the Inuit people in Canada. *Tutorial* is more than an expression of cultural difference (and ultimately, political disenfranchisement), it is an interrogation. The viewer is placed in the situation of receiving information from an unseen narrator without the comfort of responding (apologizing?) directly.

In Ian Carr-Harris' installation, *Look* (1978), the viewer enters another kind of directed experience. We overhear a first-person account of an incident lifted from a 1950s B-movie detective story. Standing in the barest physical suggestion of a waiting room, the 'fiction' becomes 'fact' as we see evidence from a rear-projected film that appears on the window of an office door. A shot rings out. A person falls against the window and we hear the body being dragged away. The audio concludes with the narrator's explanation of being a witness. But nothing has really happened. We cannot identify the characters, the motive or a real place and time. It all takes place within a memory or, more accurately, within the mythology of popular culture genres. Unlike Murray's use of audio, in creating a sense of anxiety through the confrontation with a reality, *Look* places us in the position of voyeur or, perhaps of surrogate for the disembodied narrator. The disorientation occurs because the act we have been witness to cannot be addressed. It is a moral dilemma. We are the receivers and even repeated viewings leave us at exactly the same point in the story. The invented reality of *Look* is an accepted fictional device in its cinematic reference. In *Mephisto*, the main character, an actor who becomes a pawn in Nazi Germany, faces the moral dilemma of conscience or craft. We accept the historical reality even though there is no reference to historic people or place. As in *Look*, we construct the reality and moral dilemma through the symbols offered to us.

Joey Morgan's *No Fixed Address* (1987) enters yet another, but less obvious, aspect of directed experience. The physical catalyst of her installation was a business card that offered a cryptic message and a number to call if we want to know more. Curiosity makes us

call but what we hear at the other end is more than a recorded message. It is an intimate monologue of a confessional nature. The unsuspecting caller (and by that I mean we do not suspect the nature of the content) is placed in the uncomfortable position of being subjected to what Liz Magor describes in the exhibition catalogue as 'a pathetic manipulation of emotions.' At the end of the message, we are asked to leave a response. Her inhabitation of telephone technology and its contemporary substitution for direct confrontation draws the caller into a hypothetical space that she has constructed. We are physically arrested, as in Laurie Anderson's *Handphone Table*, and subjected to what Magor describes as a 'seduction of the ear.'

The distinctions between performance, installation, object and intervention not only blur within their respective disciplines but also because many of these manifestations inhabit popular conventions (recordings, film and video). As well, there are numerous approaches to sound – the phenomenological, the constructed, oral tradition and semiological. The intention is not to force the varied approaches in sound under some unified field theory but rather to extend the possibilities for interpretation. *Very Nice, Very Nice*.



Hans Joachim Dietrich, *Electronic Light-Sound-Object (Cage) and Electronic Mini Synthesizer*, 1972. Photo: courtesy the artist.

Appendix A: an incomplete listing of some groups who collaborated in sound performance, installations and public work.

Fluxus

Fluxus was not really a movement but rather an attitude or an anti-position. Their activities, which began around 1959, included a wide range of events, happenings and performances set on an international stage with an ever-changing set of characters. To name a few of the legion of participants: John Cage, Allan Kaprow, Alison Knowles, Dick Higgins, George Brecht, Joe Jones, Robert Watts, Terry Riley, La Monte Young, Yoko Ono, Nam June Paik and The Velvet Underground. The titles of varied events and pieces give some indication of the scope of their sound-related activities: *telephone music*, *cough music*, *a sequence of stuttering records*, *glass environment for sound and motion*, and *danger music*. A chronology of Fluxus participants and events appears in the publication, *Happening & Fluxus*, published by Kölnischer Kunstverein, Köln, 1970.

E.A.T. (Experiments in Art and Technology)

E.A.T. was formed in the mid 1960s as an international organization to promote a better working relationship among artists, engineers and industry. The two spiritual, if not actual, guides were artist Robert Rauschenberg and Swedish-born engineer Billy Klüver. E.A.T.'s activities, like those of Fluxus, are too numerous to cover briefly, but it was involved in a number of significant art and technology exhibitions and projects: *Some New Beginnings*, The Brooklyn Museum, 1968; *The Machine: as seen at the end of the mechanical age*, Museum of Modern Art, New York, 1968; and the Pepsi Pavilion at Expo '70 in Osaka, Japan. *The Machine* exhibition gives some indication of how sound entered the concerns of the visual artist. The E.A.T. component of the exhibition was in the form of an open competition for submissions. Three of the works selected, although not purely concerned with sound, had interactive sound elements. A description of Jean Dupuy's *Heart Beats Dust* follows below.

Fusion des arts

This Canadian group was formed in Montreal in 1964. The original members came from varying disciplines such as sculpture, architecture and design. The group expanded and changed over a five or six-year existence. The group worked on a project-oriented basis, in collaboration, with a synthesis of visual and technological concerns. Many of their projects were of a public nature, incorporating light, sound and public interaction. They produced projects for the Canadian Pavilion at Expo '67, *Les Mécaniques* for the Theatre of the Youth Pavilion at Expo '67, a sculpture for Dorval Airport in Montreal and an exhibition at the Musée d'art contemporain de Montréal in 1967.

Intersystems

Founded in Toronto in 1966 by sculptor Michael Hayden, architect Dik Zander, poet Blake Parker and musician / composer John Mills-Cockell, Intersystems worked on a collaborative basis. Work included multi-disciplinary projects, events and commissions. (See entry on the York University escalator commission).

Appendix B: lost, but not forgotten in the shuffle

François Dallegret's *La Machine* (1966). This work was a music-interaction sculpture constructed in aluminum and measuring 8 x 30 feet. The work could be 'played' by any number of participants by passing their hands between a gap in the upper and lower sections of the sculpture. The upper section contained a photo-electric cell device that triggered an electronic sound system when the light beam was interrupted. The work was exhibited at the Milwaukee Art Center and the Museum of Contemporary Art in Chicago in 1968. It was eventually abandoned by the artist and what remains of it lies in a field somewhere in the Eastern Townships of Quebec.

Jean Dupuy's *Heart Beats Dust* (1969). This sculpture, which was selected for the E.A.T. *Machine* exhibition at MOMA, was not purely a sound sculpture but used sound as an integral triggering

element. Dust enclosed in a glass-faced cube was set into motion by acoustic vibrations produced by the rhythm of the viewer's heart-beat. Sound, as an aspect of realizing visual phenomenon, was also incorporated into Wen-Ying Tsai's *Cybernetic Sculpture* in the same exhibition. *Heart Beats Dust* is now in the collection of the Bakken Museum of Electricity in Life, in Minneapolis.

Robert Watts' *American Sky* (1970). This collaborative installation was realized with the participation of engineer Bob Diamond and composer David Behrman. A video camera was directed at the open sky and acted as a source. The camera was linked to a bank of synthesizers and a computer. As clouds passed across a matrix on the video camera the difference in light values triggered the electronic sound components. The installation was pure sound (there was really nothing to look at except the sky) and was variable, depending on the weather conditions. The sound itself could be considered as a composition, having pre-determined tones. However, it was open-ended due to the time of day and weather conditions. The piece was first exhibited at The Electric Gallery in Toronto as *Canadian / American Sky* in 1974. It was subsequently exhibited at the Whitney Museum in New York in 1979, under the name of *Cloud Music*.

Intersystems' *York University Escalator* (1971). This was the first electro-mechanical, light/sound, commission to be permanently installed in Canada. The work inhabits an escalator in the Central Reference Library of Toronto's York University. Consisting of a series of programmable lights and speakers built into the escalator housing (and visible because of a clear plexiglass covering) the traveller activates a light / sound performance for the duration of the journey. The work, relying primarily on electro-mechanical systems and tape loops, has had an unfortunate history of non-operation. It still exists, if only as an artifact of the pre-microprocessor age.

Norman White's *Splish Splash Two* (1975). Commissioned for the CBC headquarters in Vancouver, this work measures 48 feet in length and is installed in the lobby entrance of the building. *Splish Splash Two* is composed of a series of injection-moulded plexi-units, each housing a matrix of lights. The light patterns, created over the entire surface of the sculpture, suggest the random fall of water drops on a body of water. The impact of the 'drops' is accompanied

by an electronic drip sound. The sequencing, to approximate a random phenomenon, can be viewed as both repetitive and non-repetitive. My only experience of this work, in 1977, culminated in a confrontation with a building security guard, who informed me that the sound had been turned down because it bothered people. The prototype, *Splish Splash One*, is in the collection of the Vancouver Art Gallery.

Notes on the Phonograph Records

Jack Goldstein

The sound effect records create a *picture* of a fragmented part of nature.

The sound effect records are only capable of *alluding to nature* through fragmentation as a result of their *pictureness*.

The *alluded to picture* can only realize itself as an isolated image due to its *pictureness*.

The *alluded to picture* is fixed as something very specific with a narrow focus due to the viewers' *picture* of it.

The record when played exists in time, but the *alluded to picture* exists as an image that is divorced from real *time and space* because of its nature to exist only as a *picture*.

The mental *picture* is analogous to an actual photograph, through focus and lack of ambiguity with a *frame line* around the *alluded to image*.

The *alluded to picture* is a picture of a picture of a picture that *closes in on itself* as abstraction.

Through *abstraction*, distance as a *relationship to the world*, creates a sense of *control and manipulation* over the image in place of its object.

The imaginary relationship *to the world*, without *body contact* to witness the *world*, edits erasure as concealed mark making, to hide one's tracks, as in *media* in favour of appearance.

Sound is the **space** that frames an image as image from its object.

Sound is the **time** of image that locates the spectator outside.

Sound is the **silence** of image that limits the image as finite.

Sound is the **distance** of image that defines dark from light.

Sound is the **memory** of image that dislocates the origin from its object.

Sound is the **location** of image that fixes the image in time.

Sound is to Speak as Sight is to Hear.



Photos: Phill Niblock.

Soundtrack: A Logos Soundscape Project

Moniek Darge and Godfried-Willem Raes (Logos Duos)

No century but the twentieth has heard so many sounds.

Nor has any other century provided the technical means to record these sounds.

Sound has been unpalpably and visibly present for millenia.

Today, we can imprison it.

Therefore, this *Soundtrack* Project.

To congeal the sound of a city and to confront its inhabitants with it in a palatable and visible shape.

To intercept sounds that rise and evaporate between walls of stone and brick: to record them, leaving them behind, as a track through the city.

And there, where the soil is still permeable, to bury them and thus return them to the earth, from which they originated.

Description of the Soundtrack Project

A path running from north to south, dividing the chosen city in half, is outlined on the city map.

The sounds are recorded, by performers who follow the path on foot, utilizing magnetic tape the same length as the route (3 km). The rhythm of the performer's motion determines the speed at which the tape machine records.

Instead of being wound on a reel, the recorded tape is stuck to the surface of the road or buried, where it meets with soft soil, for example, in parks. Thus, a long track of coagulated recorded sounds are left behind. A video camera, following the performers on their route, records the happening. The performer's rhythm also regulates the speed of the video soundtrack as a signal from the tape machine is fed directly to the video recorder. The video and audio recordings delay the erosion of the happening (the sound and the image) in relation to the movements of the performer recording them.

Recording Equipment

The machine is composed of a mono full-track recording head, a similar recording amplifier, an oscillator (without corrections of the frequency characteristics; due to the high speed of recording these would be superfluous) and a playback head and amplifier connected to headphones and supplied with a line output, fed to the video tape (therefore, a wireless radio is used).

The tape machine is supplied with a tape transport system composed of freewheels and tape transport ball bearings. Audio tape of equal length to the route that is to be followed is wound on an exceptionally giant reel (the maximum length of the route is limited only by the capacity of this reel: about 5 km). No take-up reel is supplied for the recorded tape, as this will end up on the surface of the road or buried in the earth.



The Recording

The tape is inserted into the recording machine, while its other end is fastened to the street. To this fastened end are attached stickers that bear the title of the project, *Soundtrack*, as well as notations of the exact time and location of that particular bit of recording.

The machine is carried by one of the performers who follows the route. Using a hand-held microphone, the performer records at the speed relative to their movement. In effect, the audible result depends on the speed of the machine operator: thus this person provides a truly individualistic work, which only they will be able to listen to with any degree of authenticity. Each and every person following the route again will always move at a speed (however minimally) different from the original performers. Control of the recording is monitored through headphones. All of the sounds which do not reach the performers' ears through the headphones, reach them and the video recorder, delayed and modulated by the varying speed at which they walk. Thus the video tape becomes a means to the democratization of this unique work, as everyone shall have the opportunity to listen to the original sound at a later date.

From the start, all of the recorded tape is fastened to the street or buried, whenever possible, so that the sound of each specific area remains at the place it originated.

This work was premiered in Ghent, Belgium, on July 16, 1982. The route on this occasion was 3 km long, starting at Logos-Foundation and ending at the Museum of Contemporary Art. The Collaborators and Performers were: Moniek Darge (T-shirt design, sticking and burying), Johan Neyt (sticking), Didier Leroy (video camera), Guy Van Belle (sticking), Godfried-Willem Raes (soundtracker), Phill Niblock (still photographs), Johan Grimonprez (information), Jan Van Imschoot (public interviews).

An alternative version of this *Soundtrack* event uses live broadcast on a local television station of the video images and the recorded sound derived from the *Soundtracker*.

This work was previously published in *Musicworks* No. 30, Winter 1985.



Lou Reed, *Metal Machine Music*, Capital Records, 1975.

Developments from Industrial Music: Noise and Appropriation

Chris Twomey

The most important developments in music have been those that give meaning to sound and in using those sounds to influence human emotion and awareness. Developments in twentieth century music began with the incorporation of more and more dissonance, as serious composers felt a crisis in traditional expression. Artists rejected traditional forms while proposing a more appropriate music for the Industrial age: a music of noise.

Italian Futurist Luigi Russolo's manifesto, *The Art of Noises*, laid the theoretical foundation for a new music that didn't appear until over sixty years later: Industrial music. Today there is a world-wide movement utilizing noise in different forms and intensities and creating and developing new musical languages and textures. From the wall-of-sound power 'electronics' to the quieter 'ambient industrial' genre, traditional ideas of melody and structure have been redefined for a contemporary expression. And noise, whether electronically or acoustically produced, recorded environmentally or appropriated from the history of recorded sound, has become a major element in music, from the underground to the Top 30.

The current generation of Industrial music makers have their creative roots in developments of twentieth century art and music. Russolo's score *Noise Music: Awakening of a City*, for 'howlers, boomers, cracklers, scrapers, exploders, buzzers, gurglers and whistles,' showed that noise could be organized in terms of orchestration and notation. More influential in terms of sound however, was the work of Edgard Varèse in the late 1930s, *musique concrète* beginning in Paris in 1948 and the invention of electronic music in Köln in 1950. As well, the musical and theoretical works implemented by John Cage redefined the terms 'music' and 'composer' to include any noise and any activity. By the 50s and 60s the avant

garde on both sides of the Atlantic were making music that differed in theory but was similar in volume and intensity.

Despite the radical pioneering work done by composers and engineers, it wasn't until the fruits of the electronic revolution appeared that noise was truly liberated. The marketing of music and musical equipment allowed for creativity to exist outside the established musical institutions. There was the necessary fuel to establish an alternative music scene when utopian ideals of the first rock superstars were co-opted by the music industry and turned into the corporate rock of the 70s. Similar to Cage's writings, in *Silence*, which established that sounds could be music, punk rock's do-it-yourself ethic and artists such as Brian Eno, proved that anyone could be a musician. All these elements congealed around 1976 when the punk explosion helped consolidate British independent record distributors into the Cartel, who then exported many kinds of alternative musics including what was to be called Industrial.

A year earlier, Lou Reed's experimental *Metal Machine Music* had given a hint of things to come. This completely misunderstood album consisted of four sides of feedback from a series of amplifiers, in strict stereo separation, 16 minutes and one second per side. The exact timing indicated Reed's seriousness about the project which he had intended for RCA's classical Red Seal label. However, when the company released the double album they used a misleading picture of Reed from his *Transformer* period on the cover, leaving no hint whatsoever to its contents.

Despite the controversy, Reed had fulfilled an ambition he had since his early involvement in the pioneering rock band, The Velvet Underground, who in 1966 were doing the first intensely loud concerts. *Metal Machine Music's* specifications listed 'drone cognizance and harmonic possibilities vis à vis La Monte Young's *Dream Music*' and made the link with post-Cage work into the effect and potentials of sound. But unlike Young's unique work with transcendental sound (such as living twenty-four hours a day with tone generators), Reed had created the ultimate in sonic hell. In fact, certain frequencies in *Metal Machine Music* were dangerous to people with brain disorders, such as epileptics, and there was a physical and psychological disclaimer on the album cover. The effect of listening to this work was best described by an unidentified Japanese critic:

I received a violent shock by this, his greatest album. It is something

you can call fearful. The confused electric sound hit me like a long whip and the sound, like a tornado, broke into my head and went around my body like a wild blood.

Metal Machine Music was truly a dangerous music and a monumental precursor to what is now referred to as 'power electronics.'

The main influence for much of today's underground experimental music was the British group Throbbing Gristle (TG). They evolved out of the extreme performance art group COUM Transmissions who had shocked the art world and had been banned from touring by the House of Commons. COUM Transmissions was Genesis P. Orridge and Cosey Fanni Tutti, who became Throbbing Gristle with the addition of Chris Carter, who provided rudimentary music and recording equipment. Soon Peter Christopherson, a visual artist who worked for the Hipgnosis album design company, joined and TG released their debut album, *The Second Annual Report*, in a small edition. This unexpectedly sold out, five years of performing and recording began, and a genre was named after their record label: *Industrial Records*. They had chosen the name as a comment on the record industry and also as a reaction to their exposure to the declining social environment of England. Both their imagery and their music was influential and its effects paralleled that of punk: a raw expression from non-musicians.

In the studio TG pursued many different musical styles in an effort to thwart the expectations of their new audience. However, it was in their live performances that they made the most impact as they performed 'psychic rallies' of energy and emotion unrivalled by traditional rock concerts. The volume and intensity was a new and unexpected environment that inspired audiences, both through their live performances and through their extensive performance documentation. As their ideas on the conditioning and control of audiences developed, their live improvisations became examples of focussed power. A good example of this is *Discipline*, which utilizes Carter's martial drum machine beat, Christopherson's hypnotic tape loops and drones and Cosey's wall of processed guitar and trumpet. Amidst this was Orridge's energetic, almost psychotic, protestations that 'we need some discipline around here.' The result was a potent mix of Nuremberg-type mass hypnosis due to sonic overload and the use of mesmerizing frequencies found in psychic rituals.

The Industrial tag was used at the time to describe a group of

fringe artists who seemed to share sonic and philosophical goals. While TG was most widely known, and to a certain extent the most commercially successful, a handful of groups and individuals were influential on the second and third waves of Industrial practice. Experimental releases by SPK, Dome, Boyd Rice, Z'ev, Nurse With Wound and Cabaret Voltaire inspired new do-it-yourself sound recordists on both sides of the Atlantic.

Today, the Industrial scene exists both within and outside of the distribution systems that helped to establish it. An informal network of artist-run labels and mail-order distributors has kept new innovations available. While there are numerous groups and individuals working in every genre and sub-genre of the Industrial scene, I will discuss the essential developments since the life of Throbbing Gristle.

Boyd Rice

Boyd Rice is an American noise maker who calls his musical concepts Non. Non records are harsh mixes of noise and his live performances reach the threshold of pain. His early sounds were generated from home-made instruments such as a guitar with a fan attached to it, and small machines, such as a shoe polisher. Now he primarily uses processed tape loops, mixing found sounds from the media with his own field recordings derived from such locations as Disneyland. Like many of the artists working in the Industrial field, he wants to avoid the intellectualism of the avant garde art world, to arrive at a more visceral experience:

I wanted to create a form of stimulus that would by-pass the mind, a form not rooted in the mind, that would hopefully give rise to an experience more primal in nature.

Tape Delay, p. 173.

Rice considers his performances 'de-indoctrinations,' offering an overpowering block of material that the listeners must structure for themselves. In working with noise he discovered a phenomenon similar to Steve Reich's early tape loop experiments, in which the use of repetition shifts the listener's attention to subtle background details. His home-made devices, such as customized tape recorders used as playback / sound sources, structure pure sound into repeated

chunks of noise transformed into rhythms. Surrounding these are extreme high and low frequencies which Rice has discovered correspond to various mental and physical states:

I think a lot of the noise suggests structure in people's heads that isn't really there. I've made tapes of pure noise and I know there are no voices on them, yet you listen back to them and you'd swear there are voices. And on *Pagan Muzak* even though that's just loops of noise, you can hear definite little melodies coming out ... the most subtle elements can become very pronounced.

RE / SEARCH No. 6 / 7, pp. 55-6.

Non records, released by Mute Records in England, have generally been the wall-of-noise type, although his most recent work *Blood and Flame* features ambient material as well. This release, one of the first of its kind to be treated to the digital clarity of the compact disc, is his most complex work to date, while retaining the Non vocabulary of 'irritating' loops, unidentifiable sounds and those mystery voices.

Maurizio Bianchi

Italy's entrant into 'power electronics' was Maurizio Bianchi who used noise to explore what he termed 'pre-apocalyptic times.' His pieces, such as *Armageddon* and *Symphony for a Genocide*, were of the wall-of-sound variety, utilizing the musical and narrative elements of electronic music. Perhaps due to low-budget recordings his works were not as piercing as those of Non or Whitehouse, but they were equally as dense and powerful. His music was made up of drones, utilizing reverb and often including voices. He released a dozen self-produced albums, hundreds of cassettes and appeared on numerous compilations. As well, he had albums released by Sterile, Come Organization, Broken Flag and DYS. In 1984 he disappeared into a reclusive silence, repudiating his entire opus and is now rumoured to have become a Jehovah's Witness.

Controlled Bleeding

The American import market initially supported the experiments of

British and European groups, who were given little coverage in their home countries. What followed was a home-taping explosion and cassette-only labels such as Cause and Effect and Ladd / Frith were created to promote the new American artists. The best of the noise bands was Controlled Bleeding from New York State who consisted of Joe Papa, Chris Moriarty and Paul Lemos. Their early cassette releases were VU overloading walls of noise with little dynamic range, a constant stream of squeals and explosions. Their noise work peaked with a 1985 release on the German label, Dossier. The album, *Body Samples*, painfully contrasted ambient music with barrages of high-pitched frequencies, muted screams and instrumental throbs. Paul Lemos wrote that year of their intentions:

I have no interest whatsoever in physical violence – my attempt is to channel mental and emotional violence into a creative medium. It reflects the frustration that comes in realizing one's own inability to affect a political system, and one's own insignificance in the scope of the masses – there are no complaints or solutions suggested.

Broken Flag pamphlet, 1985.

He also announced their change of direction, asking:

how long can you expect the raging intensity to last? Should an artist cease creative activity just because the anger has diminished?

Like most people working in the 'power electronics' area, they reached a point where nothing could be added, only subtracted. In releases after *Body Samples* they began working in a style that could be termed 'ambient industrial;' quiet musical landscapes superficially similar to New Age music but composed of raw and harsh sounds. Their 1986 release *Headcrack*, on Sterile Records, has a sticker announcing 'a special gentle mix' and debuted the integration of elements of opera and ethnic musics into the Controlled Bleeding sound.

David Jackman

David Jackman has been active in the English experimental music scene since the early 1970s. He was a participant in the Scratch Orchestra led by Cornelius Cardew and other experimental com-

posers. They encouraged many different forms of music making, from the use of Fluxus-inspired instruction-as-scores, to contemporary types of worker's music. Jackman's early work dealt with tape loops but it wasn't until the early 80s, with compilations such as *The Three Minute Symphony*, that recordings appeared under the name Organum. The name Organum was derived from an early Christian vocal form that developed out of unison singing. Its droning quality was one of the aspects of sound that Jackman wanted to work with.

Jackman's approach to wall-of-sound music can be heard on two releases from the Belgium label LAYLAH: the album *In Extremis* and the EP *Tower of Silence*. *In Extremis* is aptly named for it is particularly dense, but unlike other noise projects its cacophony was entirely acoustically generated. Jackman's specialty is scraping bows on metal, recordings of which are then played back at half speed to enunciate the harmonics. He also uses unusual sound sources, such as an alarm clock being scraped against a rusty bicycle wheel, which can be heard on the *Tower of Silence* EP.

In Extremis also featured a complex orchestration of works with similar densities. Without relying on feedback or loops to generate continuous sound, Jackman's accomplishment is due to his skill in mixing and editing.

In an interview in *Unsound* magazine he revealed some of his influences and some experiences that honed his listening. He attributes the metallic quality of his sound to his experience of listening to a nearby train yard when he was a teenager and to machines such as the motorcycle he once owned. A musical influence was the British electronic improvisation group AMM (once again featuring Cornelius Cardew) that performed weekly in the early 1970s and were a seminal ensemble of this type of sound production.

But unlike the generation of British experimenters who influenced him, Jackman does not work with social or philosophical ideas, but instead relies on intuition:

Apart from the blind desire to make sounds, the only thing that was at work in the beginning, was the wish to make something that sounded completely new.... As it happened, nothing new got made at all. Instead, Organum music came out sounding really ancient, like something from the very beginning of music-making.

Unsound, Vol.3 No.2, p. 24.

This is especially true of the music made since 1985 in which he pursues the ritual side of drone music. Like the recent Controlled Bleeding work, Organum releases, such as *Submission* (on United Dairies) and *Crux* (on Silent Records), are on the Industrial side of ambient music. These almost meditational pieces combine rough metallic sounds with gongs, flutes and the amplified sound of human breathing. Once again an artist has moved away from the wall-of-sound, while retaining the use of the frequencies and textures of noise in new combinations and mixes.

P16.D4

A group of German experimenters called P16.D4 have arrived at noise collage from several different influences. Initially an experimental rock group, influenced perhaps by the likes of Pere Ubu, they became an improvising group combining electronic sounds, such as those used by Pierre Henry, with instrumental sounds similar to the noise improvisors like AMM or more recently John Zorn. Their 1984 album, *Kühe In 1 / 2 Trauer* (on their own Selektion label) utilized standard rock instruments, such as drums and guitars, with tape loops and found sounds. Their music is made up of short scribbles of sound, much like their album covers which are usually comprised of black markings on white. Some tracks are group improvisations while on others they experiment with alternative scores using charts and diagrams.

They consider their work 'musical material research' into sound structure and are inspired by the Frankfurt school of aesthetic and post-structuralist theory. An associated group with whom they collaborate is Swimming Behavior of the Human Infant (SBOTHI) whose aim is to 'remove certain associations made with certain sounds' (*Unsound*, Vol.3 No.2, p.53). The two groups collaborated on a double album in 1986 called *Nichts Niemand Nirgends Nie* which featured various approaches to studio and live work. The individual work of the two groups on the first three sides of the record are then transformed into a new work on side four.

SBOTHI's music is more electronic sounding than P16.D4's and their self-titled album is harsh, although not dense. They construct pieces from short bursts of noise, utilizing grinding sounds, white

noise and electronic squeals. They also make use of new types of scores and in *Dynasty*, they parallel elements of the TV soap opera to create an alternative sound-track. They based their sound production and arrangement on aspects of the show's editing and camera-shot compositions. Each of the 360 edits in this two minute and fifteen second scene, relate to variables such as: 1) the length of the scene in seconds is translated into centimetres of audio recording tape; 2) a wide camera angle equals one sound per edit, one actor in the frame of the picture equals two sounds, two actors equals three sounds and close-ups are translated into four sounds; and 3) the presence of different actors determines which channel the sound will be recorded on, the lack of speech equals silence, two people speaking represents stereo, etc. The result is a quick blur of white noise which is nonetheless organized and, like John Zorn's ensemble improvisation 'game,' *Archery*, can be followed as if by a score card.

P16.D4 also organized the Distruct Distant Structures project, which was a musical equivalent to a mail-art project. Between 1982 and 1984 they solicited submissions of sound material that they then used as the basis for a group composition. The result was like an underground 'all star jam' of noise collage and features contributions from Nurse With Wound (England), Merzbow (Japan), DDAA (France), The Haters (Canada), Die Tödliche Doris (West Germany) and Nocturnal Emissions (England).

Biota

A group that achieves a sound similar to the noise collage artists is Biota, a sub-group of the American improvising ensemble Mnemonists. Their approach to noise manifests itself through their lack of traditional structure and through the atonal music colours that they create; akin perhaps to the American iconoclast Harry Partch. After several Mnemonist improvised projects were completed they began to use the studio as a compositional tool and the Biota concept of a balance of live improvisational composition and recording and studio processing evolved. Biota's 1985 double album, *Racabones* (on DYS / Recommended) is an intricate weave of sound, unique in its composition. Like Organum, no electronic sound sources were used, however the final result would lead one to think otherwise.

Group member Bill Sharp described their approach:

we equate compositional interaction with day-to-day human interaction and hope for the listeners to experience some of the delirium that got us there.

Rē Records Quarterly, Vol. 2 No.2, p. 30.

They want the listener to share in the process of composition as a living process and, like Boyd Rice, offer a shifting field of sound that listeners can structure themselves. This esoteric goal is reflected in their album art and the prints that accompany most of the Biota / Mnemonists albums. Created by several members of the group, the prints in *Racabones*, depict flowing fields of body energies and landscapes with inter-connected elements. These visually complement the music which is a mesmerizing tapestry of diverse textures:

It is here, in the post-playing stages, that the conceptual leap is made: from tradition (the 'dry' ensemble of players 'jamming' together) to the more social work of organizing sound guided by concerns of a broader, non-musical nature. It is in these later stages of processing and discussion, that our sound sources tend to lose their distinction as *musical instruments* and become a populace inhabiting a *psychological space*.

Rē Records Quarterly, Vol. 2 No.2, p. 31.

Biota creates a musical / noise signal that pushes our ability to organize and create the music. They have arrived at this point both as skilled musicians and as post-Eno studio manipulators. The next step seems to be a new generation of sound recordists, samplers and appropriators who rely solely on intuition to produce music with emotional content. Not only do they not have to be musicians in the traditional sense, as their techniques are self-invented and developed, they do not even need traditional instruments! This is not merely the replacement of a Union Musician by an electronic keyboard or emulator (which is more likely to happen in the commercial world of music making). This is a move towards the transformed sound from any source, be it appropriated from the history of recorded sound, from the natural environment or from the media environment and the use of these sounds to create a new and as yet unheard 'psychological space.'

Nurse With Wound

Another approach to noise, which developed out of the Industrial period, was carried out by various sound collage groups, the most influential being Steven Stapleton's Nurse With Wound project. Influenced by *musique concrète*, Dada and Surrealist art, Nurse With Wound uses noise as one extreme element in a wide dynamic of sound/music colours that upsets our expectations of traditional structures. Nurse With Wound is a studio project with many collaborators guided by Stapleton's inspiration from earlier visual arts experiments with simultaneity and synthesis. Like visual collages, Nurse With Wound pieces compound musical images to elicit new meanings and to subvert structural rationality. Stapleton's music challenges the listener with elements designed to humour, jar, shock and irritate, using the gamut of sound generating techniques. Absurd track titles and equally absurd edits and inserts attempt to play to many levels at once, including physical and psychological states. In an interview he was quoted as saying:

I want the listener to be shocked and stimulated. I want him to feel the music, think the music and not just hear it.

Unsound, Vol. 2 No.3 / 4, p. 24.

The Hafler Trio

The Hafler Trio has also worked in the area of sound perception, expanding on Cage's pieces about the ordering of the chaos of environmental sound. The group was founded in 1981 by Andrew McKenzie (co-founder the Touch label) and Christopher Watson (founding member of Cabaret Voltaire), in order to pursue research into sound and the function of sound / music. A collaborator of theirs is Dr. Edward Moolenbeek, a Swedish professor of acoustics, who engaged Watson and McKenzie in his work at Robol Sound Recordings, a research centre set up by the late Robert Spridgeon to carry on his life's work in the perception and utilization of sound. Half conceptual art project and half research project, the Hafler Trio's releases are a curious series of records and booklets that approach their subject in a vastly different way than other science / music projects on such avant garde labels as Lovely Music. Only in a recent

anthology have they directly explained their work:

Although not the experience itself, a well-made sound recording of a place (or a person or a thing), nevertheless, contains a fragment of the 'soul' of that place (person or thing). By examination of auditory phenomena, psychological and physiological use of certain frequencies, careful testing and construction of 'situations,' 'environments,' 'programs,' which might be any number of tactics in combination, an artificially induced place can be created which can, under the right circumstances, produce true communication between people on three levels of human perception: head, heart and hands (or if you prefer, body, mind and spirit).

Tape Delay, pp. 182-83.

The Hafler Trio appropriate their sounds from the 'real' world and make up their musical pieces with manipulated field recordings. Both Watson and McKenzie are renowned for their recording exploits. In fact Watson, who left the successful Cabaret Voltaire to be a sound recordist with Tyne Tees TV, in Newcastle, is also the chief sound recordist for the Royal Society for the Protection of Birds. Sounds from nature do feature prominently, juxtaposed with field recordings of human environments, mechanical sounds, media clips and electronic sounds to create a tape collage with an ever-shifting ambience. Like *Nurse With Wound*, their pieces have a wide dynamic range that challenges record pressing technology. Veering from silence and quiet echoes to sirens and noisy loops, Hafler Trio pieces are carefully constructed sound / landscapes. Whether or not 'electrical angle realization' or 'feedback loop impression traits' actually exist in sound research, remains to be seen. However, their work is a creative approach to the subject and a welcome alternative to the dry academic approach of the established avant garde.

PGR

One example of the new people working with samplers is Kim Cascone of the American electronic group PGR. His concept of 'extraction dialogy' produces music through digital delays that has conceptual links with semiotics and cybernetics. He began by slowing down muzak and 'tracing' parts of it with musical instruments, thereby obtaining a new piece. The next step was the development of

a cybernetic model of relationships between four stages of the process: the sound source, the source's associative model, the extraction and the extraction's associative model. A particularly successful guitar extraction became the *Asleep in the Shadow of the Lion's Cage* piece on PGR's *The Flickering of Sowing Time* album (RRRecords recorded in 1985 and released in 1987).

The extraction process was displayed live, in June of 1986 at the Clubfoot in San Francisco, in a work entitled *Of Weaponry in Four Stages* and released on *The Concentration of Light Prior to Combustion* cassette (Banned Productions). Here the extractions produce a rumbling drone in some parts and a metallic surging in others. This served as a basis for improvisations by group members Dine Forbate and Larry Thrasher. Cascone terms the result an 'aural Rorschach test,' once again indicating the listener's role in encoding the sound / noise into musical meaning.

Negativland

Another American group who are an 80s product of the 70s experimental and Industrial scenes is Negativland, whose most recent work, *Escape From Noise* (Rec Rec Records, 1987), is a masterful essay on the two main topics of the 1980s: appropriation and the dichotomy of music and noise. Group member Mark Hosler explained their inspiration:

We got to this extreme degree of working with a lot of noise, made up of thousands of edits. But once you've gone that far working with noise, then you end up structuring the sound more, which starts to sound more like what my mom would say is music. The piece that was the seed for this new record was the title track, where I realized that I loved noise! I'm always listening to sounds ... and how much I hate being in a city with all the traffic and the screaming and yelling, and being in your house with the refrigerator hum. So that piece was about noise as stress and pop music as noise.

Nerve, February 1988, p. 10.

The album describes several scenarios of music noise and noise music: from a simple list of pop stars, to the use of noise in torture.

Negativland utilize electronic sounds, traditional instruments and found sounds. Like the Hafler Trio they are fanatical recordists:

We have four TVs stacked one on top of the other in our living room ... if that tells you anything. We have our TVs wired up for direct sound to a tape recorder. We have our telephone hooked up so we can record from that. We carry around little cassette decks with us on the streets. We've always appropriated stuff from the media and stuff off the street and from our jobs and from our parents. We have no rules about how to make music.

Nerve, February 1988, p. 10.

Whether it's cut-ups, fold-ins, samples or scratches, found sounds are a 1980s cliché. With parallels to controversial photographer Sherry Levine, recent commercial hit-dance records appropriate large chunks from past records. A UK number one in February of 1988, *Beat Dis* by Bomb the Bass, featured samples from twenty records in a four minute piece. Once an innovation of shortwave enthusiast and experimental rock artist, Holger Czukay (once a student of Stockhausen) and popularized by the Byrne / Eno team, found sources of lyrics and voices are becoming an overused technique all the way from the underground to the top of the charts.

As traditional ideas of vocal lines and melody break down, a new generation of listeners take for granted the operatic qualities of random and displaced found-voices. Hosler comments on the movement of ideas and techniques from the avant garde to the commercial spheres:

In 1979-80 I was listening to a lot of music and there was something I wanted to hear and it wasn't there. Groups like The Art of Noise, who can have a hit single in 1987, could not have existed in 1980. So when I hear a lot of the stuff now I do sort of feel like a gap I wanted to fill is pretty much filled, even to the level of pop culture. We now exercise a great deal of thought and research on what tapes we use in a piece.

Nerve, February 1988, p. 11.

A new aspect of appropriation emerges at this point of found sound saturation where the lines between the real and the created are blurred and often, as in the pseudo-science of the Hafler Trio, have tendencies towards in-jokes or hoaxes. Commercial artists, in an effort to avoid lawsuits, re-create reality with the help of actors. In the case of *Escape From Noise* several of the voice clips are of such good quality that the question does arise, only to be countered by the

realism of the script and the delivery. The album's opening announcement parodies FM radio as Negativland 'cross-format' focuses reality with a recipe on how to achieve a 'hit song.' While this appropriation sounds real and isn't, they use others that are too slick and perfect to be fake. The juxtapositions of commercials for luxury real estate and an anti-gun control initiative mesh too well to have been simply 'found.' But here too, the listener's analysis is outmanœuvred as the American dream of land and guns is tripped up by its own advertising strategies. Hosler:

Working with tape is no longer a novelty but the meta-levels of the overall picture, including the packaging and promotion, make it more than a collection of songs.

Nerve, February 1988, p. 11.

Negativland and a host of new experimenters, in what can be seen as a third generation of Industrial musicians, are expanding the dimensions of music. Most of the new developments will utilize new technologies, the most immediate being the digital sampler. However, as *musique concrète* pioneer Pierre Schaeffer pointed out in *Rē Records Quarterly* (Vol. 2 No. 1, 1985), a music cannot survive with technology alone (witness the early Moog versions of the classics). What will resonate with an audience is still the empathy of human emotion and intellect that drives all musical creation and appreciation. The Industrial experiment has borrowed approaches to sound from many sources and will continue to evolve along intuitional and inspirational lines. Their ability to create alternative means of distribution and funding will keep them clear of the restricting patronage of institutions seeking 'science' rather than expression and the mass audience looking for 'entertainment' rather than communication. It will be due to the liberating exploration of noise and the seemingly dead-end nihilism of many of the projects that a new human and musical sensibility will be created.

Proposal for Conceptual Musick

Graf Haufen

Equipment: "Walkman" or other recording unit, stereo if possible, a blank cassette of any length.

Recording Area: street, small and not busy.

Replay Area: street, the same or any other.

Performance: Choose a quiet street for your recording. If you have two microphones, place them as far apart as possible, at points along the street or sidewalk. Record the life-sound of the street for the duration of the tape.

Afterwards, put two speakers (if possible) in the trees (if there are any) along the street, so that passers-by cannot see them (use small speakers).

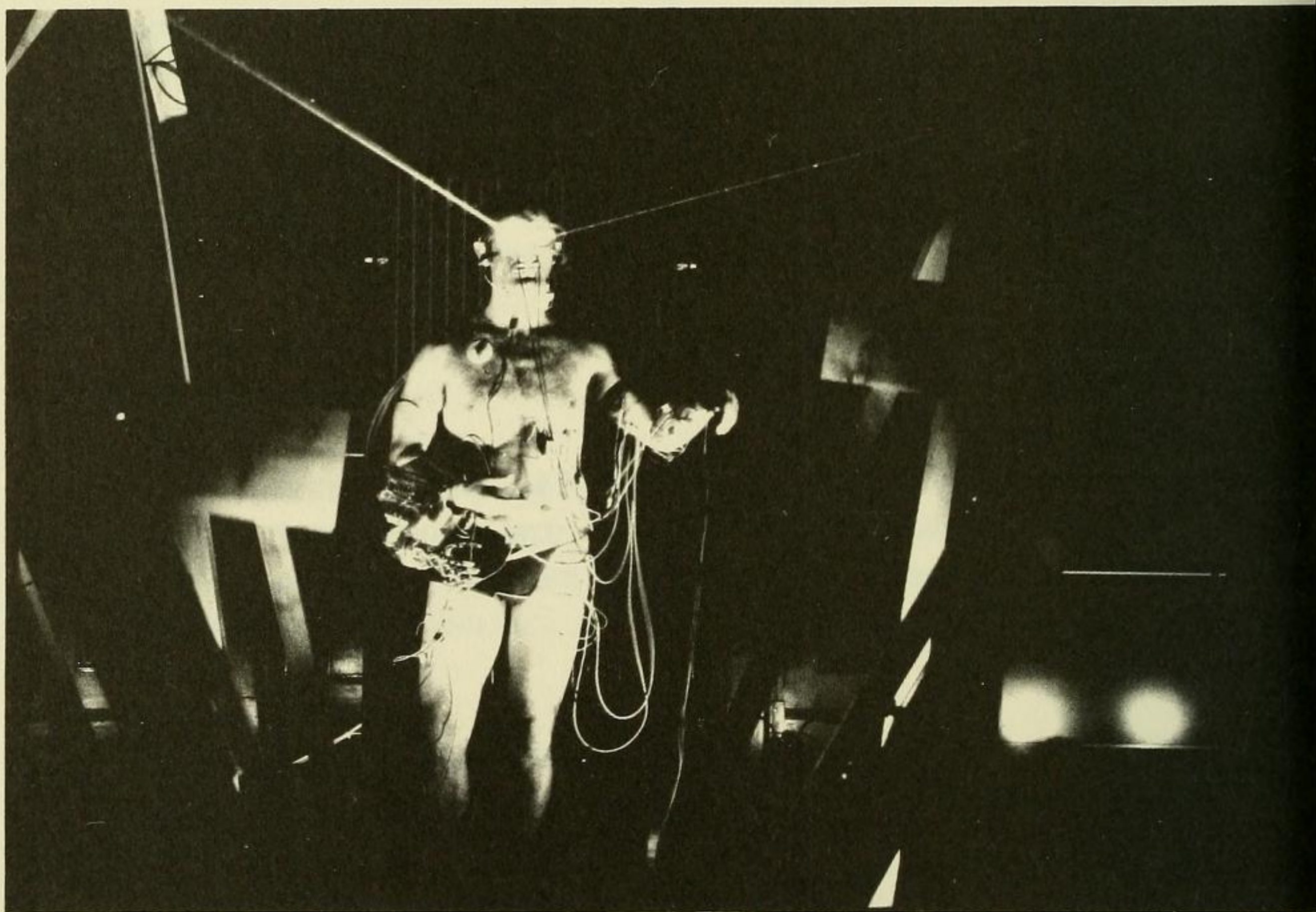
Replay the recording back into the street at the same volume as the natural noises of the street.

You can now hear cars passing by, kids playing, or whatever you've previously recorded on the tape. However, when you replay the tape, there are no cars passing by. There are no kids playing. There are now two realities. It's up to you to mix them up.

Other possibilities are:

- a) Replay the tape in another street (reality mix 1:1);
- b) Record more than one tape and play them all back at the same time (reality mix n:1);
- c) Use several tape recorders at the same time, placing them in rows and in the trees. You can replay them simultaneously (reality mix: panorama).

NATURE IS NOISE ENOUGH!



Remote Scan / Random Sigh, Yokohama Performance Festival, 1987.
Photo: Maureen Merritt.

Event for Amplified Body, Laser Eyes and Third Hand

Stelarc

THE INVASION OF TECHNOLOGY: MINIATURIZED AND BIOCOMPATIBLE, TECHNOLOGY IMPLODES BACK TO THE BODY, NOT ONLY LANDING ON THE SKIN BUT EMBEDDING ITSELF AS AN INTERNAL COMPONENT. IMPLANTED TECHNOLOGY ENERGIZES THE BODY, ACCELERATING IT TO ATTAIN PLANETARY ESCAPE VELOCITY. EVOLUTION ENDS WHEN TECHNOLOGY INVADES THE BODY. IT IS NO LONGER OF ANY ADVANTAGE TO EITHER REMAIN 'HUMAN' OR TO EVOLVE AS A SPECIES. HUMAN THOUGHT RECEDES INTO THE HUMAN PAST. IT IS THE END OF PHILOSOPHY. THE END OF THE HUMAN FORM.

1. If the earlier events can be characterized as PROBING and PIERCING the body (the three films of the inside of the stomach, lungs and colon / the 25 suspensions), then the recent performances EXTEND and ENHANCE it. The amplified internal rhythms, laser eyes and mechanical hand acoustically and visually expand the body's parameters. They can no longer be seen as biofeedback situations (they never really were) but rather as SCI-FI SCENARIOS for human-machine symbiosis, with sound as the medium that re-shapes the human body. It is the re-designing of an obsolete body. It may not yet be possible to physiologically modify the body, but it can resonate with modulated rhythms. The body does not simply acquire an acoustical aura; its humanoid form is stretched and restructured with sound. The amplified body is no longer the container of its rhythms: the humanoid form is transformed into the cuboid space. The body becomes hollow, resonating with its own echoes.

HOLLOW BODY: OFF THE PLANET, THE BODY'S COMPLEXITY, SOFTNESS AND WETNESS WOULD BE DIFFICULT TO SUSTAIN. THE STRATEGY SHOULD BE TO HOLLOW, HARDEN AND DE-HYDRATE THE BODY. EXTRA-TERRESTRIAL ENVIRONMENTS AMPLIFY THE BODY'S OBSOLESCENCE, INTENSIFYING THE PRESSURES FOR ITS MODIFICATION. THE SOLUTION FOR RADICALLY RE-DESIGNING THE BODY LIES NOT WITH ITS INTERNAL STRUCTURE BUT WITH A CHANGE OF SKIN.

2. The artificial hand, attached to the right arm as a third hand, is capable of *independent motion*, being triggered by the EMG signals from the abdominal and thigh muscles. It has pinch-release, grasp-release, 290-degree wrist rotation (CW and CCW) and a tactile feedback system for a 'sense of touch.' But whilst the body activates its extra manipulator, the real left arm is REMOTE-CONTROLLED, jerked into action by a muscle stimulator with varying intensity of voltage and rate of frequency, both in *random* and *repetitive* modes. Of necessity, this remote-controlling is done intermittently (it is quite painful) and is used to 'pace' the body's performance and to alter the body's general condition, thereby affecting its acoustical field. The stimulator signal is used as a sound source, whilst the motor mechanism of the Third Hand is picked up by contact microphone.

ANAESTHETIZED BODY: THE BODY INSERTED INTO THE MOBILE MANIPULATOR UNIT WILL SPIN, GLIDE, CIRCLE AND HOVER. ITS MECHANICAL ARMS WILL BE OF PRIMATE PROPORTIONS, DOUBLE-JOINTED AND CAPABLE OF HIGH-SPEED MODES OF OPERATION. IT WILL NOT SIMPLY AUGMENT BUT RATHER REPLACE THE HUMAN LIMBS. THE BODY, PLUGGED INTO THE MACHINE SYSTEMS NEEDS TO BE PACIFIED. IN FACT, TO FUNCTION IN THE FUTURE AND TO TRULY ACHIEVE A HYBRID SYMBIOSIS, THE BODY WILL NEED TO BE INCREASINGLY ANAESTHETIZED.

3. Body processes amplified include brain-waves (EEG), muscles (EMG), heart-beat (ECG), pulse (PLETHYSMOGRAM-finger clip-on photoelectric type) and bloodflow (DOPPLER FLOW METER), with a KINETO-ANGLE transducer transforming bending motion into a sequence of sounds. A C-DUCER has also been used over the larynx to pick up vibration in the throat, and stomach activity has been monitored by swallowing a transmitter (tethered so that it can later be extracted). With the heart, the opening and closing of the valves, the gurgling of the blood and the gushing of the blood through the wrist can be amplified best by the Doppler ultrasonic sound transducers – the *pencil-type* probe for deep monitoring and the *flat-type* for the shallow wrist section. Although the *pencil-type* probe has several disadvantages in having to be held and needing intermittent application of gel (over the length of the performance), quite dramatic changes of sound occur while scanning over a small area of skin and by pointing the probe at the wrist, the sound varies from the normal repetitive 'whooshing' to a 'clicking' as the blood is dammed. Relaxing the wrist again produces a flooding rush of sound. The use of a TELEMETRY UNIT minimizes the hard-wiring of the body (transmission distance is 30 m) to the equipment, safely isolating it from the electrical system, removing possible hum and noise and allowing the body freedom of movement.

HUMAN-MACHINE SYMBIOSIS: REMOTE SYSTEMS AND SURROGATE ROBOTS PRESENT THE GREATEST POTENTIAL AND THE MOST INTRIGUING DILEMMA. TELECHIRIC SYSTEMS WOULD HAVE TO BE MORE THAN HAND-EYE MECHANISMS. THEY WOULD HAVE TO CREATE A KINESTHETIC SENSE (I.E., PROVIDE THE SENSATION OF POSITION, MOVEMENT AND BODY TENSION). THIS PRESUPPOSES SOPHISTICATED HUMAN-LIKE AND INTELLIGENT ROBOTS CAPABLE OF SOME AUTONOMY EVEN WITH HUMAN PARTICIPATION IN THE LOOP. THE PROBLEM IS WHETHER SURROGATE ROBOTS CAN ADEQUATELY SENSE AND ACT, COLLAPSING THE TIME-SPACE BETWEEN THE BODY AND WHAT IS PERCEIVED AT A DISTANCE.

4. Actions such as flicking of the fingers, bending of the arm, twitching the facial muscles, turning the torso and lifting the leg, bring forth a cascade of sound. Powerful acoustic effects can be generated both by discernible gesture and invisible internal contractions and control. The sound field is configured by buzzing, warbling, clicking, thumping, beeping and whooshing sounds. A combination of percussive-like and wind-like sounds; of triggered, random, repetitive and rhythmic sound. There is a general score or structure in the performance depending on the number and type of body frequencies amplified. Within these performance parameters the body improvises depending on the feedback it generates. *Orchestration* of the event involves selective tuning into / out of channels of sound (varying the *complexity*), increasing or decreasing the volume of certain sounds (*contouring* the sound field), physical control of certain body functions and motions, activation of the mechanical hand and the use of digital delay (foot pedal) to loop and superimpose sequences of sound. The general dilemma of the process is to modulate the original signal in a way that best reflects the body function and maintains an identity with it – an interplay between physiological control and electronic manipulation.

THE HUM OF THE HYBRID (NO BIRTH / NO DEATH): DEATH DOES NOT 'AUTHENTICATE' EXISTENCE. DEATH IS AN OUTMODED STRATEGY REQUIRED OF AN EVOLVING SPECIES. IT IS OF NO ADVANTAGE TO THE AWARE INDIVIDUAL! TECHNOLOGY EQUALIZES THE PHYSICAL POTENTIAL OF HUMAN BODIES AND STANDARDIZES HUMAN SEXUALITY. WITH THE POSSIBILITY OF NURTURING THE FETUS OUTSIDE THE WOMB THERE, TECHNICALLY, WILL BE NO BIRTH. AND IF THE REPLACEMENT OF MALFUNCTIONING PARTS CAN BE FACILITATED THEN THERE WOULD BE NO REASON FOR DEATH. THE MODIFIED BODY WILL BE ASEXUAL AND IMMORTAL. THIS IS NO MERE FAUSTIAN DESIRE NOR SHOULD THERE BE ANY FRANKENSTEINIAN FEAR. RE-DESIGNING OUR BODY MEANS RE-DEFINING OUR ROLE.

5. In previous events, He / Ne (Helium-Neon) lasers were reflected off small optical mirrors stuck to the eyes. This was simple, requiring no other paraphernalia, but it required the head to be almost totally rigid and always facing in one direction. It limited the laser sequences to short durations and to only a direct frontal effect. Now Ar (Argon) beams are propagated through OPTICAL FIBRE CABLE and an input / output lens system, allowing more powerful lasers to be used safely, with the head and body being able to turn without losing the beams. The laser eyes are *modulated by the heartbeat*, pulsing on and off while the sounds of solenoid clicks are amplified to synchronize with the ECG. By blinking, twitching facial muscles and oscillating the head it is possible to SCAN the space and SCRIBBLE images, seemingly with the eyes.

DETACHED BREATH / SPINNING RETINA: THE PSYCHO-SOCIAL FLOWERING OF THE HUMAN SPECIES HAS WITHERED. WE ARE IN THE TWILIGHT OF OUR CEREBRAL FANTASIES. HUMAN EXISTENCE CAN NO LONGER BE JUSTIFIED 'IN AND OF ITSELF.' THE TECHNOLOGICAL TERRAIN CONCEALS COUNTLESS BODY PACEMAKERS – VISUAL AND ACOUSTICAL CUES TO ALERT, ACTIVATE AND CONDITION THE BODY – DIRECTING IT IN PRESCRIBED DIRECTIONS AND VELOCITIES. COMPLEXITY GENERATES CONTROL AND THE SINGULARITY OF COMPLEXITY DISINTEGRATES THE PERIMETER OF COHERENCE.

6. The installation, often, of large rocks, suspended poles of wood and tensegrity constructions manifests mass, weight and gravity, emphasizing the physicality of the body and providing the setting for its acoustical transformation. The installation is activated when the body is plugged into it. The body performs in a structured light environment that flares and flickers, responding and reacting to the electrical discharges of the body, sometimes synchronizing, sometimes counterpointing. Light manifests and further amplifies the body's internal rhythms. It does not simply respond and illuminate but is understood as a physical phenomenon that can in turn directly affect certain body rhythms. An example of this is strobe flicker triggering and driving brain-waves. The light installation not only extends the body but also helps to re-fashion its form.

TOWARDS HIGH FIDELITY ILLUSION: THE SIGNIFICANCE OF TECHNOLOGY MAY BE THAT IT CULMINATES IN AN ALIEN CONSCIOUSNESS, ONE THAT IS POST-HISTORIC, TRANS-HUMAN AND EVEN EXTRATERRESTRIAL.

John Cage on Radio and Audio Tape

Edited by Richard Kostelanetz

RK: When did you first work creatively with radio?

JC: When I went to Seattle and took the job as dance accompanist for the class of Bonnie Bird. I was attracted there in the first place by the presence of a large collection of percussion instruments; but when I got there I discovered that there was a radio station in connection with the school, like a big outhouse. The same building is still there, though now it's used I think for pottery. But then it was radio, and we were able to make experiments combining percussion instruments and small sounds that required amplification in the studio. We were able to broadcast those to the theatre which was just a few steps away, and we were able, of course, to make recordings and, besides making records, to use records as instruments.

RK: How did you use records as instruments?

JC: Well, the record makes a sound and the speed of the record changes the pitch of it, and the turn-tables that we had then one no longer sees; but each one had a clutch: You could move from one speed to another.

RK: What did you do in the radio station that you couldn't do playing the records elsewhere live?

JC: Well, the turn-tables were in the radio station, they were not movable, and they had speed controls.

RK: What could you do with these speed controls?

JC: Well, when you change the speed of the record, you change the

frequency of the recorded sound. I used continuous sounds that were made for test purposes by the Victor Company, and they had both constant tones and tones that were constantly sliding in pitch through a whole range. Those records were used in the *Imaginary Landscape No. 1*.

RK: Were the turn-tables played simultaneously?

JC: No. That may have been the case somewhere in the piece, I forget; but they were played simultaneously with other instruments like cymbals, prepared piano and so forth. Generally, the record-player would play one record at a time and then I'd change it and play another record.

RK: So you could go swiftly from one record to another.

JC: Not swiftly, but you could go properly.

RK: Was the sound modified at all after it went into the microphone?

JC: No, no, I've never done much with sound modification.

RK: Why not?

JC: I found the sounds interesting as they were.

Richard Kostelanetz (1984)

JC: The suitability of those radio sounds in combination with percussion was immediately evident to me. So, I made the first two *Imaginary Landscapes* always with some kind of technological thing in combination with percussion and with prepared piano. Then, when I got to Chicago, I had a commission to do a piece for CBS and I worked with the sound effects engineer at the radio station in Chicago and he showed me the thunderous sound of the coil of wire in a contact microphone, which I loved. I used that in *Imaginary Landscape No. 3*. It became a title that I used when I was using electric or electronic technology.

Thom Holmes (1981)

RK: What was your next radio involvement? The Kenneth Patchen project?

JC: Yes, I'd always admired the Columbia Workshop play programs, and you remember the story of the play that had to do with the end of the world and how the entire country thought it was true; so that not only I, but many other people, were interested in the Columbia Workshop plays. I appealed to Davidson Taylor here in New York to let me make the accompaniment to a Columbia Workshop play. I explained to him that my view of radio music was that it should follow from a consideration of the possible environmental sounds of the play itself; so that, if it was a play that took place in the country, it would be natural to have the sound of birds and crickets and frogs and so forth. But, if it were a play that took place in the city, it would be natural to have the sounds of traffic. In other words, I wanted to elevate the sound effect to the level of musical instruments.

That appealed to him and so he asked me to suggest an author for the play. The first one I suggested was Henry Miller. I asked Henry Miller if he would write a play for me, and he said it would be better if I would first read his books. It was difficult at that time to read his books because they were considered pornographic, so he gave me a letter of special introduction to the New York Public Library when I was still in Chicago. I came to the New York library where he said his books actually existed, and I was able to read them. I didn't see the possibility of a radio play from those books and still felt that he should write something especially for the occasion. He didn't agree to do that. So Davidson Taylor said, well, who would be your next choice and I said Kenneth Patchen. I had read and enjoyed *The Journal of Albion Moonlight* [1941].

I was now living in Chicago, and I'd made friends with the head of the sound effects department of CBS there. Since this was now a CBS Workshop project that had a particular date and deadline, I asked him what sounds I could use; and he said 'there's no limit to what you can do.' Musicians frequently say this to you also; they say write anything you like and we will do it. So I proceeded. I used to go downtown into the loop in Chicago and close my eyes and listen and I dreamed up through that listening all sorts of requests which I wrote down verbally and musically; and when I took them to the sound effects man, he then told me, if you please, that what I'd written was impossible.

RK: Just as those solicitous musicians would tell you that the score you'd just given them was impossible.

JC: Right, so I said, what's impossible about it? He said it would be so expensive. By this time the projected performance was only a few days away and my whole score, which was for an hour, yes, of music that I had written, was, he said, impossible. I had to write another hour in just a few days, and I used the instruments that I knew how to use, namely, the percussion instruments and records. The play that Kenneth Patchen had written was called *The City Wears a Slouch Hat*. I stayed up for about four days really without sleeping, just napping now and then; and I wrote. I was married then to Xenia Cage, and she would do the copying. We had the musicians on hand to play and so forth.

RK: So they would play the new score as you were writing it down.

JC: Essentially yes. I would write it, she would copy it, and they would play it.

RK: Does that first score still exist?

JC: No, I don't think so.

RK: Can you reconstruct it? Could it be done, given technologies available now?

JC: It might be able to be done, but I'm not going to do it.

RK: How did you develop in the early fifties the notion of using radio as a musical instrument?

JC: There was a tendency through the whole twentieth century, from the Futurists on, to use noises, anything that produced sound, as a musical instrument. It wasn't really a leap on my part; it was, rather, simply opening my ears to what was in the air.

RK: Do you remember your thinking at that time?

JC: Yes, my thinking was that I didn't like the radio and that I would be able to like it if I used it in my work. That's the same kind of thinking that we ascribe to the cave dwellers in their drawings of the frightening animals on the walls, that through making the pictures of them that they would come to terms with them. I did that later with the tape machine in Milan when I went to make *Fontana Mix*. I was alarmed over all the possibilities, so I simply sat down the first day I was there and drew a picture of the whole machine.

RK: That dehexed it for you, so to speak.

JC: Right. It's true.

RK: Now why did you choose twelve radios, rather than just one, for *Imaginary Landscape No.4*?

JC: There are so many possible answers; I don't remember which one was in my head. One is the twelve tones of the octave, and the other is the twelve disciples, and so on. It seemed like a reasonable number.

RK: It's said in the history books that when you saw them lined up, you said, 'Ah, twelve golden throats.' Now I assume that's ironic.

JC: No. This particular radio I was using was advertised as a 'Golden Throat.'

RK: But did you think of them as 'golden throats?'

JC: Yes, because, when I was walking along one of the streets in the fifties near Radio City and these radios were in the window, they were advertised as 'Golden Throats,' and I immediately decided to go to the president of the company, or the manager of the store, and ask for the loan of twelve of them. I did that, and he gave me the loan.

RK: So, with your exclamation of 'twelve golden throats,' you basically gave him free advertising.

JC: Exactly.

RK: Didn't you have two operators for each radio?

JC: Right. One controls kilocycles and the other controls the tone control and the volume.

RK: And what instructions did you give the performers?

JC: The parts were written in what we call proportional notation, where the notes are at the points in space that they should be in time. However, this is written in a space which changes with accelerandos and ritards; so that it's at the cross between conventional notation and proportional notation. *The Music of Changes* [1951] is at the same point, so it's written in 2 / 2 or 4 / 4. The space is observed, so that fractions of notes that are irrational can be placed in it by measuring them. Then I can go, for instance from a note that's two-fifths of a quarter to a note that's one-third of a half, and so on, and measure each single fragment. In this case, because you're measuring, you need not add up to whole units; you can come out completely uneven.

RK: Which is not so easy to do in straight musical notation.

JC: No, but I was still using quarter-notes and half-notes, and half-notes you see with fractions above them, very peculiar. Later, due to David Tudor's studying a form of mathematics, to take the trouble out of my notation and doing it successfully, I dropped all notion of metre and went directly into plain space equals time, which has enormously facilitated the writing of new music.

RK: Were those twenty-four radio-performers musicians?

JC: Yes, they were. They could all read notes, and there was a conductor who was beating 4 / 4 time.

RK: Who was he?

JC: I was doing it.

RK: My recollection is that there was something special about what time of day this performance was.

JC: The first performance had almost no sound in it. Two friends of mine at the time, Henry Cowell and Virgil Thomson, both attributed the absence of sound to the fact that it was late at night, it was nearly midnight. However, I knew that the piece was essentially quiet through the use of chance operations and that there was very little sound in it, even in broad daylight, so to speak.

RK: Because the volume levels would always be ...

JC: always very low.

RK: What about your other works for radio at that time? One is called *Radio Music* [1956] and what's the other one?

JC: *Speech* [1955] 'for five radios and newsreader,' it says in your catalogue. *Speech*, yes. Well they're slightly different, but the radio piece was written more or less to please the people who were disturbed over the *Imaginary Landscape No. 4* because it was so quiet. I forgot what I did, but it can be played so as to be loud.

Richard Kostelanetz (1984)

JC: I imagine that fifty per cent of the automobiles on the highway have a radio going and are existing in a medium of music, though very third and fourth rate music. Now I do not believe that that kind of music does anything to enhance what is going on within those cars and automobiles; they'd do better just to listen to the whistling of the wind.

There's one station now on the radio, in New York, that reminds me of Satie and that is WINS. Have you listened to it? It's a continuous news station, and the program, if you listen long enough as you are driving along the highway, more or less repeats itself in the same way that the *Vexations* of Satie would be repeated, because you come back to the weather at regular intervals and, in fact, to the same headline news.

Alan Gillmor and Roger Shattuck (1973)

RK: When did you first encounter audiotape?

JC: I must have first encountered it in Paris in the late forties when I met Pierre Schaeffer who was the first to do any serious work from a musical point of view in relation to magnetic tape. He made every effort he could to get me interested in working along those lines, but I wasn't yet really ready. I was moving – well, I was writing my *String Quartet* [1950], and I had written *Sonatas and Interludes* [1948] – I was gradually moving towards the shift from music as structure to music as process and to the use, as a result, of chance operations in composition. I might have been more cooperative with Schaeffer, but I wasn't. It didn't really dawn on me.

RK: Because of notational problems?

JC: No, my mind was being used in a different way; so that I wasn't as open as I might have been to the notion of music on magnetic tape then. That's '49. In '52, when I worked with David Tudor and Earle Brown, we made several pieces, one by Earle, one by me, one by Christian Wolff and one by Morton Feldman, with funding from Paul Williams. I made the *Williams Mix* [1953] then. All of that work was done with excitement over the possibilities of magnetic tape, and they were various. That's why I was anxious not to exploit them alone but with other people, because each mind would bring into the new possibilities, a different slant; and that's certainly the case. Feldman was working with his early graph music, and it was just marvelous to come to a square on his graph paper with the number, say, 1097 in it. That meant that we were to chop up a piece of recorded tape so that it formed 1097 fragments and splice it back into the band, you know, at that point. I was very open at the time and very interested in splicing tape and in making the music manually. I found various ways of changing sound not with dials but, rather, by physically cutting the tape.

RK: Such as?

JC: Well, the tape normally goes past the head horizontally; but if you cut it and splice it back diagonally....

RK: You would have to cut it into such small pieces that, in effect, are no longer than tape is normally wide.

JC: Yes, but you could get perfectly beautiful sounds by putting it at an angle to what it should have been.

RK: That's terribly meticulous work.

JC: Yes, and I was using chance operations, so that I was able to go from a vertical cut on the tape to one that was four inches long at an angle on quarter inch tape.

RK: It must have taken years.

JC: Well, no, it took about a year, with help, to splice the *Williams Mix*, which was itself a little over four minutes of music.

Richard Kostelanetz (1984)

JC: All this effort is a highly questionable process, in view of the electronic utilities we now have that produce with ease musics of much greater lengths and, if I may say so, greater variety. Well, maybe not greater variety. *Williams Mix* is actually very lively in its four minutes. It might be that the kinds of variation in *Williams Mix* that did result from splicing could happen with computer programming. I don't think they could happen with the manipulation of dials, but I do think they could happen with computer programming.

Bill Shoemaker (1984)

JC: We also did the *Suite by Chance* of Christian Wolff, and we did the *Octet* of Earle Brown and we did the *Intersection* of Morton Feldman.

RK: Do all these works still exist?

JC: I believe they do.

RK: All I know is your *Williams Mix* from the 25th anniversary record.

JC: Earle's piece, the *Octet*, was made with the rubbish from the pieces by Feldman and Wolff and myself.

RK: Using similar compositional operations?

JC: Using his own composing means, but with regard to the sounds that were, so to speak, thrown away through the process of making other pieces.

RK: You know that I regard the *Williams Mix* as your most neglected masterpiece.

JC: Well, it's an interesting piece. One reason it could very well be neglected is that the score has nearly 500 pages and, therefore, it has not been reproduced. The original is at Peter's, I think. It would be too expensive to multiply it; so I don't think many people are aware of it. I have illustrated it in the notes to the Town Hall program.

RK: The 25th anniversary album.

JC: People have seen one page that is like a dressmaker's pattern, it literally shows where the tape shall be cut, and you lay the tape on the score itself.

RK: On the scale of one to one?

JC: One to one, yes.

RK: So the tape is, in effect, the length of 500 pages.

JC: Yes, each page has twenty inches, two ten-inch systems, a little over a second in duration.

RK: Which are, in the album illustration, reproduced on a single page, one atop the other. Your idea for this score is that it would be possible to reproduce the cuts with tapes other than what you used.

JC: Yes. I labelled each entry in the score according to the categories, which were A, B, C, D, E and F and hoped with those categories to cover all possible environmental sounds. Then I took

the various parameters of sound as little letters to follow those capital letters ...

RK: of the categories.

JC: So that you would know what kinds of transformations of those original environmental sounds had been made, whether the frequency had been changed or that the loudness had been changed and so forth. So if it was the same as it was originally, it was followed by a 'c.' If it had been varied, it was followed by a 'v.' So 'Accv' would be a sound, let us say, from the country that had remained as it was in two respects and had been changed in a third.

RK: And this 'Accv' you would have gotten by chance operations.

JC: Right. And then you could have a sound described as 'Avvc' or 'Bcvc' or their combination 'AvvcBcvc,' and someone else could then follow that recipe, so to speak, with sources other than I had, to make another mix. It really is very interesting, don't you think?

RK: Fantastic, yes. As you say, the score is like a dressmaker's pattern. You just simply lay it out and duplicate its cuts on your tape.

JC: One of the pages has a hole in it, which came from a burn from a cigarette. I was a great smoker in those days.

RK: To me, two of the special qualities of the *Williams Mix* are its unprecedented range of sounds and the rapidity of their articulation.

JC: Right. What was so fascinating about tape possibility was that a second, which we had always thought was a relatively short space of time, became fifteen inches. It became something quite long that could be cut up. Morty Feldman, as I told you, took a quarter of an inch and asked us to put 1097 sounds on it, and we did it, we actually did it.

RK: Within a quarter inch?

JC: Which would be one-sixtieth of a second, you see, we put 1097 fragments.

RK: Without mixing? You mean just little slivers of tape?

JC: Little slivers of tape.

RK: That's physically impossible.

JC: No, no, we did it.

RK: How?

JC: By counting, and by hand.

Richard Kostelanetz (1984)

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Audio Art in the Deaf Century

Douglas Kahn

Art photography is commonplace, but an art phonography? When compared to the photographic arts, the phonographic arts are retarded. There are innumerable contributing factors, beginning with the privileging of visuality in Western societies – what has been called the ‘regime of the visual.’

One territory of this regime is comprised of the technological, institutional and discursive precedence, both chronological and conceptual, of photographics over phonographics. Recording and disseminating the scope of the visual world began as a nineteenth century affair while it wasn't until the sound film of the late-1920s that a corresponding panorama of the aural world – speech, music and sound / noise – became socially audible. Furthermore, the wide acceptance of early photography resulted largely from the tenure of other mass reproduced forms. The photographic mode of literacy, in other words, was predisposed long before the widespread availability of photography proper, and therefore, its social embeddedness preceded phonography to an even greater extent. Photography submerged the mark of the hand (by exiling it outside the frame, outside the product and into the production) which the graphics of lithography and etching had routinely carried to millions. It created a rupture in modes of representation to be sure, but as a resolute culmination of an analogical form to which visual art had long aspired. Phonography was further disadvantaged by being received among the social commonplace of the mechanical recording *per se* brought about by photography. Edison would talk of a ‘phonographed sound.’

Except for the reproduction of music, no corresponding aural forms preceded phonography; it lacked a proper introduction. The major candidate, telephony, displaced someone else's voice and only then spatially whereas phonography displaced temporally as

well. Phonography returned a self-same voice. As Malraux has said, 'You hear other people in the ears, but your own voice in the throat.' Phonography wrenched the voice from its production in the throat, in a dual act of violation and theft, but then lodged it, like an echo without a landscape, in a mechanical memory. Sound was stolen only to be returned to its owner over and over again. Thus the surprise of Edison upon hearing the first recording: 'I was never so taken aback in my life.' His voice had moved from his throat to his ears.

Another factor: social spaces for performance and distribution were monopolized by a limited number of powerful artistic and political interests, and subaltern spaces where a countering production could have inhabited were left undeveloped. Mass distribution of photographs was commonplace by the latter half of the nineteenth century while it wasn't until the turn of the century that phonography, after it had been put at the disposal of business, was mass distributed and except for scattered novelties, only in its capacity to reproduce music. Within the arts, photography spread out among an increasing number of venues and across cultural practices, battling for a position of legitimacy and ultimately gaining such a position. A possible art of phonography suffered primarily at the hands of music which, like painting's relationship to photography, was culturally dominant enough to easily declare and domesticate its heretics.¹

As a further complication, the phonographic arts are retarded because there hasn't been a phonographic art. This is not necessarily an undesirable state. Just the opposite. It signals an expanse of artistic possibility in a situation where other arts battle exhaustion. Elsewhere there may be talk again of endgame. Here it's a season opener.

Before proceeding, let me dispel an immediate objection. What follows is not another modernist call for a media art based upon a perceived set of the medium's discrete properties. Well, I take that back. It is, that is to the extent that the essential characteristic of phonography is to replicate the entire world of sound, including those sounds arising from other art forms. Thus any essentialism is dispersed and becomes contained in the din. It's most at home elsewhere, in transit and transformation. Without anchor, its competency relegated in a moment of candour to the idiomatic understanding of understanding: having an ear, lending an ear.

The problem has been that phonography has not migrated over

the expanse of sound, but has been limited to the reproduction of existing aural cultural forms – music, poetry and literature, theatre, reportage – when it could reproduce all these forms at once, inhabit their conventions and break them open to the general aural environment. In the audio-visual forms of film and video, sound recording has suffered from a subsumption under the visual and, within a hierarchy of sound itself, of a full range of sounds under speech.

The absence of a developed artistic practice of phonography is perceivable through yet another comparison between photography and phonography. Comparing the artistic utilization of the mechanical recording of the objects of the two major senses, that is sight and hearing (what John Cage calls the *public senses*), we can note a remarkable historical lapse: approximately *100 years between the eyes and the ears*, a rather severe mutation that has neither cultural nor physiognomic (hat size?) equal. In the mid-nineteenth century, as photography moved to the plasticity of paper, artists were quick to take the knife, pen and brush to it. Not until after WWII, with Pierre Schaeffer's late 40s *musique concrète* pieces in Paris, did anything of similar scale occur in phonography. In the late 40s the visual stigma remained, for example tape recorders were commonly referred to as 'sound mirrors,' in accord with the brand name.

Technology

The incidence of post-WWII phonographic activity is almost always wrongfully attributed to the availability of magnetic audio tape. Although audio tape may indeed have brought about an increase in activity, the first *musique concrète* works were produced on phonograph disc cutting equipment. Pierre Schaeffer was, in fact, reluctant to give up this equipment for audiotape recorders. Technologically, Schaeffer's first works could have been produced on similar equipment available in the mid-1920s. Likewise, the magnetic audiotape works from the 1950s could have been realized in the early-1930s when optical sound film became widely available. Optical sound film's plasticity, its continuous linear editing, was very close to the capacities of magnetic audiotape. Harry Potamkin, in an article from 1930, recounts a meeting with the Russian filmmaker G.V. Alexandrov, in which they discussed his short experimental film *A Sentimental Romance*. The film investigated sound manipulation tech-

niques taken up much later by *musique concrète*:

He has done in this film a number of things I have thought basic in 'playing with sound,' such as: running the sound track backwards, inscribing or designing the sound (sound is after all only inscription). He cut the sound inscription.²

Elements within the common structure of a sound, say its attack, could be removed by removing the attack's visual representation or the sound could otherwise be manipulated to alter the characteristics that make a particular musical instrument or someone's speech recognizable as such. Speech itself 'may be clipped, stretched, broken into stutters, made to lisp, joined with all sorts of sound combinations either in discriminate *mélange* or in alternating, repeating motifs.'³ He also pointed out that companies were well on their way to cataloguing sounds, one of them having a 'library of several thousand records and hundreds of reels of sound on film.' In his book *Radio*,⁴ Rudolf Arnheim championed the use of sound film strips and sound archives for use in radio art or, more precisely, what he hoped would evolve into a distinct radio art. Starting in the late 1920s Moholy-Nagy made explicit proposals for experimentation with sound film and, by stating that sound should be experimented with apart from and prior to its integration with the visual images, effectively proposed a phonographic art.⁵ In the early 40s John Cage, following the suggestions put forth in Carlos Chavez's *Toward a New Music: Music and Electricity* (1937),⁶ attempted to found a 'centre of experimental music' which would utilize film strips:

people didn't think about using tape recorders, but 'film phonographs.' With the help of this particular kind of camera, we thought we could save certain sounds, building libraries of them and composing on the basis of these catalogued elements.⁷

In the history of cinema, despite some innovative early uses of sound, such explorations were necessarily couched in a framework of visuality and not, as Arnheim called it, in *blind hearing*.

Likewise, while early phonographic proposals by Dziga Vertov, Guillaume Apollinaire and Moholy-Nagy were keyed specifically to opening up a future practice, Arnheim lamented the lack of a radio art taking advantage of the new resources. Chavez noted a similar void from the vantage point of music; and Cage was to postpone his

experiments until after being exposed to those of Schaeffer and company. In other words, there were proposals and the technology for developing a phonographic art, but no phonographic art.

From the mid 1920s to the beginnings of a phonographic art, that is from the availability of electric recording, amplification and broadcast to the post-WWII years, and certainly with the development of optical film sound, there were relatively few technological obstacles preventing the development of an audio art form. The relationship of acoustic phonographic technology to artistic development prior to this period, however, becomes more problematic. Phonographic cylinder and disc production was in full swing at the turn of the century and commonplace by the time of the avant garde explosion, circa 1910. And, although there was a continual argument over reproductive fidelity to the original, there was enough satisfaction to build an industry and enough resolution to gain tolerance from the tender ears of major composers. For instance, after one recording session, Ferruccio Busoni chose to complain about the time constraint and not the fidelity of the sound.⁸

Whatever the perceived shortcomings in resolution they need not have been suffered. They could have instead been valorized through the avant garde's preference for ragged surfaces and raucous *environs*, especially as the 1910s proceeded and as *bruitisme* raged from all quarters of the continent. According to Tristan Tzara, for instance, Dada was capable of an 'elegant and unprejudiced leap from a harmony to the other sphere; trajectory of a word tossed like a screeching phonograph record.'⁹

Nevertheless, there were problems with remote recording and with editing, problems that apparently stifled Dziga Vertov's attempt, to be discussed below, at creating an audio art of montage. With the exception of Vertov, there was no attempt to constitute phonography as the technological basis for an autonomous artform. A qualification here is Walter Ruttmann's *Weekend* which bore the mark of cinema rather than a beginning of a program for a phonographic art. There were instances however, where phonography was incorporated into the thought or action of received forms, or was experienced in rather unique terms within the daily life of the period. One of the earliest examples was Alfred Jarry's story *Phonographe* (1884) based 'on the technique of a recurring motif, like a record with a scratch on it'¹⁰ – a blatant registering of the machine within the arts and a short step from Jarry's use of marionettes. Phono-

graphs, improbable sound, music machines and strange acoustic phenomena carried over into Raymond Roussel's *Locus Solus* and *Impressions of Africa*, a tradition that could be carried further to the sonic ideas of Duchamp and Artaud.¹¹ In 1920 Raoul Hausmann used a phonograph in a Dada-Soirée in Dresden: 'The stage was surrounded by a huge green velvet curtain, through whose slit I shoved the gramophone horn and began to play some glorious jazz-music. Behind the curtain we heard the roar of the crowd. From time to time I tossed a couple of firecrackers to the stage.'¹² Iwan Goll, Erwin Piscator and others incorporated phonography amidst other contraptorial wonders into theatrical staging. In the mid 1920s Darius Milhaud experimented with a variable speed phonograph, as did Paul Hindemith and Ernst Toch in the later 1920s; in 1925 George Antheil proposed using a 'phoneygraph' to create a phantom orchestra offsetting an actual orchestra in his unfinished *Mr. Bloom and the Cyclops*, based on James Joyce's *Ulysses*.

In 1889 Edward Bellamy elaborated a utopia of convenience, including not merely talking but arguing clocks, in *With the Eyes Shut* (a utopia interrupted only by the recorded instructions of wives). While Henri Martin-Barzun argued for simultaneous poetry aided by a phonograph,¹³ the female testers of phonographic pressings experienced the simultaneous cacophony of the company's catalogue. The sound poetry of Ball, Hausmann, Schwitters and many others had an inadvertent precedent when late-nineteenth century phonographically-equipped music boxes, toys and novelties deteriorated. A cigarette dispenser which once asked the opener of the box, 'Would you care for a cigarette?' wore down to 'Aaahjjouaaaakkmenn?'¹⁴ Shortly after the invention of the phonograph one person had the idea to:

erect statues of popular speakers in life size, Mr. Henry Ward Beecher for instance, reproduce his speech in tin foil, put a phonograph inside of him (the statue, not the man) and stand him on a platform to repeat the new lecture on the *Wastes and Burdens of Society*.¹⁵

The phonographic preservation of oration, besides echoing Jacques Attali's observations, in *Noise*,¹⁶ on phonography's first mission to freeze the speech of societal elites, reminds us of the hairless Siamese cat assisting Danton's severed head, after many years of suspended silence, to speak once again, in Roussel's *Locus Solus*, or Bloom's idea for a funeral phonograph in James Joyce's *Ulysses*,

'Kraahraark! Hellohellohello amawfullyglad kraaark awfully gladaseeragain hellohello amarawk kopthsth.' Moholy-Nagy's film *The Sound of ABC*, played graphic figures scratched onto the optical sound track (letters, lines and profiles), 'I wonder how your nose will sound?'¹⁷ In a 1950 essay, the Canadian animator Norman McLaren, famed for his drawn sound films, cited among his predecessors a number of investigators at the Scientific Experimental Film Institute in Leningrad and the Leningrad Conservatory in the early 1930s, although their attempts, like Oskar Fischinger's better-known work, were primarily synthetic music, often simply 'performing' already written music.¹⁸ 'Writing with sound,' as chronicled by Potamkin, manifested itself in the experiments of Alexandrov and although he vehemently denied it, of Eisenstein as well:

Alexandrov, so he told me, has played with the designs of sound by inscribing it directly on the negative and allowing light to make the final registration.... By studying the inscriptions closely one may come to an exact knowledge of these inscriptions and read them as easily as one reads musical notes for sound. The inscription for speech and that of sound differ only in the composition of the intervals and a close student will come to recognize peculiarities of the different impressions. Actually, sound will be created without being uttered!¹⁹

Then there was an event in 1924: 'During the planet Mars' closest approach, radios around the world went off the air in order to allow interception of any possible messages from space; when translated onto photographic tape, the signals received produced crudely drawn human faces.'²⁰

The connection between sound and inscription inaugurated by phonography, or rather, the phonautograph that preceded it, took on poetic ramifications for Rainer Maria Rilke in his 1919 essay *Primal Sound*.²¹ In this essay he first recounts a childhood classroom project of constructing a crude phonograph, and then, some fifteen years later in his study, seeing out of the corner of his eye a jagged line much like that inscribed by the phonograph. The line was that of the coronal suture atop a skull he had acquired for contemplative purposes. If the line inscribed by a phonograph could be retraced to return the voice / sound that had created it, what sound would be returned from the coronal suture or, for that matter, any line along any contour in the visible world? Once this idea is taken out of the ridiculous it works very nicely on the sublime to suggest ways to pro-

ceed aurally, with sonic / semiotic animation, amid the spatialization of not merely the visual world but the conceptual world as well.²²

To my knowledge, the first instrument that actually exploited the mimetic capacities of phonography, in other words, the first sampler, was Frederick Sammis' 1936 photoelectric *Singing Keyboard*. Built in Hollywood for commercial purposes, it used loops of optical sound film. Besides instrumental music and 'new voice qualities and choral effects,' Sammis, who worked in RCA's sound film operations, had the following ideas for his instrument:

Let us suppose that we are to use this machine as a special purpose instrument for making 'talkie' cartoons. At once it will be evident that we have a machine with which the composer may try out various combinations of words and music and learn at once just how they will sound in the finished work. The instrument will probably have ten or more sound tracks recorded side by side upon the strip of film, and featuring such words as 'quack' for a duck, 'meow' for a cat, 'moo' for a cow.... It could as well be the bark of a dog, the hum of a human voice at the proper pitch, or the twaddle indulged in by some of our tin pan alley song writers.²³

It is no accident that today's purveyors of pastiche are inspired by cartoon sound tracks of the 1940s, which were supplied to the image through live performance – as if Spike Jones were on a foley stage. One wonders if there were ever performances on the Singing Keyboard for its own sake or, for that matter, on the sound effects organs and machines used in theatre, 'silent' film and radio plays. These were the immediate precursors of Sammis' instrument:

the Noisegraph, the Dramagraph, the Kinematophone, the Soundograph or the Excelsior Sound Effect Cabinet ... from whose keyboards and associated equipment came galloping horses, railroad whistles and bells, rooster crows, cow bawls, canary chirps, mockingbird calls, tugboat whistles, auto horns, cowbells, anvil strikes, marching feet, gun shots, tom-toms, thunder, temple bells, castanets, frog croaks, slide whistles, tambourines, telephone bells, glass crashes, auto chugs, water splashes, and the blowing of noses.²⁴

An Art of Mimetic Sound

The absence of an artistic utilization of phonography during the period from the invention of phonography through the early avant garde was kith and kin to the absence of an art of mimetic sound. The capacity for overt mimesis is, after all, what phonography shares with photography and what it doesn't share with music. Such an art could have laid the ground for a phonographic art. Walter Benjamin's well-known statement on premonitory art – the 'abundant barbarisms in Dadaism' as a latent cinema – is applicable to the aural arts in questions here:

The history of every art form shows critical epoches in which a certain art form aspires to effects which could be fully obtained only with a changed technical standard, that is to say, a new art form. The extravagances and crudities of art which thus appear, particularly in the so-called decadent epoches, actually arise from the nucleus of its richest historical energies.²⁵

The difference is that, when Benjamin speaks of a form that is perceived as debased, one must speak of debasement in the form of absence, dismissal, suppression of an art form; a total debasement that leads to a remarkable lack of activity when a 'changed technical standard ... a new art form' should have been conceived; especially the moment it was made possible by that changed technological standard.

An observation of an absent practice may seem a bit unorthodox. However, it is no different in spirit than Attali's perfectly plausible description of the silence imposed by music. As a matter of fact, it was, first and foremost, conceits within musical discourse that silenced an art of mimetic sound and a phonographic art. For Attali, it was the fact of the phonographic mass reproduction of music which functioned, practically and emblematically, to silence music and to mute social transformation. On the other hand, it was received musical notions, separate from factors of repetition, that silenced a phonographic art capable of operating strategically within the new environs of mass reproduction.²⁶

Silence can have as much presence as anything. It accepts all adjectives: it can be deafening, malleable; pauses can be pregnant. Examples of the musical silencing of sound can be found at the core of modern art. An explicit example occurs with Italian Futurism the

very instant an expanded notion of sound was introduced into the avant garde, i.e., with Luigi Russolo's 'art of noise.' Although there was other bruitist activity throughout the early avant garde, Russolo's was the first, most systematic and stood as the source of inspiration, if not emulation, of what followed. It was also less marginal, playing to thousands throughout Europe and drawing critical and practical response from individuals of central stature among the twentieth century arts: Marinetti, Diaghilev, Mayakovsky, Stravinsky, Vertov, Mondrian, Prokofiev, Varèse and others. He cogently laid out his ideas through the course of several manifestos, designed a whole class of 'noise-intoning' instruments, the *intonarumori*, and even created a new system of notation. Throughout, at every point in his practice, from the way he conceived of his artistic raw material at a molecular level to the reception of his works by others, received notions of music suppressed a truly radical art of sound.

Russolo's practice of an art of noise, as proposed in his 1913 manifesto *The Art of Noises*,²⁷ was explicitly cast in terms of music. In particular, he understood it as a 'great renovation of music.' Nevertheless, the manifesto preserves a deep-seated tension on the question of whether the art of noise should be an independent art or whether it should be dependent upon music. Since it is resolved unproblematically for music, this tension manifests itself as a schism, and a continual source of contradiction and hesitation for Russolo in the conceptualizing of his project.

A rather obvious contradiction exists in the manifesto's historical scenario. He placed the art of noise at the culmination point of the historical trajectory of music: music, he says, was born of a separation from the world of sound, from the world itself, a separation that eventually became the source of a fatuous transcendent power, detached from the momentum of life through the ages and an impediment to cultural progress. Music, in fact, was guilty of purveying a 'fantasy superimposed on reality.' The historically recent noise from the 'growing multiplicity of machines' no longer allowed such superimposition. It instead imposed itself onto the protected domain of music, broaching the separation between life and art. In other words, the mechanistic sounds of modernism, the city and warfare, mandated the art of noise. However, once he embraced these sounds, he immediately denied their basic mediating trait: *imitation*. Anything which belies an attachment to the phenomenal world of sound, must be avoided; a noise's signature was to be timbrel, that is

sonic not fully semiotic. The culmination of the trajectory of music was supposed to remain musical.

Even his idea of art in general conformed to the nonreferentiality of music: art is of the emotions and mimesis has no business in the emotive depths of the psyche. Also, Russolo wants the artist alone to be in control of the material to a degree which, in our post-Cagean era, seems impositional. This desire runs counter to imitation which, he says, reminds people too much of their own encounters with the world, and such mnemonic activities are out of the composer's reach.

The instruments were also rife with contradiction. For having ostensibly resulted from an artistic response to the din of mechanized modernism, the design of the *intonarumori* drew not from contemporary technology but from the technology of traditional musical instruments – the drum, hurdy-gurdy, lion's roar, organ, etc. What they actually sounded like is a matter of speculation at this time, for none of the original *intonarumori* have survived. It is difficult also to discern what they may have sounded like from the accounts of *intonarumori* concerts and demonstrations. What is interesting about these accounts, however, is the self-same split on the question of imitation and music. Russolo acknowledged that the *intonarumori* were quite capable of 'misleading' but wanted no part of it. Most of those who took up his ideas, in whatever manner, asserted an intractability of imitation and, consequently, found the art of noise incommensurate with music, and since music was understood as the sole art of sound, incommensurate with art itself. Where its influence was felt in music, say in the music of Varèse, even the sonic breakthroughs were domesticated to assure a renovation of Western art music. The art of noise itself was either dismissed as a vulgar case of sound effects or put to work as sound effects.

Russolo persevered the attacks on his art of noise, both those critical attacks and the abuse of the *intonarumori* for sound effects. However, after many years he internalized the opinion that the nature of his art was in fact imitative. In the 1920s he began to design instruments along imitative lines, culminating in the Russolophone, a keyboard instrument so capable of imitation it was used to accompany silent films. In this respect, he had arrived at an instrument that served the function occupied for years by sound effects organs. And along with the sound effects organs, it was rendered obsolete by sound film.

If Russolo's art of noise had been conceived and carried out taking into account the mimetic aspect of worldly sound, instead of being forced into the reductive mold of music, the return of the mimetic repressed would not have taken the trivialized form of sound effects and his art would not have been so easily savaged by the new technology of sound film. If Russolo would have integrated mimesis into the very material of his art instead of thinking of sound as a physical phenomenon and noise as its complex (dis)-organization, an identification with music would have been difficult to maintain. The momentum of the historical trajectory of music would have bridged over into something else.

Similar opportunity was encountered and likewise suppressed during Cubism. Analytic Cubism's dissolution of representation was performed under the sign of music. Music provided a model for moving toward nonreferentiality and for constructing a system of relationality *per se*, through figures of polyphony, rhythm, counterpoint, harmony, melody, etc. Simultaneity, for instance, was child's play for music. Consequently, if there would have been a practice of sound based upon Analytic Cubism it would have been indiscernible from music. Synthetic Cubism was a different story. Its incorporation of actual objects would have led to a substantially different practice of sound. We may ask, in fact, with each instance of collage in painting, sculpture, photography and literature during the early avant garde, where was the corresponding practice of sound? Remembering that what was, and is, fancied as musical collage, is restricted to a patchy, quodlibetical mode of organization of different spheres of musical culture.

There was an actual attempt within Cubism to begin to introduce sounds on this level of signage. It occurred during production of *Parade*, Serge Diaghilev's Ballet Russe production of the collaboration among Jean Cocteau, Leonide Massine, Erik Satie and Pablo Picasso. *Parade*, one of the key moments in the arts of the twentieth century, was conceived as an extension of Cubism outside its painterly and literary confines, into those of theatre and dance. And its extension remained limited to these areas. Two different times Cocteau proposed unorthodox, non-musical uses of sound that, through their appropriative character, could have easily been celebrated as cubist. The first proposal was rejected and the second was reduced beyond recognition. Picasso seems to have been the person who confronted Cocteau to persuade him to abandon his ideas. Satie

shared Picasso's opinion but didn't have similar sway over Cocteau. Diaghilev, on the other hand, while residing in Italy had been introduced to the idea of Russolo's art of noise and considered it an 'idea of genius,' but he didn't play a central role in the artistic side of the collaboration.

Appollinaire, Cubism's most eloquent champion, wrote an article on *Parade* in which he snubbed Cocteau's contribution. Perhaps he was unaware of Cocteau's frustrated attempts, for these attempts at dealing with sound found similar expression in Apollinaire's own proposal for a phonographic poetry in his November 1917 lecture *The New Spirit and the Poets*. Or perhaps he was aware of Cocteau's attempts and considered them ill-conceived, too loosened from their associative meanings, or in need of phonographic realization, for in his essay he states:

it would be absurd, if not dangerous ... to reduce poetry to a kind of imitative harmony that would not even have the excuse of being exact. Conceivably, imitative harmony might play a certain role, but it can serve as foundation only for an art that will make use of machines. For instance, a poem or a symphony in which the phonograph will play a part might well consist of noises artistically chosen and lyrically combined or juxtaposed; whereas I, at least, cannot conceive of a poem consisting merely of the imitation of a noise that cannot be associated with any lyrical, tragical or emotional meaning.²⁸

It can also be asked where was the aurality of Surrealism, a question that cannot be dealt with adequately in this essay; a few leads will nevertheless be suggested. The absence of music among the Surrealists and even antagonism against it has been cited often but never dealt with satisfactorily. Man Ray, in his autobiography, has an anecdote on the topic:

In my studio I installed the radio, which played while I worked, except when I had a visit from one of my Surrealist friends. The Surrealists disapproved of music – there were no musicians in the group – since they were considered of an inferior mentality.... Later, when I received another radio from a friend, I gave the old one to a Surrealist poet who became very attached to it but pretended that he listened only to the news: would turn it off abruptly when I was around. When it broke down, he begged me to find a repair man to put it in order again.²⁹

Two recent essays on Surrealism and music have circumvented

the historical problem by looking for the Surrealist 'poetic spirit' in blues and contemporary creative Black music; categorical subsumption of musics not generated among Surrealist ranks proper is seen for some odd reason as a thing to do.³⁰ Instead of looking for a music to call its own in retrospect, it seems more important to explain Surrealism's disowning of music.³¹ Music was never totally absent, of course, from the daily lives of the Surrealists – many had their popular favourites – but it's true that they never invited practitioners of the Western art music variety into their ranks. The social structure of the arts at the time did not make things any easier. Not many composers populated the vicinity of the Surrealists. There was a gulf between musical modernism and the artistic / literary avant garde. The milieu that could support the industrial scale of technology of an orchestra, barely overlapped with the less rarified reaches of the avant garde where the attendant technologies – pen and paper, paint and canvas, etc. – were less capital intensive. Coffee and capital attract two different crowds. The stifling effect on music was expressed in 1924 by Edgard Varèse, one of the few composers who belonged more to the bohemian ranks, when he said:

There is little hope for the bourgeoisie. The education of this class is almost entirely a matter of memory, and at twenty-five they cease to learn, and they live the remainder of their lives within the limitations of conceptions at least a generation behind the times.³²

The question at this point could be generalized from asking why there was no Surrealist music, to why was there no Surrealist sound practice of any type. It could be that the required move was too unprecedented. The Surrealists were in an important respect not prone to dwell in the unprecedented. Their move toward mimeticization (of the unconscious) was in fact set against the overall tendency of the avant garde. What, for instance, would have been an automatic writing of sound? André Breton, Phillipe Soupault, René Crevel, Louis Aragon, Robert Desnos and others, informed by French dynamic psychiatry, hypnosis and mediumistic writing, had engaged in a quasi-scientific transcription of the voice / body of the unconscious, while with the automatic drawing of someone like André Masson, the unconscious was ostensibly inscribed through the body of the arm / hand. Such automatic activities, for Breton in the 1924 *Manifesto of Surrealism*, rendered participating individuals as 'modest recording instruments,' a variant of the term 'simple

recording instrument' derived from a psychiatric account of individual free-association, or 'autoanalysis.'³³ With both recording and mimesis central to the Surrealist project what, therefore, would it sound like? What would be an aural equivalent of Breton and Soupault's venture into automatic writing, *The Magnetic Fields*, now that we have magnetics?

The Desired Audio Arts

It is true that in the pre-WWII avant garde an art of mimetic sound or a phonographically-based art of sound was left undeveloped. This does not mean that an attempt was not ventured. We can find this with the Russian Dziga Vertov, best known as a revolutionary filmmaker in the company of Eisenstein, Shub, Pudovkin, Kuleshov and Alexandrov. In fact, he did not set out to become a filmmaker but, instead, attempted around 1916, after gaining background in writing and music, what would now be called audio art. As a boy, Vertov wrote energetically in many genres and when he reached age sixteen he entered a conservatory for three years to study violin, piano and music theory. In 1916, while attending the Psychoneurological Institute in Petrograd, he was introduced to some of the major players of the Russian avant garde, including Brik, Rodchenko and Mayakovsky. The combination of a background of writing and music, amidst the adventurous imperatives of the avant garde:

turned into an enthusiasm for editing shorthand records (stenographs) and gramophone recordings, into a special interest in the possibility of documentary sound recording. Into experiments in recording, with words and letters, the noise of a waterfall, the sounds of a lumber-mill, etc.³⁴

Toward the end of 1916, Vertov attempted to realize his 'Laboratory of Hearing,' as he called it, with a 1900 or 1910 model Pathephone wax disc recorder:

I had the original idea of the need to enlarge our ability to organize sound, to listen not only to singing or violins, the usual repertoire of gramophone disks, but to transcend the limits of ordinary music. I decided that the concept of sound included all the audible world. As

part of my experiments, I set out to record a sawmill.³⁵

It is assumed he became frustrated with the poor sound quality. Indeed, he spoke of his transition to film in terms of an inadequacy of phonographic technology:

returning from a train station, there lingered in my ears the signs and rumble of the departing train ... someone's swearing ... a kiss ... someone's exclamation ... laughter, a whistle, voices, the ringing of the station's bell, the puffing of the locomotive ... whispers, cries, farewells.... And thoughts while walking: I must get a piece of equipment that won't describe, but will record, *photograph these sounds*. Otherwise, it's impossible to organize, edit them. They rush past, like time. But the movie camera perhaps? Record the visible.... Organize not the audible, but the visible world. Perhaps that's the way out?³⁶ [my emphasis]

In this respect, the famed Kino-Eye, the fetish of much post-WWII avant garde film, seems to have been the result of a frustrated ear. An inability to 'phonograph these sounds,' in Edison's words, resulted in a desire to 'photograph these sounds.' As mentioned before, this inability should not be immediately equated with lack of sound quality. The deficiency instead most likely came about in relation to Vertov's desired montage organization of the acoustically recorded material. Without the electrical recording and amplification that was to become available in the 1920s, he would have been unable to re-record without debilitating generational loss.

Despite his thwarted early ventures in sound, once he embarked upon a career in cinema he did not wait for proper sound film technology to begin realizing his ideas of sound. From the moment he began filmmaking until his first sound film, *Enthusiasm* (1931), he engaged in *virtual* sound, to prepare for the inevitable advent of sound in Russian film. He did this, by the way, before sound had come to American film. He introduced this 'implied sound' into his films, argued theoretically concerning sound, championed an expanded concept of radio and argued against the dogma of asynchronicity between sound and image set forth by Eisenstein, Alexandrov and Pudovkin – *A Statement*. He also argued against the 'theory of caterwauling.' In 1929, while Vertov embarked upon *Enthusiasm*, the film critic Ippolit Sokolov wrote in *On the Possibilities of Sound Cinema* that the natural world of sound was not conducive to recording.³⁷ The outdoors and the remote, the sounds of work,

industry, celebration, public gatherings – that is a large part of the domain of documentary – was not ‘audiogenic’:

Agitational and scientific films will be produced not in the lap of nature, not in the noise of the streets, but within the soundproof walls of the film studio, where no outside sound can penetrate. The sound movie camera will least of all film ‘life caught unawares.’ The unorganized and accidental sounds of our streets and buildings would become a genuine cacophony, a literally caterwauling concert.³⁸

Vertov understood Sokolov’s ‘theory of caterwauling’ to be ‘anti-newsreel,’ i.e., very much within the mold of formalist critics who preferred only actors and acting upon the screen – in the vernacular: played films. Vertov also understood it as a symptomatic of an exclusivist conceit derived from music:

everything which is not ‘sharp’ or ‘flat,’ in a word, everything which does not ‘doremifasolize’ was unconditionally labeled ‘cacophony.’³⁹

Vertov considered the true refutation of Sokolov’s ‘theory of caterwauling’ to be *Enthusiasm* itself. There was nothing do-re-mi in the ‘setting of din and clanging, amidst fire and iron, among factory workshops vibrating from the sound.’⁴⁰ Vertov ‘penetrated into mines deep beneath the earth,’ much like Nadar in the catacombs, and rode atop ‘the roofs of speeding trains’ lugging twenty-seven hundred pounds of recording equipment, developed specifically for the film, and:

for the first time in history recorded, in documentary fashion, the basic sounds of an industrial region (the sound of mines, factories, trains, etc).⁴¹

Vertov may have rejected Sokolov’s music-like exclusivity but he didn’t reject music, nor could he with his background and approach. He often referred to his role in filmmaking, not as director, but as *composer*.⁴² He called *Enthusiasm* a ‘symphony of noises’ and the film’s second name, under which it is known in Russia, is ‘Symphony of the Donbas.’ ‘Symphony’ as a figure is, in one of the many aurally reflexive moments of the film, extended to signal the ‘harmonic’ organization of the activities of the Five-Year Plan in the Don Basin region, and its parallel in the structure and process of the film itself. In a note sent to Vertov from London (Nov. 1931), Charlie Chaplin wrote:

Never had I known that these mechanical sounds could be arranged to sound so beautiful. I regard it as one of the most exhilarating symphonies I have heard. Mr. Dziga Vertov is a musician.⁴³

Vertov invoked musical metaphor without the reduction, regularization or aestheticization it had come to impose in general cultural discourse, because the metaphor had to interact within a documentary context that Vertov called an 'enthusiasm of facts' and a literary process wherein sounds themselves were scripted; with *Enthusiasm*, the sound was scripted prior to the visuals.⁴⁴

Since his art of sound was to be caught up in relationships with visual images, we can only feebly speculate what a Vertov audio art, an autonomous practice of recorded sound, would have sounded like. Film historian Seth Feldman says it's possible to infer what a Radiopravda production would have sounded like by sonically animating the titles and implied sounds in *Kinopravda No. 23*. But what about a pre-Revolutionary work, still caught in the Cubo-Futurist exuberance of the twenty-year old in St. Petersburg? And how might this have developed after October, through the 1920s, or past the Stalinist anti-formalism of the 1930s? The legacy that we have received from him is in the way he approached the new artistic possibilities of sound in a nondogmatic, pan-disciplinary way, along 'the line of maximum resistance' as he called it.

The latter-half of the 1920s, in the Weimar Republic, saw the meteoric rise of radio, as Kurt Weill wrote in 1926, 'Within a remarkably short period of time, radio has become one of the most essential elements of public life. Today, it is one of the most frequently discussed topics among all segments of the population and in all organs of public opinion.' It was still too early, according to Weill, to 'foresee what new types of instruments and sound-producing devices may develop,' but there could be no 'doubt that the preconditions for the development of an independent artistic genre of equal stature (with the other arts) are present.' Just as radical proponents of sound film warned against using it simply to reproduce theatre, Weill argued that radio must resist 'reproduction of earlier artistic achievements' and instead work to develop an autonomous 'radio art.'⁴⁵

One of the main obstacles for undertaking such a development in Weimar was the control exerted by the political right over the airwaves, to the near total exclusion of organizations of the working

class and of radical artistic ventures. Nationalistic, militaristic and anti-Semitic programming aired regularly but programs which spoke to the experiences of the working class were rare, especially when compared to the formidable scale of worker's culture in general. Deutsche Welle (German Broadcasting Service) sought to placate the situation by airing the *Worker's Service* which included presentations such as:

The German Idea of the State from Frederick the Great to the Present Day

The People, the State and the Nation

The Duties of the Citizen Towards His State

Fundamentals of Politics⁴⁶

Bertolt Brecht, in an open letter (1927) to the director of the Berlin radio station, suggested using radio to broadcast important Reichstag sessions, then gave it a second thought: 'Since this would represent progress, there is bound to be a series of laws to prevent it.'⁴⁷ In another comment (1930) on the general state of German radio:

I very much wish that this bourgeoisie would add another invention to their invention of radio – one that would make it possible to record for all time everything that can be communicated by radio. Later generations would then have the chance of seeing with amazement how a caste, by making it possible to say what they had to say to the whole world, simultaneously made it possible for the whole world to see that they had nothing to say.

A person who has something to say and finds no listeners is in a bad way. But an audience that can find no one who has anything to say to it is even worse off.⁴⁸

Brecht was looking, rhetorically of course, for a sophisticated phonographic device (one of Weill's 'new sound-producing devices?') that would record the German bourgeoisie's use of radio much like Nixon's conversations were recorded in the White House tapes. Rudolf Arnheim had a similar notion but entertained a naïve idea that it would lead to a state where 'history will speak, and it will be at least a little more difficult to falsify it.'⁴⁹ However, if such a device existed, the bourgeoisie could have immediately engaged in

self-parody; there would have been no need to wait for their banality to weather away down to an exposed state of criminality. Such a device could have been used to turn actual voices ventriloquistically against themselves, much in the same way John Heartfield used images from photojournalism in his parodic photomontages, or Polish Solidarity used the voice of General Jaruzelski, or the anarchist punk group CRASS used the voices of Thatcher and Reagan.⁵⁰ When members of the German Communist Party interrupted the radio broadcast of Hindenberg's New Year's address one month before Hitler's assumption of power, they could have replaced his message with his actual voice enumerating his crimes, instead of simply broadcasting their own opposing declamations.

Perhaps the most concerted avant-gardist proposal to base itself upon the new technological possibilities of electric media, if not primarily phonography proper, was the 1933 Italian Futurist manifesto *La Radia* written by Pino Masnata and F.T. Marinetti, the polemic platform upon which were spawned the radio *sintesi* (short performances) written and realized in Italy through the 1930s. Undoubtedly, the fact that the sympathies of the fascist government were shared by Marinetti and the third-generation crop of Futurists facilitated these activities.⁵¹ Just in case anyone had lingering questions, these sympathies were backed up in the very first section of *La Radia* by a number of statements, including a virulently anti-Semitic, genocidal remark. Also in this section was a listing of perceived accomplishments of Italian Futurism from its inception. The second section goes on to propose an overreaching program for a new anti-realist, radiophonic art 'that begins where theatre, cinema and narration end.' The manifesto's final section contains the most salient artistic ideas including:

the 'detection, amplification and transfiguration of vibrations given out' by human beings, living and dead, and by materials such as 'a diamond or a flower'; 'gastronomic music'; an orchestration of sounds and silences that will act as 'strange brushes' to spatialize the infinite darkness of radia; the utilization of interferences among stations and of the rising and fading of sounds; the geometric limitation and building of silence; etc.⁵²

Digital Phonography

Seemingly, following the loose chronology set up here, I should go on to post-WWII activities, when Pierre Schaeffer and Pierre Henry inaugurated *musique concrète*, when Cage and others produced phonographic pieces as part of the *Music for Magnetic Tape* project, when William S. Burroughs used his Wollensack to apply his and Gysin's 'cut-up method' to sound, when experimental Hörspiel lit up the radios in West Germany. However, I'm going to refrain from commenting on this period, as well as the intervening activity to the present day. Magnetic tape led to a proliferation of work, most of it conforming to the same strictures set forth in the early part of the century, but there are a number of exceptions. To do justice to these exceptions and to characterize the ground they broke, I will wait for another occasion. Instead, I will skip over this period and conclude this essay by proposing one way in which the trends in an artistic (non)utilization of phonography (and mimetic sound) will become manifest.

Recent digital sound technology has made an expanded concept of instrument unavoidable. I don't mean more new instruments, but a different way to think about what an instrument is and does. The concern here is with sampling; and sampling, of course, is already being heralded as the source of a whole new family of musical instruments based on recording, over and above ones which have already been supplied by processes of synthesis. From a larger perspective, however, the development of instruments along these lines signals no qualitative change, practically as though there was no significant distinction between recording and synthesis. We find that sampling keyboards and other interactive configurations are geared entirely to the replication of existing musical instruments and accepted musical vocabularies. They may condense a number of instruments to one location, expedite the utterance of certain sounds or deploy whole families of sound not previously available for musical interaction. As such, they promise wonderful things, for example torch songs built on displaced events of actual pain, real country in country music, etc. But they do not, or rather, *in usage* they have not broken out of the most tenacious of musical missions, the domestication and exclusion of referential sound.

The sample length attainable, singularly or in sequence, with most samplers is adequate to elicit sound fragments that retain

aspects of wordly meaning from their parent contexts. Of course, the longer the sample capacity the greater the options. This is the minimum requirement to invoke the types of meaning trafficked in poetry, literature, cinema, theatre and so on; that is as meanings would occur in a perceptual mode of 'blind hearing.' There would be the potential, furthermore, to migrate freely among all these meanings and to migrate freely among all other sounds as well, music included.

That samples are presently equated with fragments that have jettisoned the mark of their previous lives is certainly a result of the exigencies of music, but there are many other factors as well. Each factor is the source of an obstacle preventing a radical reconceptualization of the idea of instrument. Such obstacles promise to remain because they promote transformations, from the phenomenal world of sound to artistic artifact, that may be accomplished with relative ease and assurance.

This sensibility was demonstrated recently in the pages of *Electronic Musician* (December 1986), a trade rag for the studio musician or the aspiring studio musician, by the founder of *musique concrète* Pierre Schaeffer when he said, 'From the moment you accumulate sounds and noises, deprived of their dramatic connotations, you cannot help but make music.'⁵³ The issue's cover announced the interview, which included composer Pierre Henry, as 'Schaeffer & Henry: They invented sampling in the 40s ... and music was never the same.' History is recuperated here in industrial terms. The ambiguities and squandered opportunities of *musique concrète* are submerged, while Schaeffer contributes to guarantee that he has at least presaged a technological order if not an artistic one.

Elsewhere Schaeffer repeats himself, faithfully following Helmholtz's scientific categorization of sound in general:

You have two sources for sound: noises, which always tell you something – a door cracking, a dog barking, the thunder, the storm; and then you have instruments. An instrument tells you, la-la-la-la (sings a scale). Music has to find a passage between noises and instruments. It has to escape. It has to find *a compromise and an evasion* at the same time; something that would not be dramatic because that has no interest to us, but something that would be more interesting than sounds like Do-Re-Mi-Fa.⁵⁴ [my emphasis]

Schaeffer casually dismisses the referential capacity of recorded sound; it 'has no interest to us' and it is caricatured as 'dramatic.'

Dismissing 'dramatic' dismisses all that is literary, not from the entirety of a composition for that can be provided by lyrics and libretti, but from the sound material itself. Referential sound has also been dismissed by musical culture in the twentieth century through metaphors of photography. Literature and photography are sensed to be capable of invoking too many aspects of the world, or with too much insistence.

As a matter of fact, phonography, of which sampling is a part, has a tension between writing and music historically built into it, a tension which digital sound recording can resolve. From the time of phonography's commercial release to the turn of the century it was primarily put to stenographic use. Edison didn't think of it initially as a means to mass reproduce music; he later had to contend with the fact that this was the main way the phonograph was being socially implemented. In 1913 he awkwardly promised improvements in his phonograph to make it 'the greatest musical instrument in the world.' To think of the phonograph as a musical instrument is awkward because it bestows an active nature upon a basically passive recording device. You may play your stereo but you don't play it like a saxophone. Even scratch only scratches the surface. The active element in Edison's formulation comes from the phonograph's past in stenography; the activity of inscription involved in writing. The Gramophone Company's trademark was an angel, quill in hand, much in the same way photography was called the 'pencil of nature.' Today, the same computer monitor can display digital sound editing, photographic manipulation and word processing. Digital has not merely made Edison's phonograph into a musical instrument but an instrument for any cultural process of sound.

The immense artistic possibilities now available carry the threat of profound disruption and, thus, create a situation to be avoided, especially by those who gravitate to digital technology for reasons of technological fascination – mathemusic, psychoacoustics – in other words, nearly all those who supervise, institutionally *and* discursively, the equipment. What has been avoided is an aural cultural practice along a greater gamut of signification: sustained, overt mimesis, tones as asemantic as possible, and all points between – everything polyphonic and polysemic. Such an artistic practice is firstly social, political, cultural and communicative. It would be open to all those who write, for instance, not just those who solder. It could break down the toys-for-boys climate which still plagues us

and begin, from one angle, to democratize the technology.

While so many things provide obstacles, the way in which phonography replicates the entire world of sound, including those sounds arising from other art forms and from other media, provides the most fruitful challenge. It does so by asking the simple question, where and what is the instrument? This is not a simple question. The sound of a musical instrument is contained by the instrument itself; the sound material of a violin may be directly traced to the physical materials and mechanics of the violin. This locates and limits the sound, gives it a presence and supplies the metaphysical comfort of causality. However, the sound of a sampler lies elsewhere, anywhere.

Wherever and whatever types of sound are invoked, whether existing or contrived, they determine the discrete basis of the instrument – an instrument could bear the name of the area of sounds it invokes. In this sense, the instrument is no longer even phonographic. The sampler, in whatever performative configuration, is not the instrument, instead, the instrument is the class of sounds the sampler organizes, and the way that it organizes them. Questions of how sounds may be classed, the nature of the material to be organized, the modes of organization, the types of skills required and other questions of composition and performance cannot be treated here. It is enough to say, for the time being, that digital sampling has not created a new class of instruments, it has created the possibility for an infinitude of instruments.

I am indebted to on-going conversations with Ron Kuivila, Dan Lander, Chris Schiff, and Gregory Whitehead for the development of many of these ideas.

Notes

1. For an introduction to the genesis of the 'musical conceit,' that is, an equation of artistic practices of sound with music, see my address to Der freie Klang symposium, 'The Sound of Music' (German / English), in the catalogue for *Ars Electronica 1987*, LIVIA, Linz, Austria, pp. 33-51. A fuller discussion is included in my forthcoming book, *The Sound of the Avant Garde*.

2. Harry Potamkin, 'Playing with Sound,' *The Compound Cinema: The Film Writings of Harry Alan Potamkin* (New York: Teachers College Press, Columbia University, 1977), pp. 86-88. When it comes to film sound, G.V. Alexandrov is perhaps best known as a co-signatory with Eisenstein and Pudovkin of the famed 1928 'A Statement.'

3. Ibid.
4. Rudolf Arnheim, *Radio* (London: Faber & Faber, 1936).
5. Lazlo Moholy-Nagy, 'Problems of the Modern Film,' *Moholy-Nagy*, Richard Kostelanetz, ed. (New York: Praeger, 1970).
6. Carlos Chavez, *Toward a New Music: Music and Electricity* (New York: W.W. Norton & Co., 1937).
7. John Cage, *For the Birds, in conversation with Daniel Charles* (Boston: Marion Boyars, 1981), pp. 75-78.
8. From a letter to his wife in Sam Morgenstern, ed., *Composers on Music* (New York: Pantheon, 1956), p. 354. Other composers were, of course, committed warriors against foe-nography and, later on, of the radio broadcast of music. These types of debates have tapered off, but can still be found in arguments among audiophiliacs over the merits of compact discs.
9. Tristan Tzara, 'Dada Manifesto 1918,' in Robert Motherwell, ed., *The Dada Painters and Poets* (New York: Whittenborn, 1951), p. 81.
10. Maurice Marc LaBelle, *Alfred Jarry: Nihilism and the Theatre of the Absurd* (New York: New York University Press, 1980), pp. 26-7.
11. Raymond Roussel, *Locus Solus* (London: John Calder, 1983).
12. Raoul Hausmann, 'Dadatour,' in Mel Gordon, *Dada Performance* (New York: PAJ Publications, 1987), pp. 86-7.
13. Henri Martin-Barzun, *Voix, rhythms et chants simultanes* (Paris: 1913).
14. Arthur W.J.G. Ord-Hume, *Clockwork Music* (New York: Crown Publishers, 1973), pp. 281-82.
15. Roland Gelatt, *The Fabulous Phonograph* (New York: Appleton-Century, 1965), p. 30.
16. Jacques Attali, *Noise: The Political Economy of Music* (Minneapolis: University of Minnesota, 1985).
17. Sibyl Moholy-Nagy, *Moholy-Nagy: Experiment in Totality* (New York: Harper & Brothers, 1950), pp. 68, 97.
18. Norman McLaren, 'Animated Sound on Film' (1950) in Robert Russett and Cecil Starr, eds., *Experimental Animation: An Illustrated Anthology* (New York: Van Nostrand Reinhold Co., 1976), pp. 166-68.
19. Potamkin, p. 87.
20. William Levy and William de Ridder, *Radio Art* (Amsterdam: Gallery 'A' exhibition catalogue, circa 1982).
21. Rainer Maria Rilke, 'Primal Sound' in *Rodin and Other Prose Pieces* (New York: Quartet Books, 1986).
22. I find Michel de Certeau's ideas of 'spatial stories' useful when combined with the phonographic tracking fantasies of Rilke. See de Certeau, *The Practice of Everyday Life* (Berkeley: University of California, 1984).

23. Tom Rhea, 'Photo-electric Instruments' in Greg Armburster, ed., *The Art of Electronic Music* (New York, Quill, 1984), p. 15.

24. Raymond Fielding, 'The Technological Antecedents of the Coming of Sound: An Introduction,' Even William Cameron, ed., *Sound and the Cinema: The Coming of Sound to American Film* (Pleasantville: Redgrave Publishing Co., 1980).

25. Walter Benjamin, 'The Work of Art in the Age of Mechanical Reproduction,' in *Illuminations* (New York: Schocken Books, 1969), p. 237. The essay on Benjamin's own myopic neglect of aura-lity has yet to be written.

26. It just so happens that Attali's own received notion of music, as an artistic field of sound that does not admit free play between mimetic and nonmimetic entities, serves to silence radical artistic practices of sound and 'noise,' no less, and to silence the strategics of a negative deployment of phonography. As a post-mortem Luddite with an infidelity to hi-fidelity, phonography is the wicked steam engine of the present undesirable epoch of 'repetition' and in no way (pre)figures into the premonitory activities of the next desirable epoch of 'composition' whose attendant aural artistic technology is, for Attali, none other than the traditional music instrument.

27. This manifesto is translated in Nicolas Slonimsky, *Music Since 1900* (New York: Coleman Ross Co., 1949); Michael Kirby and Victoria Nes Kirby, *Futurist Performance* (New York: E.P. Dutton, 1971); Umbro Apollonio, ed., *Futurist Manifestos* (New York: Viking Press, 1973) and Pontus Hulten, commissioner, *Futurismo & Futurismi* (Milano: Bompiani, 1986). The main source on Russolo is G.F. Maffina, *Luigi Russolo e L'Arte dei Rumori* (Torino: Martano Editore, 1978).

28. Guillaume Apollinaire, 'The New Spirit and The Poets' in Francis Steegmuller, *Apollinaire: Poet Among the Painters* (Freeport: Books for Libraries Press, 1971), pp. 281-2.

29. Man Ray, *Self Portrait* (New York: McGraw-Hill Book Co., 1963), p. 175.

30. Paul Garon, *Blues and the Poetic Spirit* (London: Eddison Press, 1975). Franklin Rosemont, 'Black Music and the Surrealist Revolution' in *Arsenal: Surrealist Revolution*, No.3, Spring 1976. Similarly, J.H. Matthews, otherwise the keenest commentator in English on Surrealism, searches for radio Surrealism in the Goon Show and Nicolas Slonimsky, also of great and deserved repute, writes a disastrous article attributing Surrealistic features to damn near every piece of music in the twentieth century. J.H. Matthews, *Toward the Poetics of Surrealism* (Syracuse: Syracuse University Press, 1976). Nicolas Slonimsky, 'Surrealism and Music' in *Artforum*, September 1966. I am very grateful, and so is the phone company, to have had Chris Schiff to talk to concerning Surrealism and music / sound.

31. The major exception of entertaining radical uses of music and sound within Surrealism is to be found with Antonin Artaud, to the extent he can be rightfully associated with these circles. A treatment of his contributions will appear in my forthcoming book.

32. Edgard Varèse, 'The Music of To-morrow,' in *The Evening News* (New York), 14 June 1924, reproduced in Timothy Day, 'The Organized Sound of Edgard Varèse,' in *Recorded Sound* (The Journal of the British Library National Sound Archive), No. 85, Jan. 1984.

33. Jennifer Gibson, 'Surrealism Before Freud: Dynamic Psychiatry's "Simple Recording Instrument"' in *Art Journal*, Vol. 46, No. 1, (Spring 1987).

34. Dziga Vertov, *Kino-Eye: The Writings of Dziga Vertov*, Annette Michelson ed. (Berkeley: University of California, 1984), p. 40.

35. Dziga Vertov, 'Speech of 5 April 1935,' cited in Seth Feldman, *Evolution of Style in the Early Work of Dziga Vertov* (New York: Arno Press, 1977), p. 13. For an astute comparison to Russolo's work, a source that influenced Vertov, refer to Feldman's comments pp. 12-15.

36. Feldman, p. 40.

37. Vertov, p. 112 footnote.

38. Quoted in Herbert Marshall, *Masters of Soviet Cinema* (Boston: Routledge & Kegan Paul, 1983), p. 81.

39. Vertov, 'First Steps,' p. 114.

40. Vertov, 'Let's Discuss Ukrainfilm's First Sound Film: *Symphony of the Donbas*,' p. 109.

41. Vertov, p. 109, original emphasis.

42. Jay Leyda, *Kino: A History of the Russian and Soviet Film* (New York: Collier Books, 1960), p. 177.

43. Vertov, 'From Notebooks, Diaries,' p. 170.

44. Compare Vertov 'Sound March,' pp. 289-293 and Michelson's comments on p. 327.

45. Kurt Weill, 'Radio and Restructuring of Music Life' (1926) in Jost Hermand and James Stealkley, ed., *Writings of German Composers* (New York: Continuum, 1984).

46. Friedrich Knilli, 'The Radio Culture of the German Working Class in the Weimar Republic,' in Frank D. Hirschback, et. al., ed., *Germany in the Twenties: The Artist as Social Critique* (New York: Holmes & Meier Publishers, 1980).

47. Bertolt Brecht, 'Radio as a Means of Communication: A Talk on the Function of Radio' and the introductory article by Stuart Hood, 'Brecht on radio,' in *Screen*, Vol. 20. Nos. 3 / 4, (Winter 1979 / 80).

48. Ibid.

49. Rudolf Arnheim, *Radio* (London: Faber & Faber, 1936), p. 119.

50. Douglas Kahn, *John Heartfield: Art & Mass Media* (New York: Tanam Press, 1985), pp. 131-32. In Poland, in the fall of 1983, Solidarity retaliated against a tape the government concocted of a fake conversation between Lech Walesa and his brother, with a tape of their own, but which did not attempt to deceive. It was produced from the infamous 1981 broadcast of general Wojciech Jaruzelski declaring martial law. They 'ventriloquized' the general to have him say, in an unusual moment of candor, 'Citizens, men and women, the following in a nutshell is the truth about martial law. There have come into effect, or shortly will come into effect, laws making a mockery of the principles of morality and justice.'

Per CRASS, band member Andy Palmer explained the action:

We took extracts from speeches by Thatcher and Reagan, put them together with some telephone noises over the top and distributed it anonymously on the continent. A Dutch journalist took it to the States where it ended up in the State Department in Washington, who promptly issued a statement saying that they felt it was part of the 'Soviet disinformation campaign.' Subsequent to that, the (London) Sunday Times got a hold of it and, acting purely as a mouthpiece for the State Department, printed an article entitled 'How the KGB Fools the West's Press.'

The tape had Reagan and Thatcher commiserating on the Falkland Islands invasion and on nuclear armaments. Eight months later CRASS announced that they, and not the KGB, had manufactured that tape, much to the embarrassment of the governments and press.

Perhaps the State Department was quick to accuse because it was informed by the CIA's own background in fraud: 'to spread dissatisfaction about the exiled Sihanouk amongst the Cambodian peasantry who revered him, a CIA sound engineer, using sophisticated electronics, fashioned an excellent counterfeit of the Prince's distinctive voice and manner of speaking – breathless, high-pitched, and full of giggles. This voice was beamed from a clandestine radio station in Laos with messages artfully designed to offend any good Khmer. In one of the broadcasts, 'Sihanouk' exhorted young women to aid the cause by sleeping with valiant Vietcong.' – Bill Blum, *The CIA: A Forgotten History* (London: Zed Books Ltd., 1986), p. 154.

51. Recent critical accounts of Marinetti and Futurism's attachments to fascism try to downplay the strength of the ideological alliance by proposing that the disenfranchisement of the Futurists from State centrality constituted a 'falling out.' We are asked to believe that because the Futurists did not have official recognition from the government that they were distant from fascism.

52. F.T. Marinetti and Pino Masnata, 'La Radia,' in F.T. Marinetti, *Teoria e Invezione Futurista* (Verona: Arnoldo Mondadori Editore, 1968), pp. 176-180. Translated by Barbara Poggi and Douglas Kahn.

53. John Diliberto, 'Pierre Schaeffer and Pierre Henry: Pioneers in Sampling,' *Electronic Musician*, (December 1986).

54. Ibid. Schaeffer's sad logic came to a head recently in an interview for a British magazine wherein he dismissed his entire career as being futile. 'It took me forty years to conclude that nothing is possible outside DoReMe.' Interview by Tim Hodgkinson, *Rē Records Quarterly*, Vol. 2, No. 1, (March 1987). The responses to Schaeffer's interview throughout the magazine are likewise stymied in the musical problematic.

Mimicry

Rita McKeough

An installation at Women in Focus, Vancouver, January 1988.

This installation presented the strategy enacted by a single mother as she leaves an abusive domestic relationship.

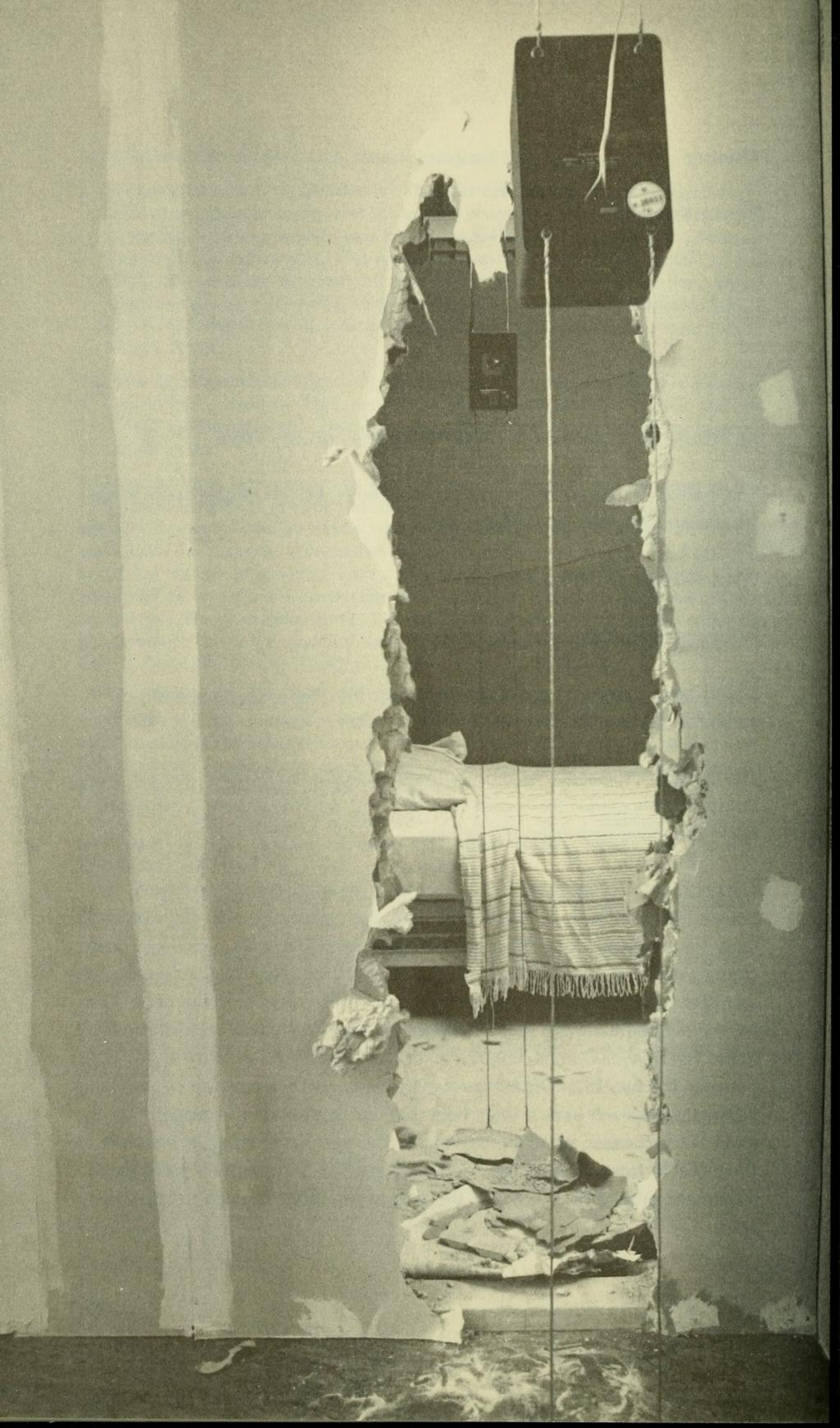
What she says as she leaves.

What she hears him say as she leaves.

Sound tapes simulated a dialogue between the man and the woman, from adjoining apartments, constructed in the gallery.

The dialogue represents the destruction of both the family home and the relationship of the couple (in its oppositional form), partially exposing the mechanisms that have oppressed the woman.

The constructed apartment, which represents the space the couple shared, now houses the man alone. Its walls are purple, the colour of bruises the woman's body has received from the man over the years. The walls are full of deep cracks, which represent the fracturing of their relationship. The floor is covered with fine white sand which has seeped out of the cracks over the years. The woman's apartment is a new residence she has created for herself and her baby. The drywall is unpainted but all of the construction is finished. The wall between the two adjoining living rooms and the wall between the two adjoining bedrooms each have a large hole that has been broken through them. A small black speaker, attached by wire to the floor and ceiling, is suspended three feet in front of each hole on both sides. The two speakers in the man's apartment project his voice and the two in the woman's home project her voice.



The door to the man's apartment is locked and the woman's door is open. To enter the man's apartment the audience must walk through one of the holes in the wall and in that process stand between the two speakers, hearing both at once. The power of the woman's voice within this dialogue is what has created the holes (opening?) in the structure of the relationship and the material structure of the home (the wall), allowing her to finally leave the abusive relationship. In a previous installation (*Blind Spot* at Eye Level Gallery in Halifax) the woman in the abusive domestic relationship found her anger and freed her self of her guilt, while the house took the physical violence her body would have taken. In *Mimicry* she moves one step further and finds the courage to speak to the man and speak publicly of her situation. The power she finds in her voice and in her language gives her the courage to finally return to herself.

The man's voice is breaking up / cracking, as is the relationship. The power of his voice is reduced as the woman's voice interrupts the male monologue of his violence. She hisses, sharpens her words, sings her joy and howls her sadness, rejoicing in the giving of her departure.

Audio Script

1. Woman's Voice: A thousand and one fiery words.

Her Voice explodes / reverberates / echoes.

Sometimes it *hurts* just to breathe,
as I *collide* with my memories.
Memories of your violence – my *pain*.
Your *rage* – my anger.

It was a battleground – an open wound.

I was often betrayed by my own desires
and by your failures.

Let me tell you *this*.
You spoke only to my body.
But you did not hear its *voice*.
You did not hear – tissue tearing –
veins bleeding – skin ripping –
bones cracking – eyes swelling –
lumps rising.

Others see it all on my body.
My body is others' eye on me.
Some cover their eyes – in reflection.

I will no longer close my eyes and walk and walk.
All night long.

My debilitation lead to dependency.
(I thought I needed you.)

Dependency lead to *dread*.
(I thought it would never end.)

'Everything turned *bad*.
And I left our house on fire.'¹
I hiss at your sins.
And I'll never go *back*.

You've nothing left to offer me.
You pushed me until I *broke*.
Nose – Skin – Bones *ssss*

I couldn't stay.

I'm going to save myself.

I'm giving you my departure.
I'm not returning
your *gift*.

2. Woman's Voice: Her Words Hiss & Crackle / Split wide open.

[Words in brackets not to be spoken.
Words in italics to be hissed and cracked.]

(hurts)*ss tsss tssss*

(split)*tttttt t*

(voice)*ce ce c c s s s* (hiss)

(bones)*ssss c rack kkk*

(resist)*sss* (hiss)

I thought I needed you

I thought it would never end
(howl)

(ba)*ck ck ck ck*

k k k k k k
bones (hiss)

nt nt st st st

I am giving you

f f f f t ft

3. Woman's Voice: Her Voice Resists.
Her pleasure in the giving of her departure.

howl

[chant 3 part harmony]
I am giving you my departure
I am giving you my departure
I am giving you my departure

4. Man's Voice: Ruptured.
The male voice speaks at the same time as the woman.
He does not speak in response to what she says.
He speaks for himself.

[sound effects juxtaposed with the following words are: cracking voice, cracking drywall, and grating noise.]

This is where you belong.

I know what's best for you.
After all these years –
I know you better than anyone.

Trust me.

What is it that you want.

If you leave –
I'll come and find you.

You can't get along without me.

If you leave –
Don't ever come back.

Why are you treating me like this.
I deserve better.

Nobody else will want you!

Where will you go.

No one else will put up with you –
like I do.

I always gave you
what I thought you wanted.

How can you do this to me –
After everything I've done for you.

Go ahead – turn your back
and run from me.

I make a few mistakes
and you can't even forgive me.

You have no right to do this.
What about the baby.

I have the law on my side.

I am returning to myself.
As one world breaks in two
I get loose and let go.

howl

There is nothing between *us*.

us s s s (hiss)

'Thousands of hours thrown away.
Just to feel my heart for a second.'²
It just isn't worth *it*.

(it) t t t ttt

Now I'm *howling*.
I want to speak against certainties.
No longer *howling* into the wind.

(two voices howling)

I am not *guilty*.
I am not frigid.
I am not too hot.
I am not too much of a mother.
I am enough of a mother.
I do not nurture too much.
I nurture enough.
I do have desires. *ssss*
I am not *guilty*.³

I am not

(howl)

(desire)sssss.

I'm home – here – alone – home –
For a fracture of a second
I was back here with you.
But now – we've split – wide open.
Now this is my home.
Here without you.

I dreamed I heard you *speak* to me.
I heard a dream.
You spoke to me.
I heard your words *explode*.
Blown to *bits* – demolished.
That is how I have always not been heard.
Now I throw my *voice*.
And it explodes.
A thousand and one fiery *words*.

I heard your words explode.

I have always not been heard.
ce ee ce

I dreamed you spoke to me.
Your breath brushed my heart.
There was a thin *crack*
in your voice
as you spoke.

(heart) rt rt rt
cr cr cr cr r

Now it's wide open – cracked.
We've *split* wide open.

we've split.

1. Robert Smith.

2. Ibid.

3. Inspired by *Newly Born Women* by Catherine Clement and Hélène Cixous.

Leave quietly –
or the neighbours will hear.
This is between us.
I don't want anyone else to know.
It's none of their business.
If you leave – everyone will know.

[chant / sung]

You gave to me
I gave to you
you took back

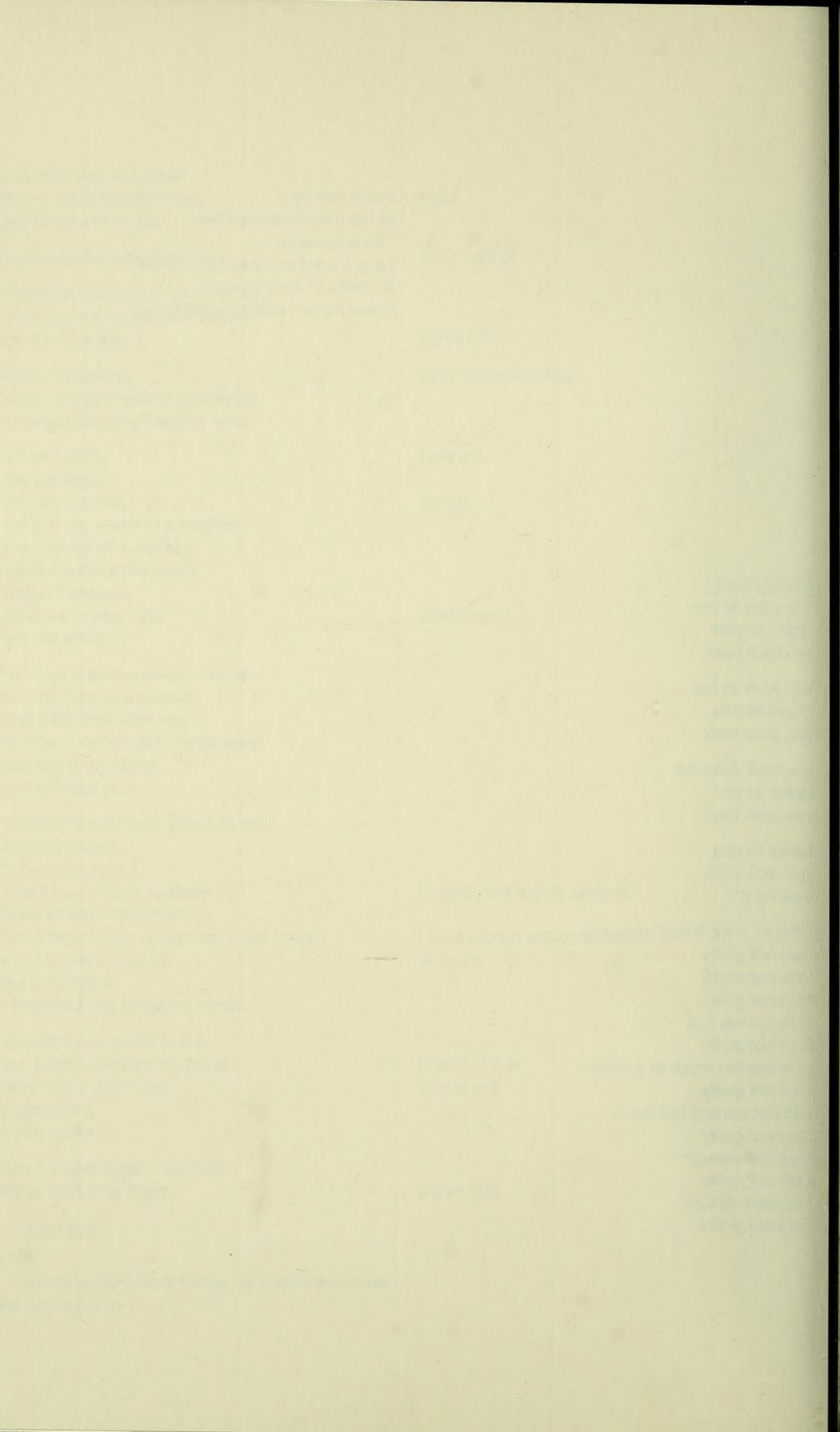
You gave to me
I gave to you
you gave back

you took from me
I gave to you
you gave back

I gave to you
you took back
now let go

[chant / sung 3 part harmony]

I am not guilty
I am not frigid
I am not guilty
I am not too hot
I am not guilty
I am not too much of a mother
I am not guilty
I do not nurture too much
I am not guilty
I nurture enough
I am not guilty
I do have desires
I am not guilty.



A Selection of Recorded Works by Artists

* indicates that item is housed in the Art Metropole Archive

Abramovic, Marina. *Sound Environment Sea*. 7" record. Beograd, 1972.

Abschöpfsymphony (with Dieter Roth, Hermann Nitsch, Tony Schwarz & others). 4 LPs. Christian Marclay, Hansjörg Mayer, 1979.

Adami, V. & M. Martin. *Concerto per un Quadro di Adami*. LP. Milano: Studio Marconi **Sound Page**

Airwaves: Two Record Anthology of Artist's Aural Work & Music (works by Vito Acconci, Terry Fox, Connie Beckley, Julia Heyward, Dennis Oppenheim, Laurie Anderson, Jacki Apple & others). 2 LPs. New York: One Ten Records OT 001 / 2, 1977.*

albrecht, d. *endless music* (anti-pop-music). LP. Stuttgart: Reflection Press, 1973 / 74.

Allen, Terry. *Lubbock (on everything)*. 2 LPs. Chicago: Fate Records Inc., 1978.

Allen, Terry. *Torso Hell*. cassette. Los Angeles: High Performance Audio, 1988.

AMM. *The Crypt*. 2 LPs. 2nd pressing. Essex: Matchless Recordings, MR5, 1988.

Anderson, Laurie. **Made in USA**
TSM Communications, Ottawa, Canada *Superman*. 7" record. New York: One Ten Records, 1981.*

Anderson, Laurie. *Big Science*. LP. New York: Warner Bros. XBS 3674, 1982.

Anderson, Laurie. *United States Live*. 5 LPs. New York: Warner Bros. 9251921, 1983.*

Apple, Jacki. *The Mexican Tapes*. LP. New York: One Ten Records 003, 1980.*

Art & Language / Music-Language. *Corrected Slogans*. LP. New York / London: Art & Language Foundation Inc., 1976.*

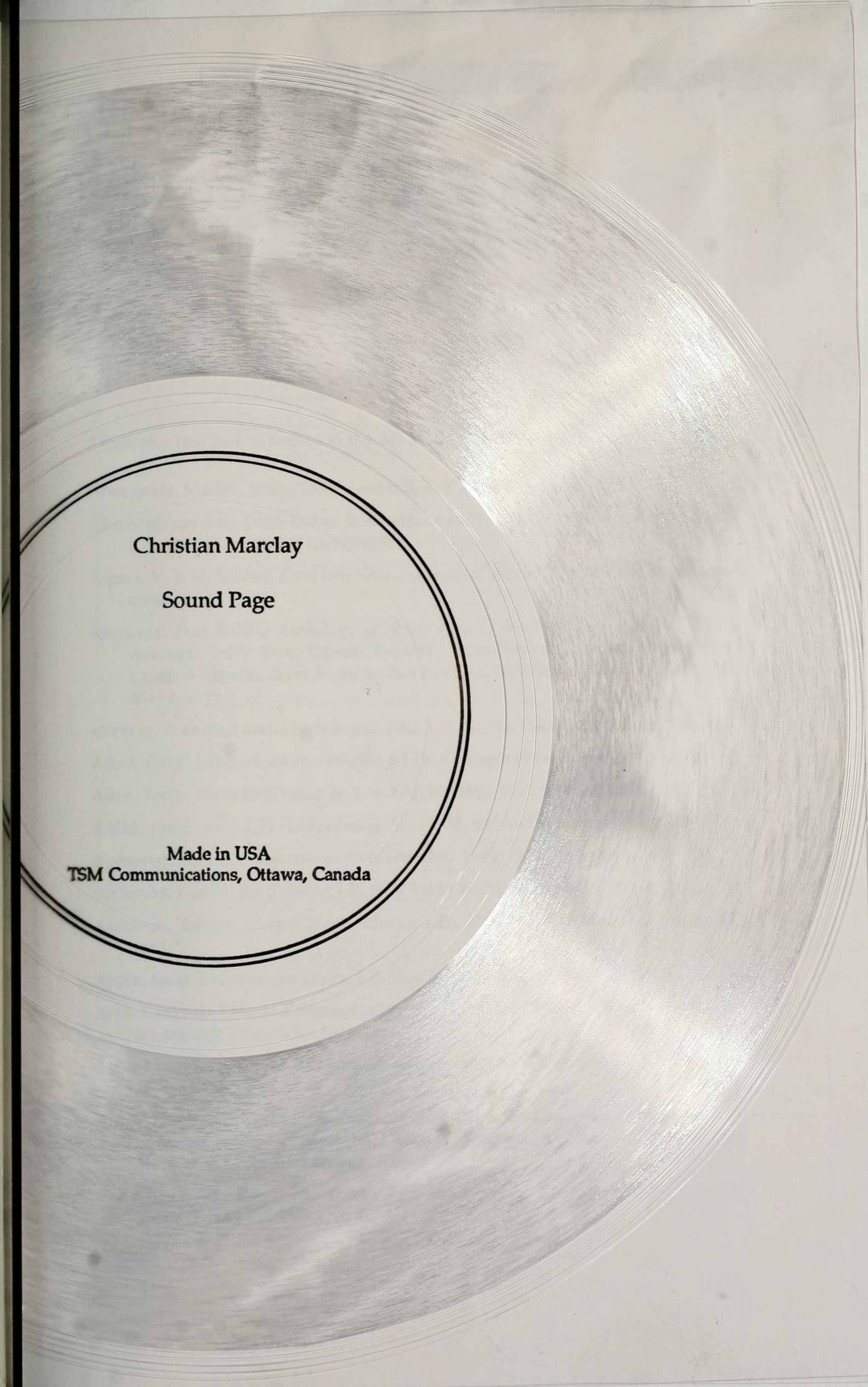
Art & Language with the Red Crayola. *Kangaroo?*. LP. Berkeley: Rough Trade US 12, 1981.*

Art by Telephone (works by Robert Cumming, Hans Haacke, Joseph Kosuth, Claes Oldenburg, Robert Smithson, William Wegman & others). LP. Chicago: Museum of Contemporary Art, 1969.

The Artist's Jazz Band. *The Artist's Jazz Band Live At The Edge*. 2 LPs. Toronto: Music Gallery Editions 3, 1976.*

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Chris
So
TSM Comm



Christian Marclay

Sound Page

Made in USA
TSM Communications, Ottawa, Canada

Christian Marclay

Sound Page

TSM Communications, Ottawa, Canada
Made in USA

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The Artist's Jazz Band. *The Artist's Jazz Band Live At The Edge*. 2 LPs. Toronto: Music Gallery Editions 3, 1976.*

- Artsounds* (works by Les Levine, Tony McAulay, Marcy Brafman, Yura Adams, Jonathan Borofsky, Jeff Gordon, Connie Beckley, Jennifer Bartlett & others). 2 LPs. New York: Philips 420 273-1, 1986.*
- Ashley, Robert. *In Sara, Mencken, Christ and Beethoven there were men and women*. LP. Milano: Nova Musicha No.3, Cramps Records 5206 103, 1974.*
- Ashley, Robert. *Automatic Writing*. LP. New York: Lovely Music / Vital Records VR 1002, 1979.*
- Askevold, David. *David Askevold*. cassette. Halifax: self-published, 1983.*
- Audio Arts. *Objects and Spaces*. 7" record. London: Audio Arts, 1983.
- Audio Arts. *Audio Arts / Orchard Gallery*. LP. London: Audio Arts AA002, 1984.*
- Audio Arts. *0782 272121 Six Works for the Telephone*. cassette. London: Audio Arts, 1986.*
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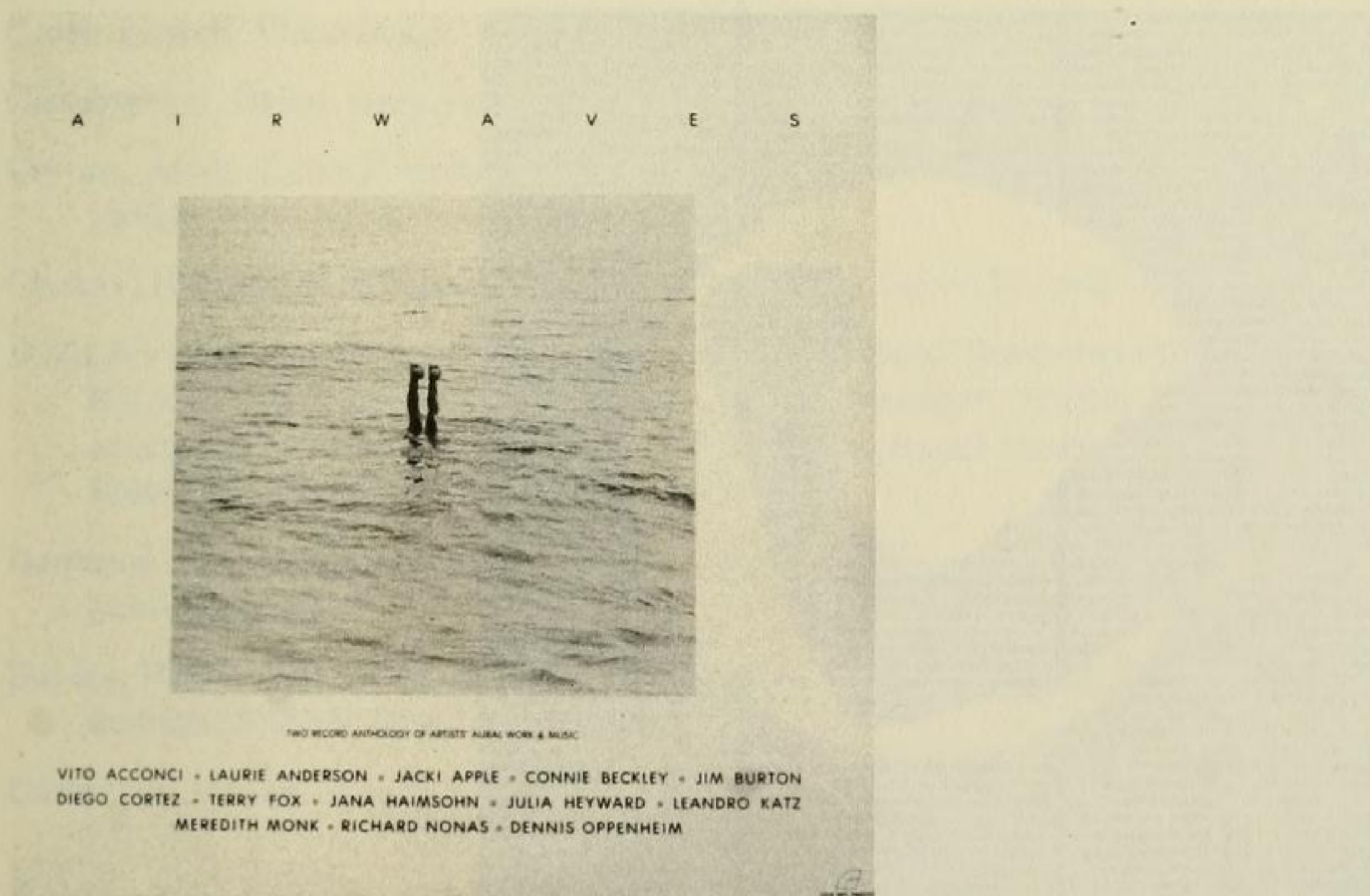
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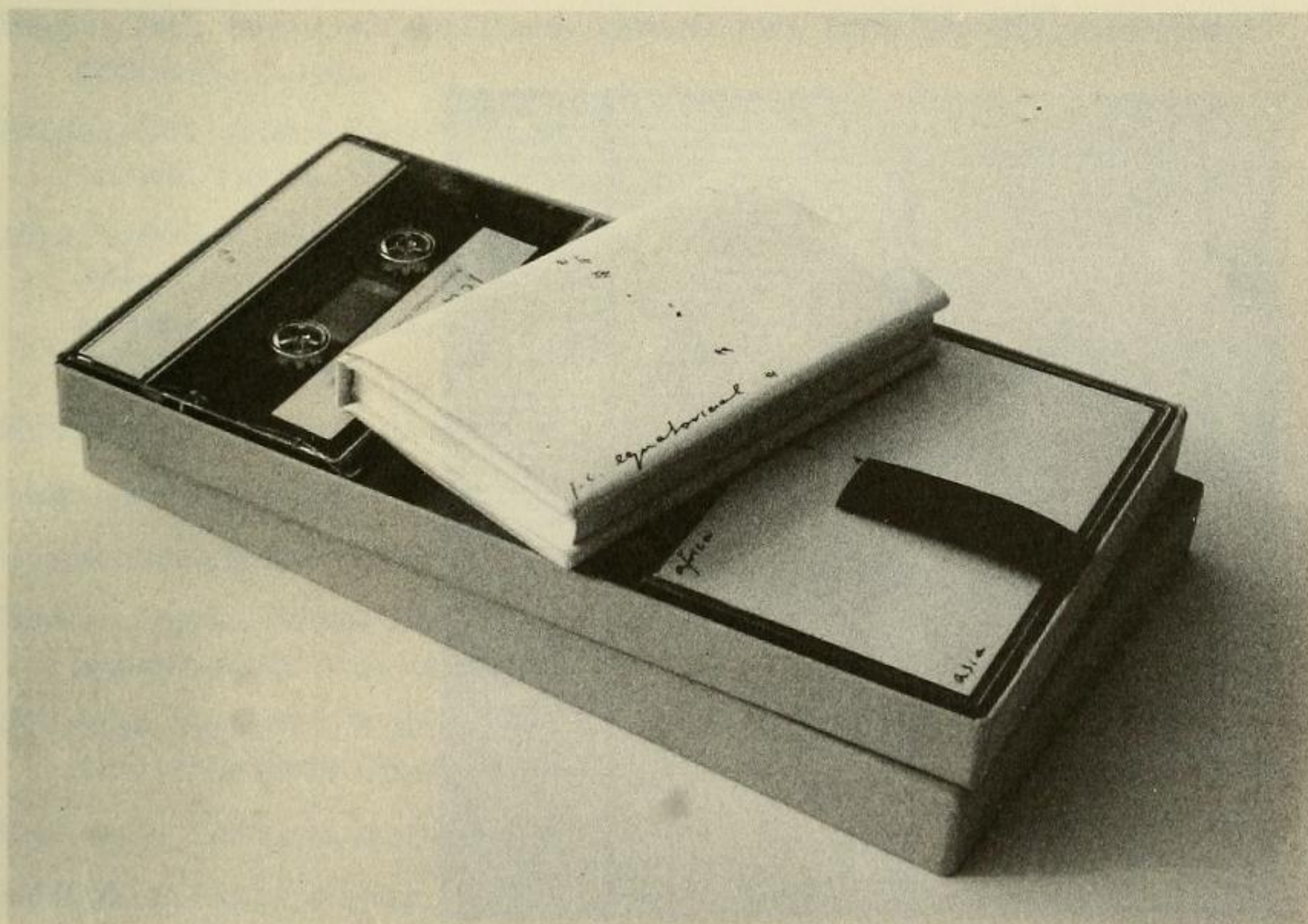


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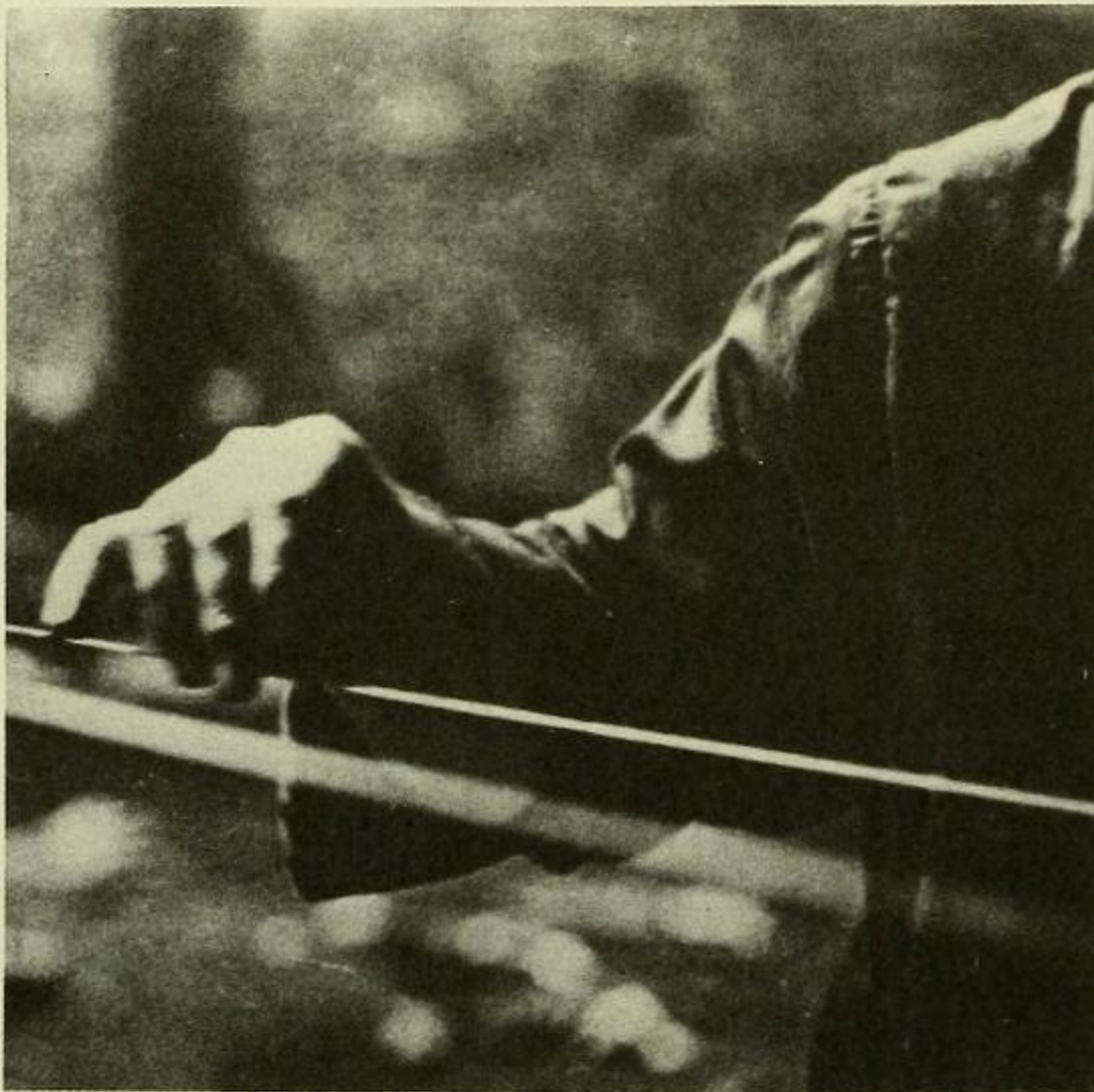
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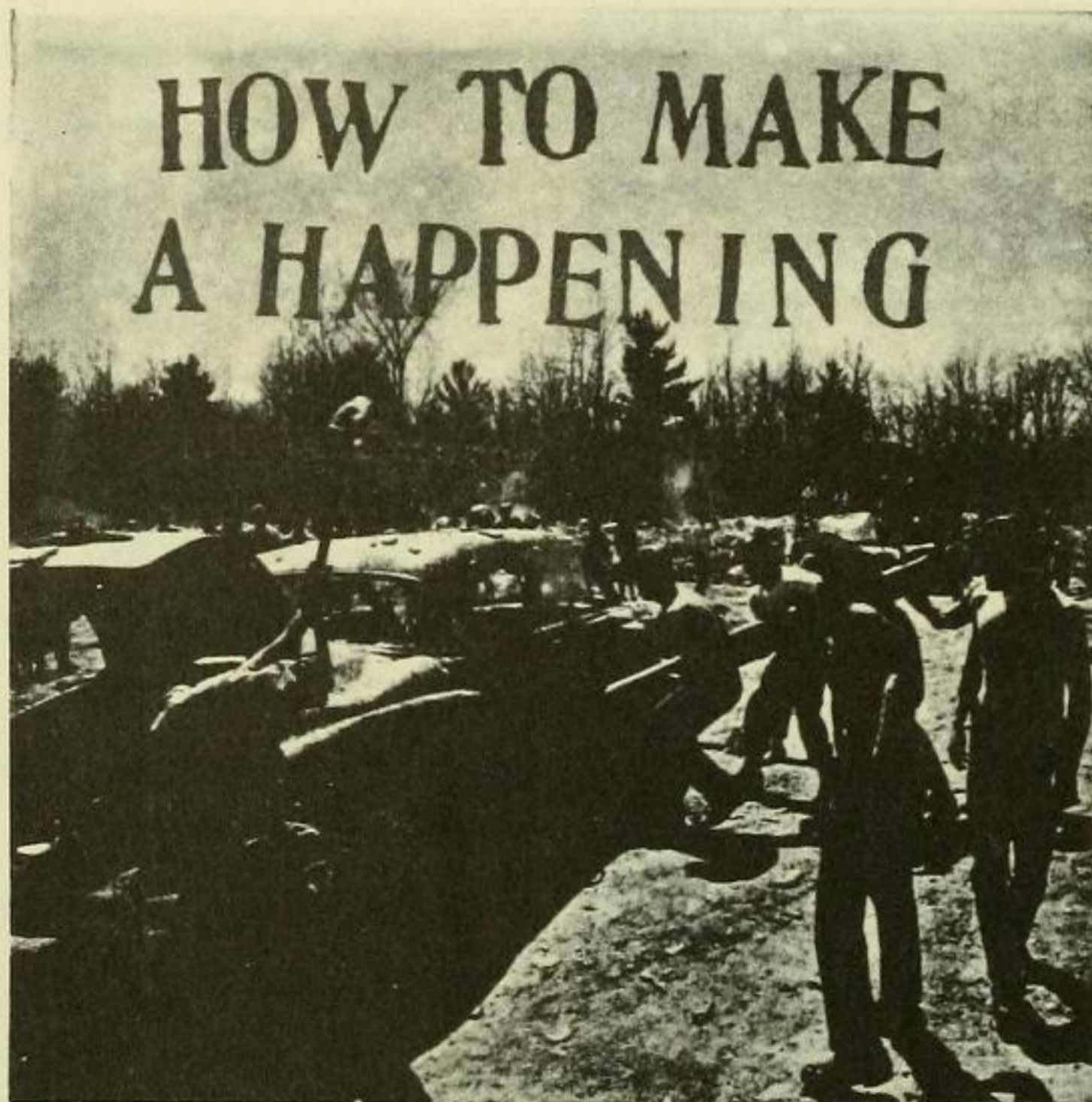
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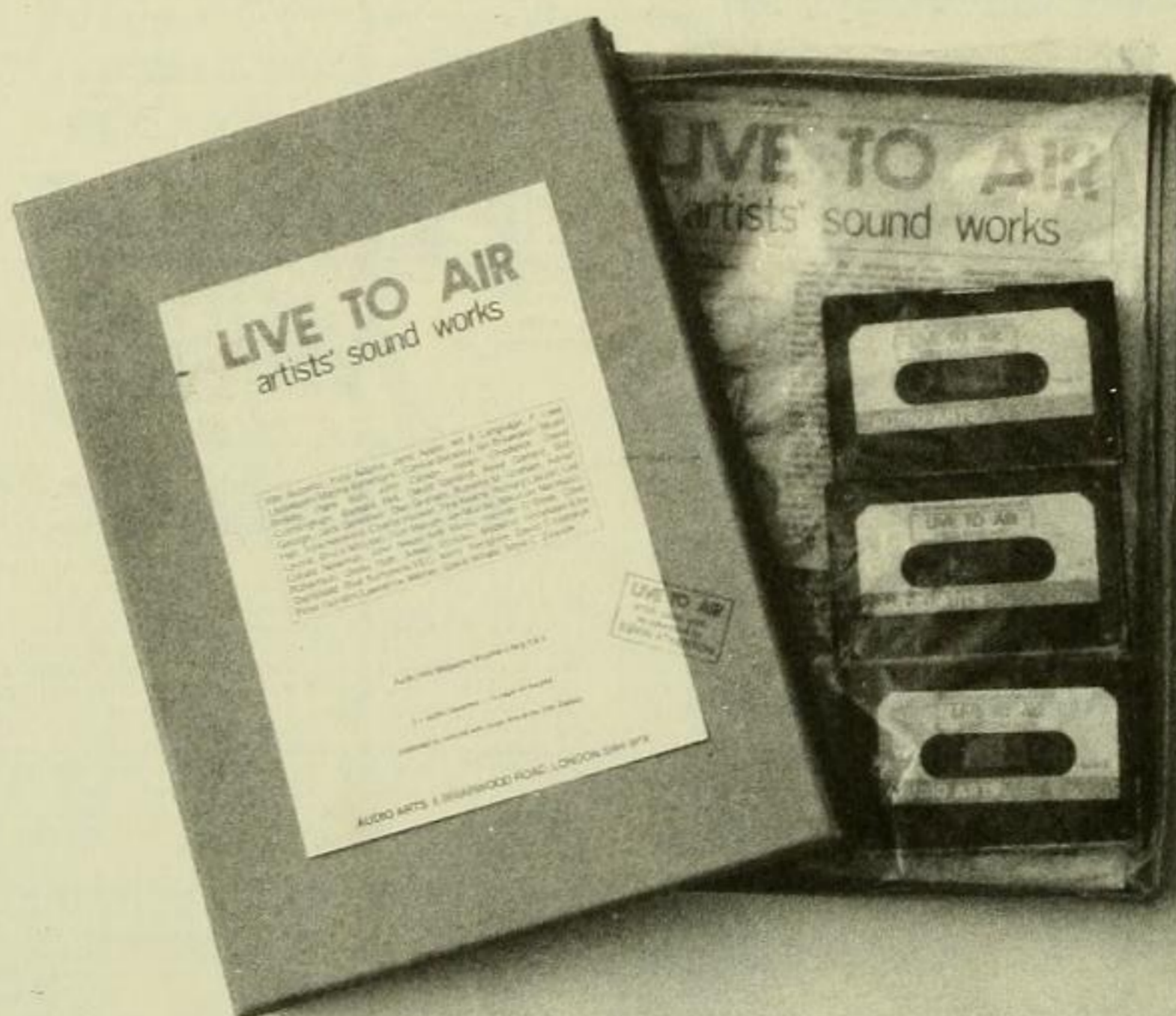
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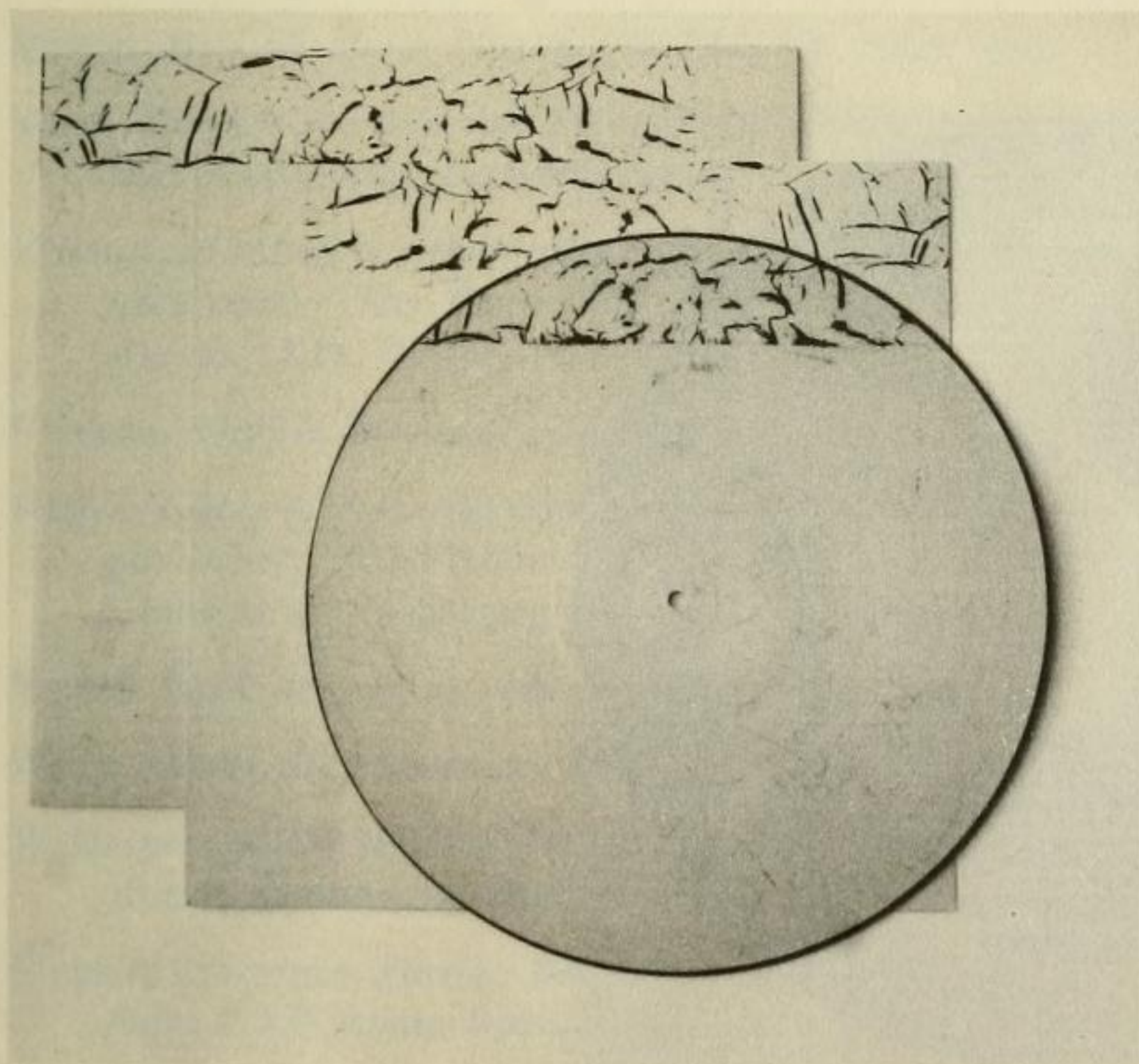


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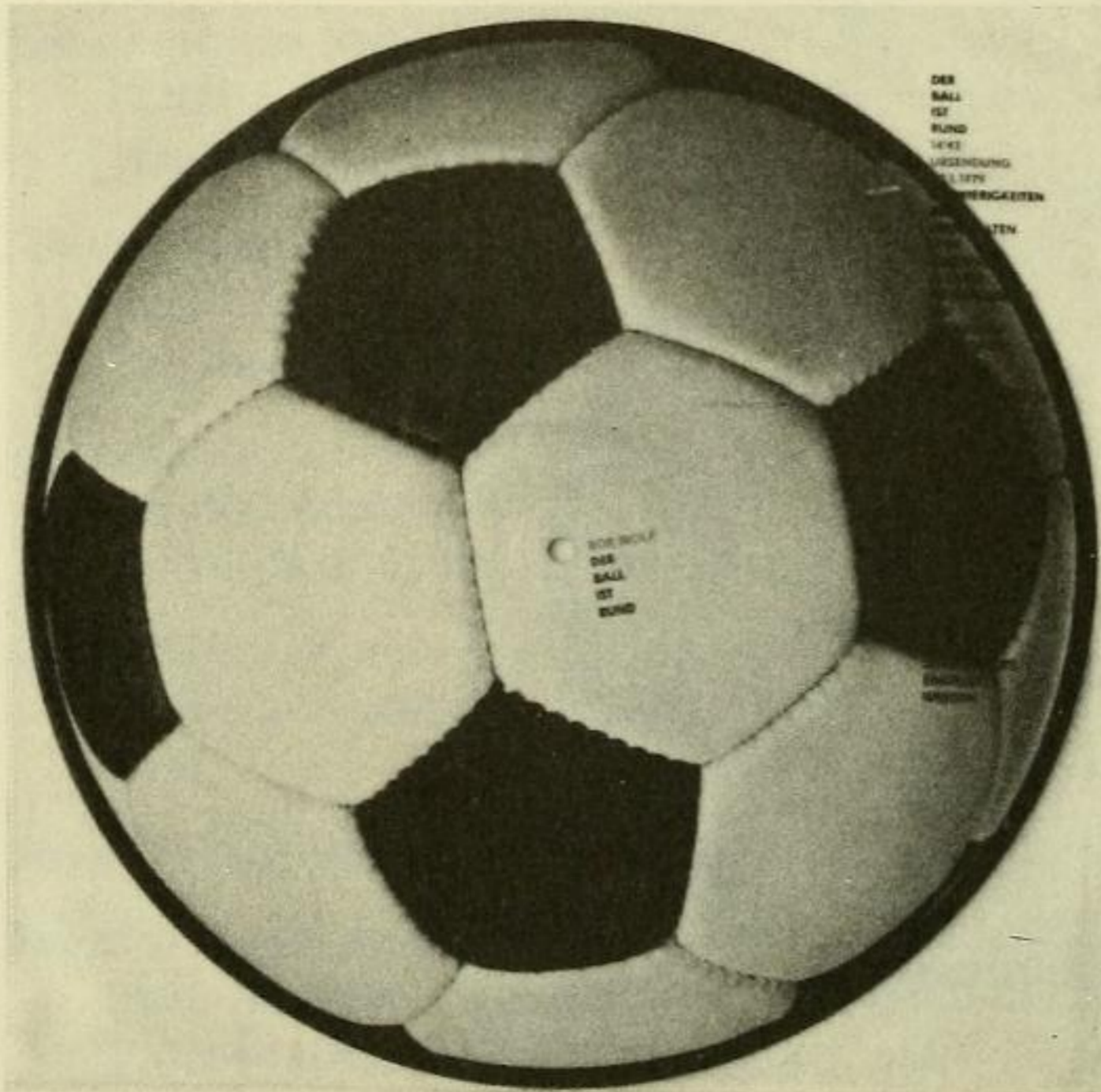
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About the Contributors

Daina Augaitis has been curating exhibitions of contemporary art at the Walter Phillips Gallery in Banff, Alberta, since 1986. Previously, she was a curator at the Western Front and Convertible Showroom, both artist-run centres in Vancouver, British Columbia. She has organized numerous independent projects of experimental art.

Bruce Barber was born in Auckland, New Zealand and now resides in Halifax, where he teaches Inter-media at the Nova Scotia College of Art and Design. He has exhibited his work internationally and is the regional editor for both *Fuse* and *Parachute* magazines. Barber is presently working on a book entitled *Low Culture's Critique of High Culture 1945-1975*, to be published in 1990.

Max Bruinsma is a journalist and art historian, living in Amsterdam. He is the musical editor at VPRO Radio and was co-organizer for the *Talking Back to the Media* exhibition held in Amsterdam in 1985. He is a regular contributor to *Mediamatic*, a Dutch magazine devoted to the time-based arts, and chief-editor of *Items*, a design quarterly.

John Cage lives and works in New York and is one of the most well known figures of Western music in the twentieth century. His curiosity and persistence manifested themselves early, in his search for new ways of working with sound. His work with the notion that, in music, 'noise' is as useful as tones produced on regular musical instruments, has influenced the work of several generations of composers and sound artists. Cage's music has been recorded on many LPs and he is also the author of many books, among them *Silence* and *Empty Words*.

Kevin Concannon has written regularly about the audio arts for several publications, since 1984. He is a contributing editor for *Media Arts: The Journal of the National Association of Media Arts Centers*. With artists Bill and Mary Buchen he co-produced *Soundwaves* for national radio distribution in 1988. He has served as Coordinator of Public Programs at the Neuberger Museum at the State University of New York at Purchase and is presently Special Programs Co-ordinator at the Virginia Museum of Fine Arts in Richmond.

Moniek Darge and **Godfried-Willem Raes** are the directors of the Logos Foundation, located in Ghent, Belgium. The organization is devoted to the construction of new instruments, the performance of new music and the production of many sound projects. Their studios consist of an instrument building shop, an electronic music workshop and recording studio, a performance space, a sound archive and a retail outlet.

Suzanne Delehanty is the Director of the Contemporary Arts Museum in Houston, Texas. In 1968 she began working at the Institute of Contemporary Art at the University of Pennsylvania and was appointed Director in 1971. In 1978 she assumed the directorship of the Neuberger Museum at the State University of New York at Purchase. She has organized numerous exhibitions and publications examining new developments in the visual arts including an important survey of artists' use of sound, entitled *Soundings*.

Jack Goldstein is an artist who lives and works in New York. He has worked with a variety of media, including film, photography, painting and records, and has exhibited internationally. His audio work has been included on several audio art compilations and was exhibited in the *Sound* exhibition at PSI, New York, in 1979.

Graf Haufen is an audio artist living in West Berlin. He is the founder of Artcore Editions and Gallery which houses over 2500 cassettes of independently produced audio works and printed matter on contemporary art. In his own work, Haufen is concerned with the *End of Muzick* and implements a conceptual framework to produce an *Anti-Muzick* which may or may not produce actual sound.

Ihor Holubizky was a curator for The Electric Gallery, The Art Gallery at Harbourfront and the Power Plant in Toronto, from 1975 to 1988. He has written on contemporary art practice for numerous publications and galleries and has lectured in Canada and the United States. Since 1982, he has been involved in a music / sound collaboration with Walter Yarwood, known as The Palace at 4 a.m., producing records and tapes, and performing in Canada, West Germany and Brazil.

Douglas Kahn is an audio artist and writer teaching at the Inter Arts Center of San Francisco State University and at San Francisco Art Institute. His books include *John Heartfield: Art and Mass Media* and *Cultures in Contention* (co-editor). He is completing *The Sound of the Avant-garde* and with Gregory Whitehead, is editing an anthology of historical documents and theoretical writings entitled, *Sound Art*.

Richard Kostelanetz lives in New York and has edited over two dozen anthologies of literature, art, criticism and social thought. In addition, he has produced a large body of audio works that have been aired internationally.

Christina Kubisch is a West German sound artist. She has been working for a number of years on 'sound architectures' in which the visitor takes an active part in the event. Her installations recreate precise spatial situations whether they are outdoors or in an enclosed space. Her recent installations utilize black light to reflect fluorescent materials that have been strategically placed, indicating sound paths and imaginary spaces enclosed by the architecture.

Dan Lander is an audio artist living in Toronto. His work, intended for radio broadcast, is constructed from recordings of both the 'natural' and media environments and pays particular attention to the referential aspects of recorded sound, bringing into question cultural, political and personal meanings as represented in popular media. He is the producer of *The Problem With Language*, a radio program that contemplates the state of audio art, aired on CKLN FM, in Toronto. His most recent work, *Talking to a Loudspeaker*, was commissioned for the 1989 New American Radio series.

Marysia Lewandowska is an artist living in London, England. She works with transparency projection and sound and is interested in issues related to language and the construction of historical evidence. In 1985, she established the Women's Audio Archive and is currently teaching in Cultural Studies at Canterbury College of Art.

Micah Lexier is a visual artist who creates sculptural installations that often incorporate pre-recorded sound elements. His work deals with a variety of issues including masculinity, relationships, technology and decision making. He was a principle organizer of the last three Audio By Artist Festivals, has taught courses on artists' use of sound and, from 1983 to 1986, was the coordinator of the Nova Scotia College of Art & Design Library's Audio Tape Collection. He is currently living in Toronto.

Annea Lockwood is a composer / performer with a particular interest in the rhythmic and timbral characteristics of environmental sounds. Her works in electronic music, mixed-media performance and installations have been exhibited and performed world-wide. She teaches at Vassar College, New York.

Alvin Lucier lives in Middletown, Connecticut and teaches in the World Music Department at Wesleyan University. In 1966 he co-founded the Sonic Arts Union, with composers Robert Ashley, David Behrman and Gordon Mumma and, from 1972 to 1977, was music director of the Viola Farber Dance Company. In his work Lucier has investigated the notation of performers' physical gestures, the use of brain waves in musical performance, acoustic characteristics of architectural spaces and the visualization of sound in vibrating media. He has recorded several LPs and has produced a book entitled *Chambers* in collaboration with Douglas Simon.

Christian Marclay, parallel to his sculptural work, has been experimenting, composing and performing with phonograph records, since 1979. In performance he mixes a wide variety of 'prepared' records on multiple turn-tables, fragmenting, repeating, altering speeds, playing the records backwards, etc. Ranging from the haunting to the humorous his theatre of sound has been performed in Japan, Europe, Canada, the U.S. and New York, where he lives. He frequently collaborates with John Zorn, Elliot Sharp, Shelly Hirsch, David Moss and Fred Frith, among others.

Donal McGraith has abstained from many projects in order to avoid cultural legitimacy. Apparent inconsistency is a fact. They are involved in developing multiple personalities and in increasing the domain of their refusal through not participating in recuperable opposition.

Rita McKeough is an installation artist and drummer currently living in Toronto. McKeough was a long time resident of Calgary, Alberta and developed complex installations critical of the demolition of residential neighbourhoods in the city. Subsequent works have critiqued Uranium mining pollution in Saskatchewan, the effects of urban planning on the homeless and issues of violence in domestic relationships. In each case she is concerned with the domestic environment as both a physical and social space: deconstructing the walls between the public and the private.

Gordon Monahan is a Canadian composer living in New York. Monahan studied physics at the University of Ottawa and music at Mount Allison University in Sackville, New Brunswick. His works for piano, electronic media and self-made sound constructions explore the fundamentals of acoustical phenomena in music.

Ian Murray is a multi-media artist whose work often involves the use of spaces, electronics and mass media. Murray has worked with audio since 1969, including radio, records, audio tapes and telephone. His non-radio work since 1974 has most often combined audio with other installation elements. In addition to his artwork, he has curated and produced a number of presentations of other artists' work, most notably the *Radio by Artists* series in 1980. Murray has lived in Toronto since 1977 and has been involved with a number of organizations, including Trinity Square Video and the Toronto Arts Council.

Mystery Laboratory is situated in Toronto. John Oswald serves as the Director of Research and Geo. Ray Brain, as Director of Public Relations.

Maurizio Nannucci lives and works in Florence, Italy. Nannucci's work takes many forms including sound poetry, texts, audio works, multiples and bookworks. He is the co-founder of Zona Archives and the producer of Zona Radio. In addition, he has published various artists' books, catalogues and artists' audio works, through Mela and Exempla Recorthings.

Max Neuhaus is an audio artist based in New York and Paris. He has completed sound events for radio and telephone and installations for various urban sites around the world, including the 1977 Times Square installation which is still in operation. Neuhaus is the founder and director of HEAR Inc. and a recipient of numerous National Endowment for the Arts fellowships.

R. Murray Schafer has won national and international acclaim not only for his achievement as a composer but also as an educator, environmentalist, literary scholar, visual artist and provocateur. He has repeatedly challenged and transcended orthodox approaches to music and its presentation. A prolific composer, he has written more than seventy compositions, ranging from orchestra and vocal pieces to musical theatre and multi-media ritual.

Stelarc is an Australian performance artist who has resided and worked in Japan since 1970. He teaches art and sociology at the Yokohama International School. He has made three internal films of his body and has undergone sensory deprivation and physical stress during his *Body Suspension* performances. In 1977, he unsuccessfully applied to NASA to be included in the Space Shuttle program as an artist.

Rod Summers is a poet and artist who works with graphics, sound, performance, language, mail-art, publications and collections. Since 1961, he has maintained a continuous intimate relationship with tape-recorders, recording tape and editing blocks and is happiest making field recordings of natural events. He studied in the experimental department of the Jan Van Eyck Academy and has been a guest lecturer in audio art at the State Academy, Oslo and the Iceland School of Arts and Crafts, Reykjavik. Summers has been living in Limburg since 1973 and would like to spend much more time in Iceland.

Chris Twomey is a freelance journalist and radio programmer living in Toronto. Besides working for one of Canada's largest record importers, he writes for the monthly alternative music newspaper, *The Nerve*, hosts a two-hour radio program, *New Powers*, on CIUT FM and is the curator of the *Industrial Video Series*, a showcase for experimental music and underground rock video work.

Bill Viola has completed over forty videotapes and twenty-seven video installations since he began working with video in 1972. He has received fellowships from the Rockefeller Foundation, the J. S. Guggenheim Memorial Foundation and the National Endowment for the Arts. Viola has been artist-in-residence at WNET / Thirteen TV Lab (New York) from 1976 to 1980, was the first artist-in-residence at Sony Corporation's Atsugi Laboratories and has exhibited in many museums including solo exhibitions at the Museum of Modern Art in New York, the Stedelijk Museum in Amsterdam and the Centre Georges Pompidou in Paris.

Hildegard Westerkamp lives and works in Vancouver with poet / playwright Norbert Ruebsaat and their daughter Sonja. She studied music in Freiburg, West Germany and Vancouver. Her fascination with environmental sounds was sparked in 1973 when she joined the *World Soundscape Project* at Simon Fraser University, working with R. Murray Schafer. She has completed numerous tape compositions since then, all of which deal with aspects of the acoustic environment.

Gregory Whitehead is a writer, radio artist, critic and performer / reader. His text / sound compositions, experimental documentaries and radio plays have aired throughout the US, Canada, Western Europe and Australia. Recent works include: *Writing On Air* (1988), *The Pleasure of Ruins* (1988), *Phantom Pain* (1987 / 88), *Beyond the Pleasure Principle* (1987), *Display Wounds* (1986), *Dead Letters* (1985) and *Disorder Speech* (1985). In 1987, Whitehead co-curated the *Festival For A New Radio*, in New York, and is now co-editing a critical anthology on the past and future of the acoustic arts. He also teaches audio production at the University of the Arts in Philadelphia and has been active in recent efforts to establish an autonomous cultural identity for radio in the United States.

Caroline Wilkinson is an artist living in London, England. She works with photography in both slide / tape and installation contexts. Over the last two years she has also been working in performance in collaboration with Gary Stevens. She is currently teaching Fine Art and Critical Studies at St. Martins School of Art.

About the Publishers

Art Metropole is an artist-run centre in Toronto which documents, collects, publishes and distributes information on and about contemporary art and artists. Established in 1974, Art Metropole operates a bookstore, a mail-order catalogue, an exhibition space, a video viewing facility and an extensive archive of both printed and time-based materials. As well, Art Metropole publishes books, an artists' 1/2" videotape series, pamphlets and records. *Sound by Artists* is the latest in Art Metropole's '... by Artists' anthology series whose previous publications include *Video by Artists* (1976), *Performance by Artists* (1979), *Books by Artists* (1981), *Museums by Artists* (1983) and *Video by Artists 2* (1986).

Walter Phillips Gallery, affiliated with The Banff Centre for the Arts, is dedicated to producing, exhibiting and documenting contemporary art in all media. International in scope, its exhibition program focuses on critical inquiry into social and political issues relevant to the contemporary art discourse.

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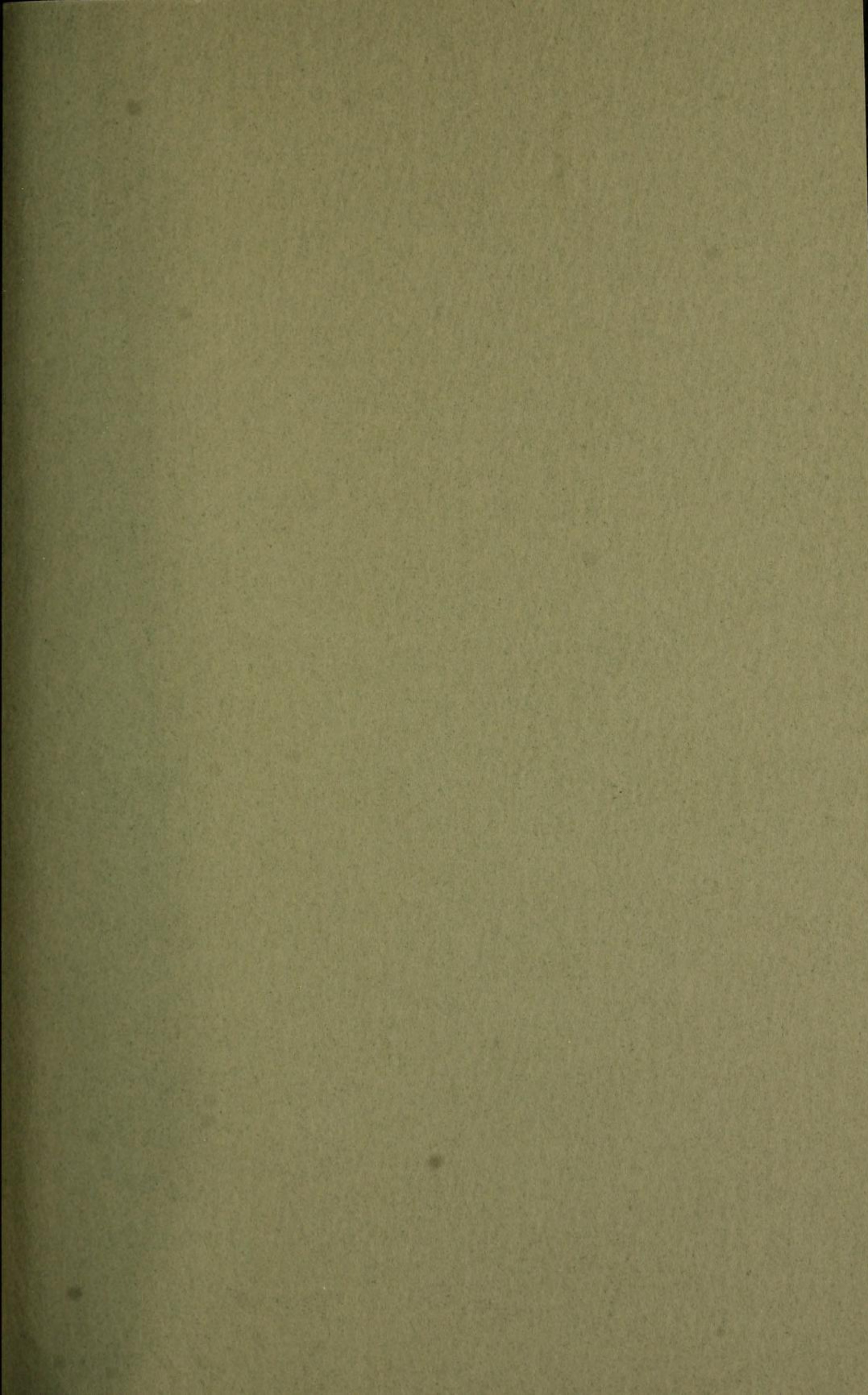
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