SOUNDINGS

SOUNDINGS / NEUBERGER MUSEUM

STATE UNIVERSITY OF NEW YORK AT PURCHASE
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ACKNOWLEDGMENTS

Three years ago SOUNDINGS was merely the notion that the little-explored theme of sound in the plastic arts, which weaves through the art of the twentieth century, would be an intriguing topic of investigation. SOUNDINGS has grown in size and complexity to reflect the richness of visual artists' use of sound, music, and acoustical phenomena, both actual and implied, in the art of this century. SOUNDINGS could well have included composers' scores and a whole section on concrete poetry in which each visual mark has an aural equivalent. The exhibition might also have presented works by composers and visual artists who share similar attitudes and convictions. SOUNDINGS concentrates, however, primarily on the work of visual artists who have consistently used sound and acoustical phenomena in their work and on the work of composers, who either alone or in collaboration with others, have created works that may be perceived with both the eyes and the ears.

SOUNDINGS is arranged in six sections. In the West Gallery, paintings, sculpture, books, and documents from 1910 to 1940 that imply sound rather than make sound may be found in the North bay, while such works primarily from the fifties and sixties are located in the South bay. Instrument-like sculpture by visual artists and sculptural instruments by composers that often invite the viewer's direct participation are installed in the Window Gallery. Installation works from the late sixties to the present are shown in the South Gallery, and the documentations of various artists' sound projects are exhibited at the entrance to this space. Special projects by Doug Hollis, Joe Moss, and Liz Phillips, which add another dimension to this section, are located inside the Museum and in the surrounding landscape. Performances and workshops, which change throughout the exhibition, will be presented in the Theater Gallery, and films will be screened in the Museum's Study. The North Gallery has been transformed into a listening room for artists' records and audiotapes dating from 1920 to the present. Various mechanical musical instruments that suggest the technological developments that parallel the emergence of sound in art may be found in the Project Gallery.

The realization of an exhibition of this scope owes a great deal to the cooperation, skill, and generosity of a good number of persons. I am enormously grateful to all of them and would particularly like to note the assistance of Joel Chadabe of the Electronic Music Studio at SUNY Albany; Billy Klüver and Julie Martin of Experiments in Art and Technology; Brian O'Doherty, former director of the Media Program at the National Endowment for the Arts; Ad Petersen of the Stedelijk Museum; and Ella Schaap of the Institute of Contemporary Art at the University of Pennsylvania. Jean Brown kindly welcomed me to her ar-

chive of Fluxus material, and Lydia Winston Malbin also made her documents on twentieth-century art available to me, for which I am most grateful. At Backworks, we enjoyed the enthusiastic help of Barbara Moore and Jon Hendricks. Michael Sheehe of Ex Libris, Robert Dickie of The Book Trader in Philadelphia, and the staff of Anthology Film Archives also extended their help beyond the common measure.

The organization of an exhibition that encompasses works of art that are both static and mobile, permanent and temporary presents very special challenges. I am most grateful for the dedication of the Museum's entire staff and student aides, listed on page 96, and for their special contributions to the project's realization. The section on film was selected by Lucy Fischer, Director of the Film Studies Program at the University of Pittsburgh. Charlie Morrow at New Wilderness in New York made the audiotapes in the exhibition. The number of works in SOUNDINGS and their variety imposed special demands on the installation plan. The Museum's staff was assisted by Michael Reed, Special Technician for the Project, in solving logistical problems created by works of art that are both visual and aural. The walls and structures for the installation were built with assistance from Randall Dalton, *bricoleur,* and Dennis Fitzgerald and Eric Wildrick, both from the Visual Arts Division at Purchase. The lighting was carried out by Jeff Nash and Mike Prudhom, lighting consultants.

A good number of persons outside the Museum contributed invaluably to the exhibition's installation. Herbert Hirschfeld of Standard Asbestos Company in New York shared his wide knowledge of acoustical materials with Douglas Caulk, the Museum Manager; we gratefully acknowledge his help. His firm generously contributed special insulation materials to the Museum. The Museum also wishes to thank Barry Schaen of Tech HiFi in White Plains for his assistance and technical advice. Charlene Hanson of Ohm Acoustics in Brooklyn and Fred Yolen of Aero-Vend in Port Chester made important pieces of equipment available to Liz Phillips and Laurie Anderson, respectively. We also are pleased to acknowledge aid from Pechiney Ugine Kuhlmann Corporation.

The publication for SOUNDINGS represents the contributions of many persons. We are extremely grateful to Dore Ashton, Professor of Art History at The Cooper Union in New York, Germano Celant of Genova, and Lucy Fischer for their essays on the theme of sound in the visual arts. Mr. Celant's essay was meticulously translated by Carla Sanguineti Weinberg, Lecturer in Italian and French at the Philadelphia College of Art. David Savran of the University of Regina in Saskatchewan assisted with proofreading, and Schellie Hagan provided German translations with kindhearted fluency. Olga D'Angelo prepared all the copy for the printer and handled all the correspondence for the exhibition with patient good cheer and an unflagging sense of order. Earl Ripling served as the project's photographer. The publication as well as the poster and calendar for SOUNDINGS were edited and designed by W2 and printed by Falcon Press; we thank the partners of W2 and the staff of Falcon Press for their care and reliability.

The Museum acknowledges a grant from the National Endowment for the Arts, a Federal agency; without their initial support SOUNDINGS would never have come to fruition. The Endowment's grant was matched by the Roy R. and Marie S. Neuberger Foundation, and we are most grateful for their generous and adventurous support of the project. The performances and workshops were supported by the Westchester Arts Fund of the Council for the Arts in Westchester; the Council's aid has allowed the Museum to make SOUNDINGS an integral part of its educational and interpretive programs for audiences of all ages. The Museum is also pleased that SOUNDINGS was the theme for a seminar for educators funded by the Westchester Community Foundation and Neiman-Marcus; the seminar has made the exhibition part of our program of collaboration with regional schools. The Miriam and Ira D. Wallach Foundation kindly contributed funds for the publication of this catalogue, which we hope will serve as an informative document of sound and art for visitors to the Museum and for future research in the field. The Friends of the Neuberger Museum, through its support of the Community Outreach Department, has contributed immeasurably to the full realization of SOUNDINGS.

Special exhibitions are dependent upon the help and cooperation of artists and lenders. The enthusiasm of the artists, many of whom have created special works for the exhibition, has been a great source of inspiration to all of us at the Museum. To each, our particular appreciation. The Museum wishes to express its gratitude to individuals and institutions, listed on page 5, for lending their much treasured works to SOUNDINGS so that they might inspire and give pleasure to our visitors.

It seems particularly appropriate for SOUNDINGS to be presented at Purchase, where the curriculum is based on the fusion of the arts, humanities, and sciences. It is hoped that SOUNDINGS will foster new collaborations and connections among the disciplines of study at the College and that it will offer a fresh perspective on the art of this century to the Museum's public and to all who value the adventurous spirit of modern art.

Suzanne Delehanty, *Director*

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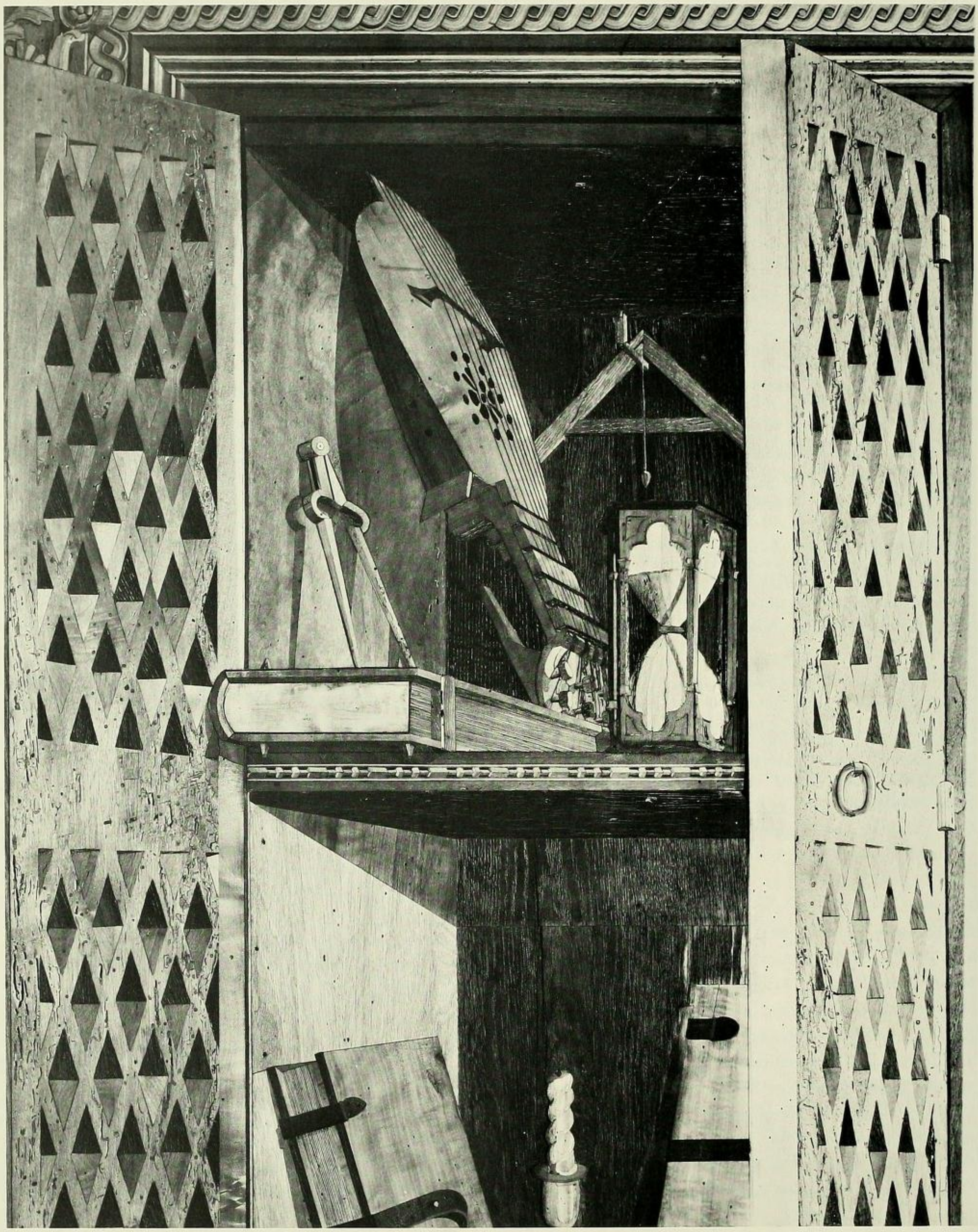


Gubbio Study of Frederigo da Montefeltro, ca. 1485, Italian intarsia panel, The Metropolitan Museum of Art, Rogers Fund

SUZANNE DELEHANTY: SOUNDINGS

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 by 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 metaphors for the visions of mystics and for revelations about 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 orginality. 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 color, 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, or 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, but 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 Pythgoreans' 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 (page 6). Leonardo da Vinci, the creative genius of his age, who invented speculative musical instruments (page 9), 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 scientists, fired by the belief that reason could penetrate all natural phenomena, sought, as Goethe anticipated, a mathematical foundation for color 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 color; 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* of 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 color in *The Circle of Color* of 1888. On a more pragmatic level, inventors such as Bainbridge Bishop and Alexander Wallace Rimington built wonderous mechanical color organs to explore and demonstrate the relation between color and music. Their inventions anticipated similar studies by Hirschfeld-Mack at the Bauhaus in the 1920s (page 10).

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's 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 (pages 36 and 41), color 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 color equivalents created by one of the new mechanical inventions of the age, the color 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 color 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 Synchromism, Stanton Macdonald-Wright and Morgan Russell (pages 42 and 50); the latter sought "painting capable of moving people to the degree music does."[9] Russell even envisioned a machine that would synchronize colored light and sound (page 51). Sound also inspired Georgia O'Keeffe (page 46), who found that "music could be translated into something for the eye."[10] In Miró's gouache from 1940 (page 45), 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; though 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 (page 29). 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.

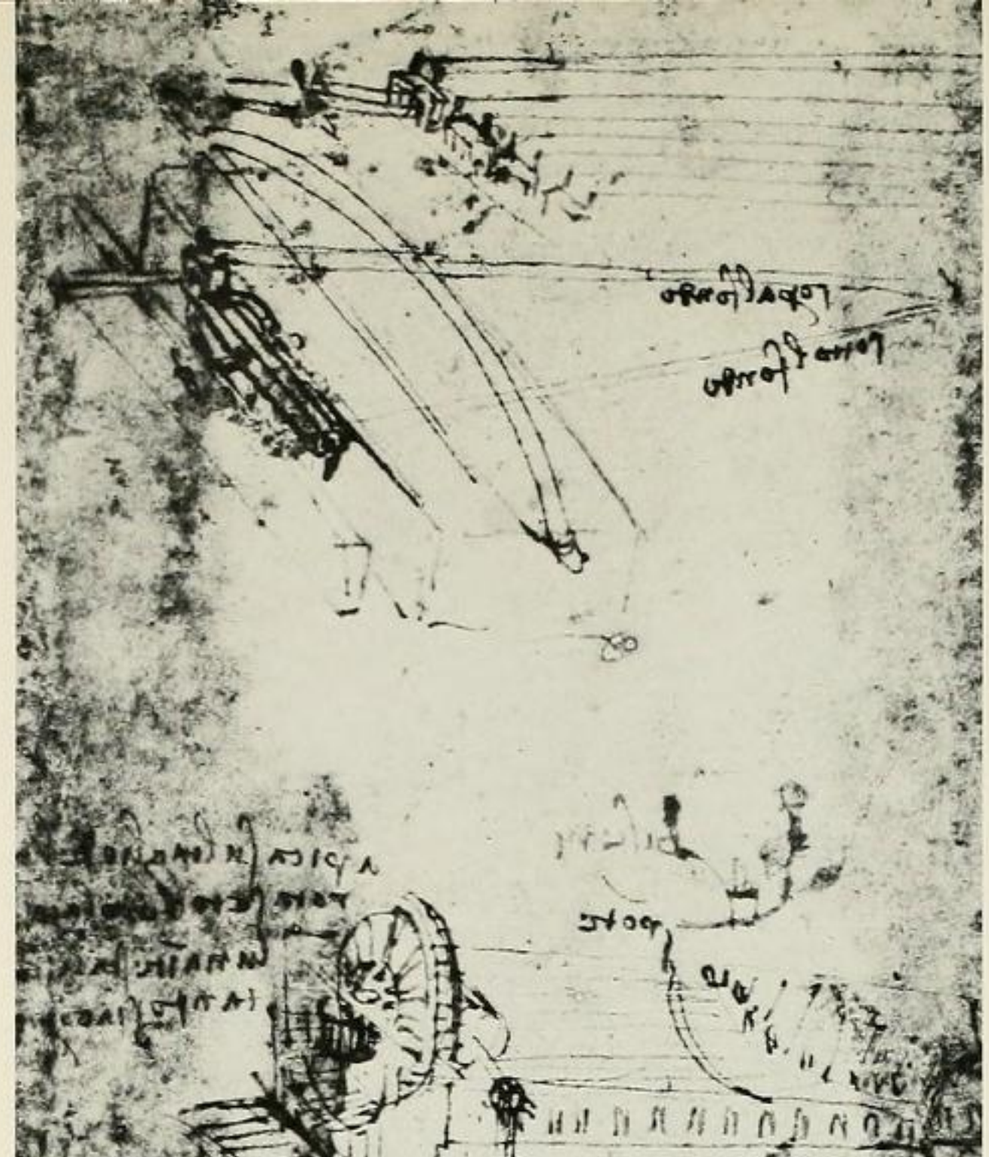
For the Italian Futurists, who united in the first decade of the twentieth century, noise and sound expressed the power and speed of the new age. In 1913 in his manifesto *The Art of Noises* (page 53), the Futurist painter and musician Luigi Russolo proclaimed:

> 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]

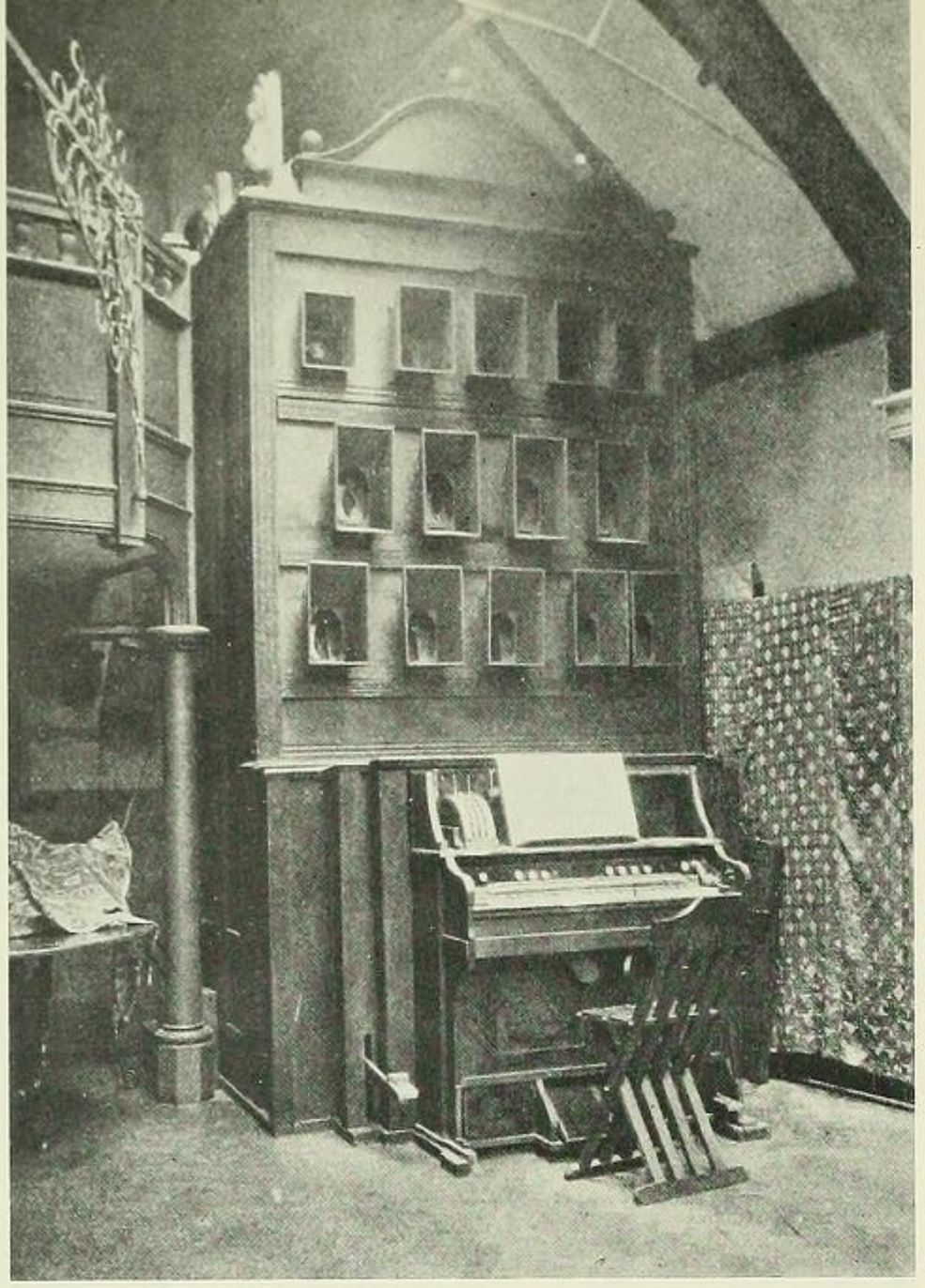
The Futurist painters like Russolo and Gino Severini employed the traditional medium of oil painting to make new images that suggested the sound and dynamic movement of the era. Russolo even invented musical instruments that imitated the noise of machines and presented his *Intonarumori,* or Noise Organs, in concert in Paris in 1914 (page 52) 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 Composers 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* (page 89). With The Glass Orchestra, the eighteenth-century's fascination with the celestial tones of objects made from glass (pages 87 and 9) has been imaginatively renewed since the 1970s.

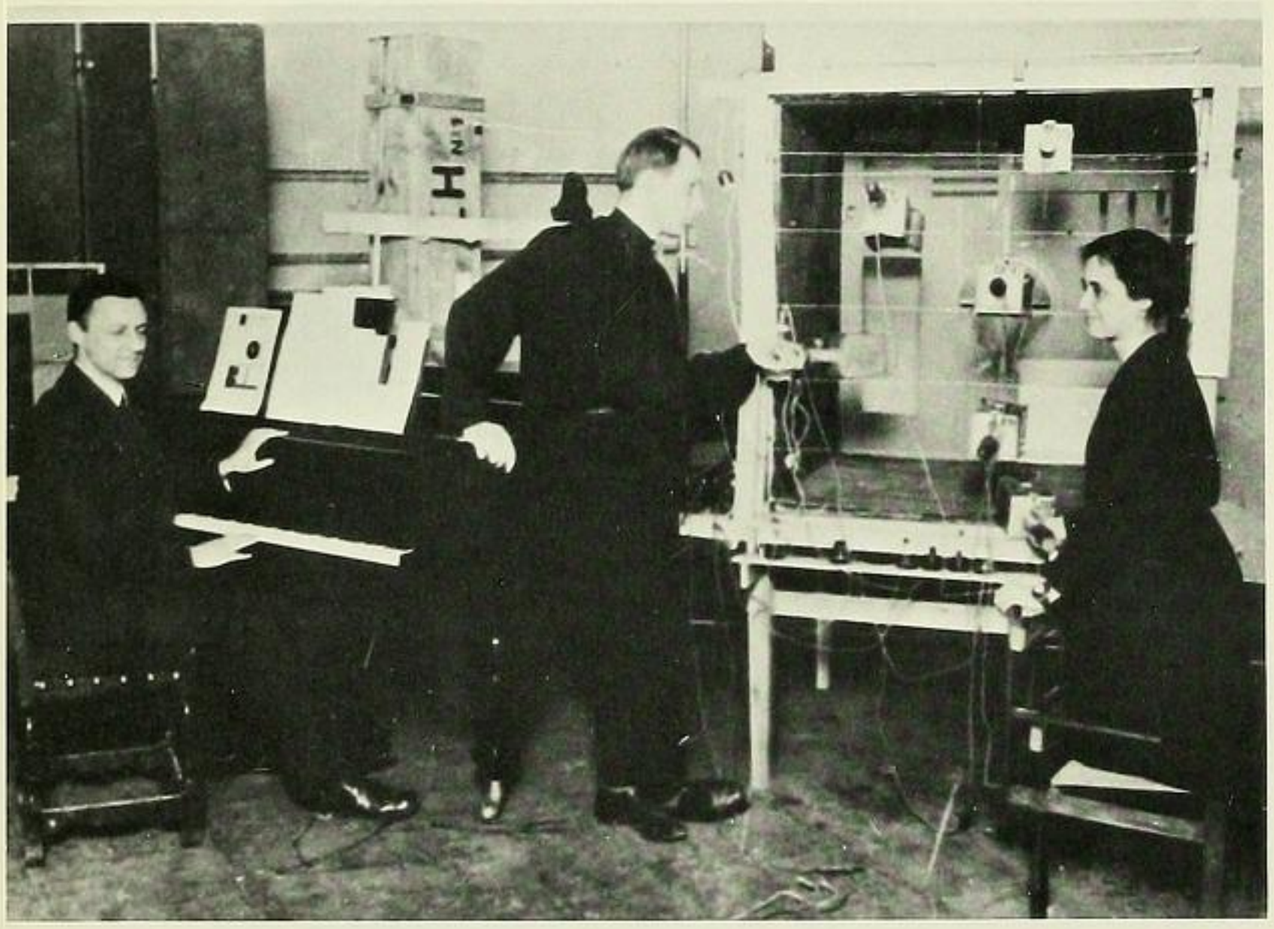
The desire to explore the fundamental physics of acoustics has also led the composers Takehisa Kosugi and Alvin Lucier to new materials. Sound waves quiver into visibility in sand, salt, and sugar in Kosugi's composition and thread before our very eyes in Lucier's *Music on a Long Thin Wire* of 1977 (page 88). Lucier's piece was suggested by the experiments that he observed in an acoustics laboratory, and 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 Bertoia 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 (pages 58, 57, and 59).

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* of 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" (page 31) 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* (page 44) 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



Above: Leonardo da Vinci, Study for mechanical violin, *Codex Atlanticus,* folio 218
Below: Benjamin Franklin *Armonica* ca. 1761–62, The Franklin Institute, Philadelphia, photo: J. J. Barton





Above: Wallace A. Rimington *Colour Organ* ca. 1905
Below: Projection booth for *Colored Reflected-Light Compositions*, Ludwig Hirschfeld-Mack, pianist, and his group, ca. 1924. photo: Bauhaus-Archiv, Berlin

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 non-sensical 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's *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. László Moholy-Nagy used sound in quite another way. In 1922 he ordered works of art by telephone (page 46) 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 multi-media 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 geneology in our century. The Dada performances of Hugo Ball (page 13) at the Cabaret Voltaire in Zurich in 1916 and Gilbert and George, the British artists who transformed themselves into singing sculptures (page 13) 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 (page 6) 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 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 the 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* of 1923, remade in 1958 (page 90), for instance, 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's *Box with the Sound of Its Own Making* of 1961 (page 46) and in the series of paintings with accompanying records that Roman Opalka began in 1965 (page 47). 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 (pages 31, 34, and 40), 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's 1964 poster for the *Perpetual Fluxus Festival* (page 43). 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* of 1963 (page 56). 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 theater 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 which allowed 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 indissoluable 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 (page 30). By so doing, Braque played upon and entwined our sense of sight and hearing and thereby extended our range of visual perception which embraces one-hundred eighty degrees of an imagined circle to three hundred sixty 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 roomlike environments (page 69) 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's environmental piece may be perceived aurally by attentive passers-by (page 74). 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 (page 72). When we walk past Nauman's wall, the presence of ambient sound in one of our ears 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 (page 75), Phillips creates what she calls capacitance fields that make the space sensitive to our actions, our 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 (page 68) 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 was elaborated into opera, ballet, and theater. 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,* were 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 in 1894 at the end of his life in *The Origin and Correct Interpretation of Our Sense Impressions,* in which he established that our physical sensations are inseparable from our unconscious mental processes of memory and association.

In the first decades of the twentieth century synaesthesia motivated Kandinsky and Franz Marc in their influential almanac of 1912 called *The Blue Rider* (page 38). 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 (page 48), 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* of 1913 (page 54). Severini's picture reflects the statement that appeared in the Futurists' exhibition catalogue of 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 center of the picture.'*[18]

In Marcel Duchamp's readymade of 1916 *With Hidden Noise* (page 33), we are invited to wonder what exactly is concealed within the ball of twine. Our speculations, for Duchamp, complete the cycle of exchange that he, the artist, 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* of 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* of 1953 (page 49) Rauschenberg uses three pebbles as percussive elements to tantalize our sense of hearing, touch, and play, whereas in *Dry Cell* of 1963, a collaborative work with engineer Billy Klüver (page 49), 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* of 1969 (page 61), for example, the viewer creates the visual image on the TV screen by speaking into microphones that Paik has wired to what is now a vintage model television set. With David Tudor's *Rainforest IV* of 1973, realized by Composers Inside Electronics, the viewer is an integral part of the work. *Rainforest* has extended the implications of Erik Satie's ambient *Furniture Music* of 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 in which the performers and audience are separate.

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 theater in which the sounds of the human voices—words without meaning, music by composer Thomas von Hartmann, movement, and color 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 followed the nineteenth century's search for a synaesthesia of the arts most fully. In 1976 Wilson, in collaboration with the composer Phillip Glass, created *Einstein on the Beach,* a five-hour opera of slowly evolving visual and musical splendor. 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* of 1980, from which *Silver Lake with Dolmen Music* (page 70) 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.

NOTES

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11. Luigi Russolo, "The Art of Noises" (Milan: Direziono del Movimento Futurista, 1913), in *Futurist Manifestos,* ed. and intro. Umbro Apollonio (New York: Viking Press, 1973), p. 74.
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14. Jean Tinguely, in Aldo Pellegrini, *New Tendencies in Art,* trans. Robin Carson (New York: Crown Publishers, 1966), p. 259.
15. Liz Phillips in Caroline Drews, "Sculptor with Sound," *San Francisco Examiner and Chronicle,* 21 June 1981, p. 7.
16. Doug Hollis, in *Artpark 1977: The Program in Visual Arts,* (Lewiston, NY: Artpark, 1977), p. 57.
17. Wassily Kandinsky, in Klaus Lankheit, "A History of the Almanac," *Der Blaue Reiter Almanac,* p. 37.
18. Giacomo Balla, Umberto Boccioni, Carlo Carrà, Luigi Russolo, and Gino Severini, *Exhibition of the Works of the Italian Futurist Painters* (London: The Sackville Gallery, 1912), p. 14.
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Above: Hugo Ball reciting his sound poem "Karawane" 1918, photo: Harry N. Abrams, Inc.
Below: Gilbert & George *The Singing Sculpture,* performance at Sonnabend Gallery, New York, September 1971

Robert Rauschenberg *Soundings* 1968, construction of silkscreen ink on two-way plexiglas with electrical components, 8 x 36 x 4½ feet, overall, Museum Ludwig, Cologne, photo: Martin Curry and Michael Fischer

DORE ASHTON: SENSORIA

For more than a century artists have been lured by the idea of a grand and excitable sensorium. When, for instance, Robert Rauschenberg created *Soundings* in 1968 (page 14) he was working in an experimental tradition that had its source in the synaesthetic dreams of the Romantics. He extended their vision of an art that crossed all the lines and alerted all the senses, particularly those of sight and sound. In Rauschenberg's *Soundings,* spectators entered a carefully prepared room that in its dusky atmosphere was transformed into a theater. There, they were called upon to stamp, clap, or hoot, producing random sounds that set off an electronic circuit that in turn illuminated an elegant composition of chairs. The piece, even in its metaphorical title, stimulated questions that had long preoccupied both visual artists and musicians—questions concerning the common bases for the arts that go back to Pythagoras, the musical theorist Aristoxenus, and Aristotle, and were pondered with increasing frequency after the middle of the nineteenth century.

When the vastly suggestive notion of analogy seized the imagination of countless nineteenth-century poets, artists, and composers, infusing their discourse with metaphors that prompted all the senses, a rich creative source emerged. Baudelaire, in his celebrated poem "Correspondences," expressed the thought of his time when he declared that "scents, colors, and sounds respond to one another."[1] He spoke of "musicality" in painting and suggested, in his essay on Delacroix, that the master had taught him to stand far enough away from a painting that its musicality would become apparent. Such easy transpositions of the diction of one art to the realm of another was typical of the period and was to become even more pronounced as the century wore on. When Baudelaire discovered Wagner's theory of the *Gesamtkunstwerk,* he wrote ecstatically of the old dream, "the marriage, the *coincidence* of several arts."[2] He cited Wagner's letter of February 1860 to Berlioz, in which Wagner speculated:

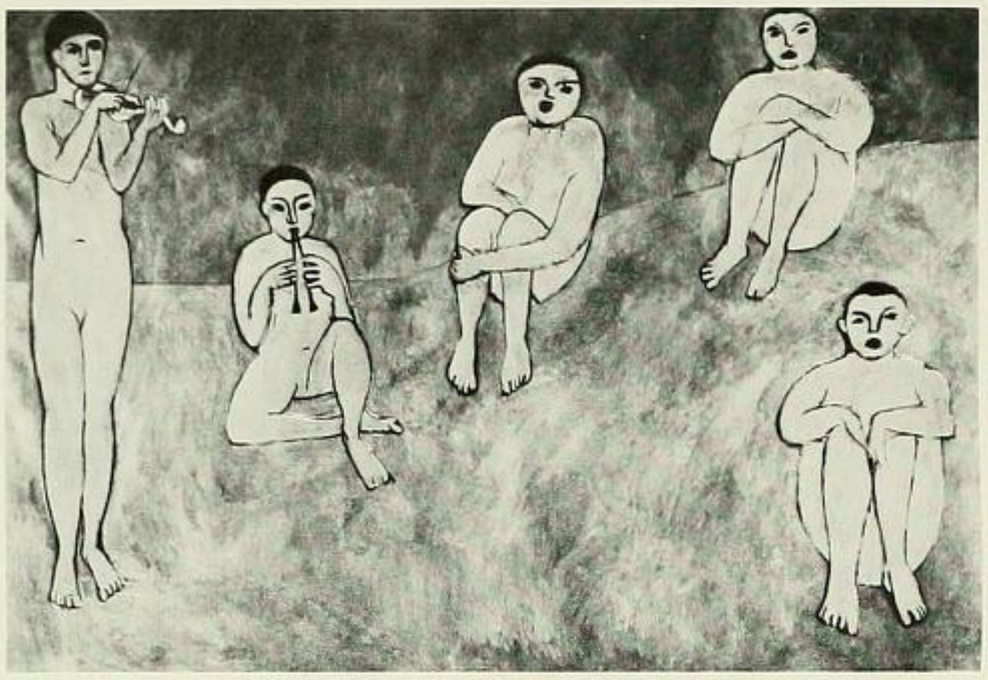
> If once thirty-thousand Greeks could follow with intense interest the performance of tragedies like those of Aeschylus, I wondered what means they would have employed to bring about such extraordinary effects, and I realized the means lay in the unification of all the arts in the only true and great work of art. My aim thus became to demonstrate the possibility of a work of art in which the highest and deepest sentiments that the human spirit is capable of conceiving could be communicated in a readily comprehensible manner to minds receptive only to the simplest of purely human sympathies and to communicate them moreover so definitely and convincingly that no critical reflection would be needed for their absorption.[3]

The hunger for the direct sensory experience in which "no critical reflection would be needed" was sharpened during the period by philosophical speculations in which music was extolled above all other arts for its unsullied flight into the soul of the perceiver. Many artists and musicians could concur with Schopenhauer's conclusion that "music has no direct but merely an indirect relation to analogy, for it never expresses the phenomenon but only the inner nature, the in-itself of all phenomena."[4]

The readiness of visual artists to accept Schopenhauer's idea was apparent toward the end of the century when the Symbolist painters, among them Gustave Moreau, Maurice Denis, and Paul Gauguin, frankly sought to compete with the exalted form that was the "in-itself" of all phenomena. They elaborated Baudelaire's theory, seeking in the arabesque of line and the immediacy of color an equivalence to sound and silence in music. Enthusiasm for synaesthetic effects was conveyed by poets and writers contributing to numerous small journals, particularly *La Revue Wagnérienne,* whose columns were filled with synaesthetic effusions. The editor, Téodor de Wyzewa, called for "an emotional art, a musical art, neglecting the care of objects that colors and lines represent, taking them solely as signs of emotions."[5]

The Symbolist rhetoric was imbued with vague blendings of terms from music and painting, but the painters who had inherited the debate about the abstractness of painting (even Delacroix had used the word "abstract") clarified the issue by heightening the importance of rhythmic sequence in their forms and colors. The possibility of a truly abstract musicality was explored by many modern masters. Both Matisse and Picasso (page 48) had grasped the essentials. Matisse, an amateur musician, spoke of his "arabesque" and, in one of his most magnificent paintings, *La Musique* of 1911 (page 16) arrayed his figures on an abstract blue and green ground as though they were notes on a musical staff.

During the first decade of the twentieth century there was intense interest in the commonalities in music and art. The fluid exchange of terminologies between the arts may be gauged by the diction of three outstanding documents of the period. The first is the radical essay by Ferruccio Busoni, "Sketch of a New Esthetic of Music," published in 1907. Busoni speaks of a future infinite harmony in which the artificial laws of the tempered scale would be sur-



passed. He also declares: "That which, within our present-day music, most nearly approaches the essential nature of the art, is the Rest and the Hold."[6] This statement is akin to late Symbolist poetic ideals (those of Mallarmé for instance) and also to ideals set forth by Gauguin and his admirer Matisse. In 1912, in another significant document of the period, *Concerning the Spiritual in Art,* Kandinsky writes of white as "a great silence which materially represented is like a cold, indestructible wall going on into the infinite. White, therefore, acts upon our psyche as a great, absolute silence, like the pauses in music that temporarily break the melody. It is not a dead silence, but one pregnant with possibilities."[7] In the same essay, Kandinsky praises his friend Arnold Schoenberg, whose book *Harmonielehre* had just appeared, for sanctioning every means of expression in his search for internal beauty. Schoenberg was searching for "the one unifying idea" and earned Kandinsky's approval in saying, "Every combination of notes, every advance is possible, but I am beginning to feel that there are definite rules and conditions which incline me to the use of this or that dissonance."[8]

While Kandinsky soon began to speak only of the "inner sound" of painting, Schoenberg increasingly defined his music in spatial terms, referring to plane, foreground, and background. In 1941 Schoenberg summarized his attitude:

> The two-or-more dimensional space in which musical ideas are presented is a unit. Though the elements of these ideas appear separate and independent to the eye and the ear, they reveal their true meaning only through their cooperation, even as no single word alone can express a thought without relation to other words. All that happens at any point of this musical space has more than a local effect. It functions not only on its own plane, but also in all other directions and planes and is not without influence even at the remote points.[9]

There were countless philosophic convergences during the early years of the twentieth century. Paul Klee, for instance, who was a fine musician, easily countered Gottfried Lessing's argument that painting and sculpture were purely spatial arts. Space and time became one for Klee:

> In Lessing's *Laocoön,* on which we wasted a certain amount of intellectual effort in our younger days, a good deal of fuss is made about the difference between temporal and spatial art. But on closer scrutiny the fuss turns out to be mere learned foolishness. For space itself is a temporal concept.[10]

Like Kandinsky, his colleague at the Bauhaus, Klee believed that the point, when activated, was the source of all form. (Kandinsky so much believed it that he re-scored the opening of Beethoven's *Fifth Symphony* in points on the picture plane.) For Klee, the point was a primordial cosmic element, and he based his theory of organic pictorial development on its seedlike character, asserting that "Every seed is cosmic."[11] Busoni in 1907 had already written:

> Every motive—so it seems to me—contains, like a seed, its life-germ within itself. From the different plant-seeds grow different families of plants, dissimilar in form, foliage, blossom, fruit, growth and color. . . .And so in each motive, there lies the embryo of its fully developed form; each one must unfold itself differently, yet each obediently follows the laws of eternal harmony.[12]

Busoni's remarkable pupil, Edgard Varèse extended his teacher's metaphor by analogy when he pointed out that the internal structure of the crystal is inherent in its smallest unit of atoms, which contains the order and composition of the substance itself. In spite of the relatively limited variety of internal structures, Varèse pointed out, the external forms of crystals are almost limitless: "Possible musical forms are as limitless as the exterior forms of crystals."[13]

Varèse had been struck by the affinities scientists had discovered between optics and acoustics. His early encounter with the pioneer opus of Hermann von Helmholtz, *The Physiology of Sound,* published in 1863, in which he discovered that von Helmholtz had used sirens to measure micro-pitches, sent Varèse rushing to the Flea Market to acquire sirens in order to "obtain beautiful parabolic and hyperbolic curves of sound which seemed . . . equivalent to the parabolas and hyperbolas in the visual domain."[14] Like Schoenberg during the same period, Varèse began to think of music as fundamentally spatial, as "moving bodies of sound in space,"[15] establishing the grounds for his future electronic experiments with sounds in diverse spaces.

There were various degrees of association, collaboration, and intermingling of the arts in the early modern period. Certain painters carried out the *fin-de-siècle* mandate, seeking to infuse their abstractions with a total musicality. Probably the most intense efforts were made by Frantisek Kupka (page 41) who had been immensely impressed with Edward Hanslick's *Von musikalisch Schönem,* published in 1854, in which the uncompromising music critic had written of music as the "logic of sound in motion"[16] and had described the inflexible laws of harmonic progression. Kupka, who had a strong tendency toward mysticism, made a series of pastels in 1909 to illustrate the laws of harmonic progression and by 1911 was calling himself an Orphist. In 1913 he told an interviewer, "I am still groping in the dark, but I believe I can find something between sight and hearing, and I can produce a fugue in colors as Bach has done in music."[17] The poet and art critic Guillaume Apollinaire, meanwhile, had, around 1912, dubbed

Henri Matisse *La Musique* 1911, oil on canvas, 101½ x 153½ inches, The Hermitage, Leningrad, photo: Harry N. Abrams, Inc.

the works of his friend Robert Delaunay and others Orphic and was sympathetic to the brief movement launched by two Americans, Stanton Macdonald-Wright (page 42) and Morgan Russell (page 50) called Synchromism, in which they explored pure color-abstraction and color simultaneities much as composers of the moment were exploring simultaneities of musical keys.

At the same time, the Futurists injected their furious note: Marinetti's original manifesto of 1909 was followed in 1911 by Balilla Pratella's manifesto of Futurist musicians, and in 1913 by painter Luigi Russolo's *The Art of Noises* (page 53), in which he proclaimed that Futurist musicians must enlarge and enrich the field of sounds and that this could be done only by the substitution of noises for sounds. In the same year Carlo Carrà wrote *The Painting of Sounds, Noises and Smells* (page 32) a rollicking caricatured reprise of Symbolist theories and the *Gesamtkunstwerk* ideal, in which he proclaimed:

> We Futurist painters maintain that sounds, noises and smells are incorporated in the expression of lines, volumes and colours, just as lines, volumes and colours are incorporated into the architecture of a musical work. . . . In order to achieve this *total painting,* which requires the active cooperation of all the senses, *a painting which is a plastic state of mind of the universal,* you must paint, as drunkards sing and vomit, sounds, noises and smells![18]

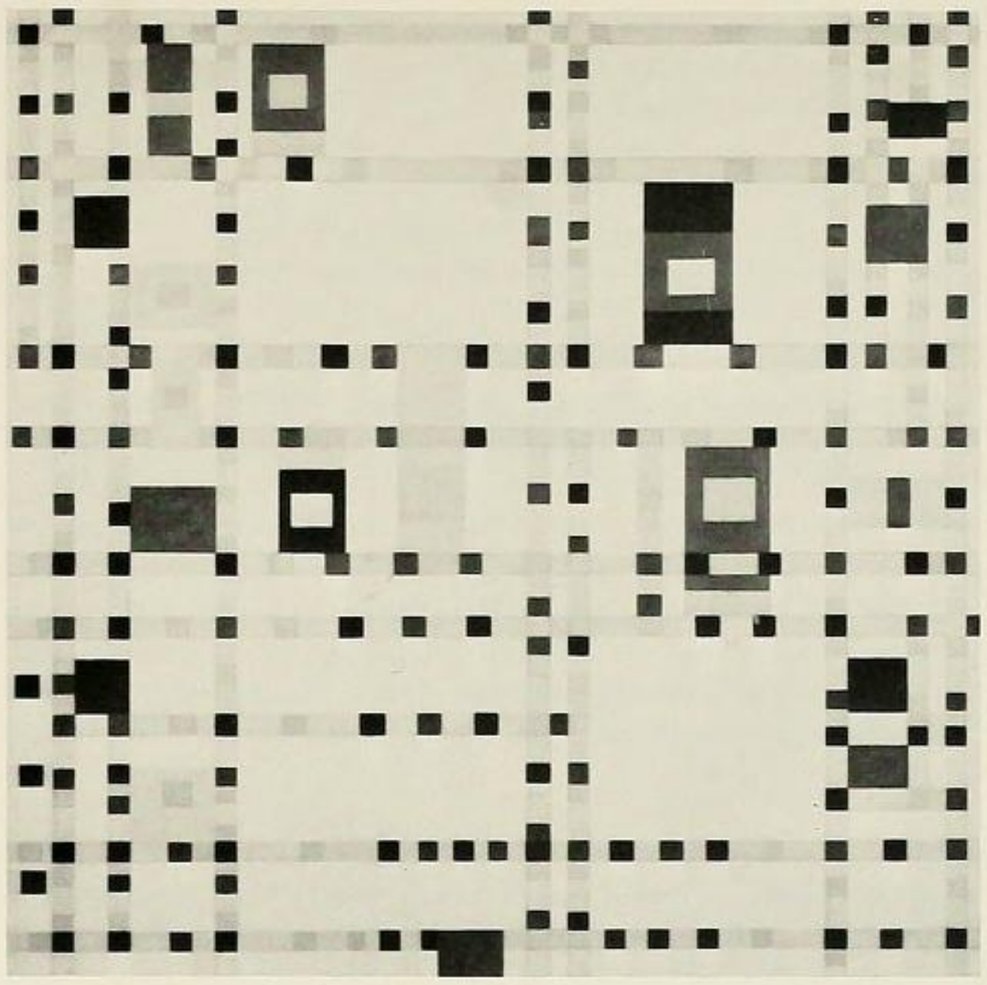
The iconoclasm of the Futurists elicited smiles in France and responses such as Varèse's, published in his friend Francis Picabia's magazine *391* in 1917:

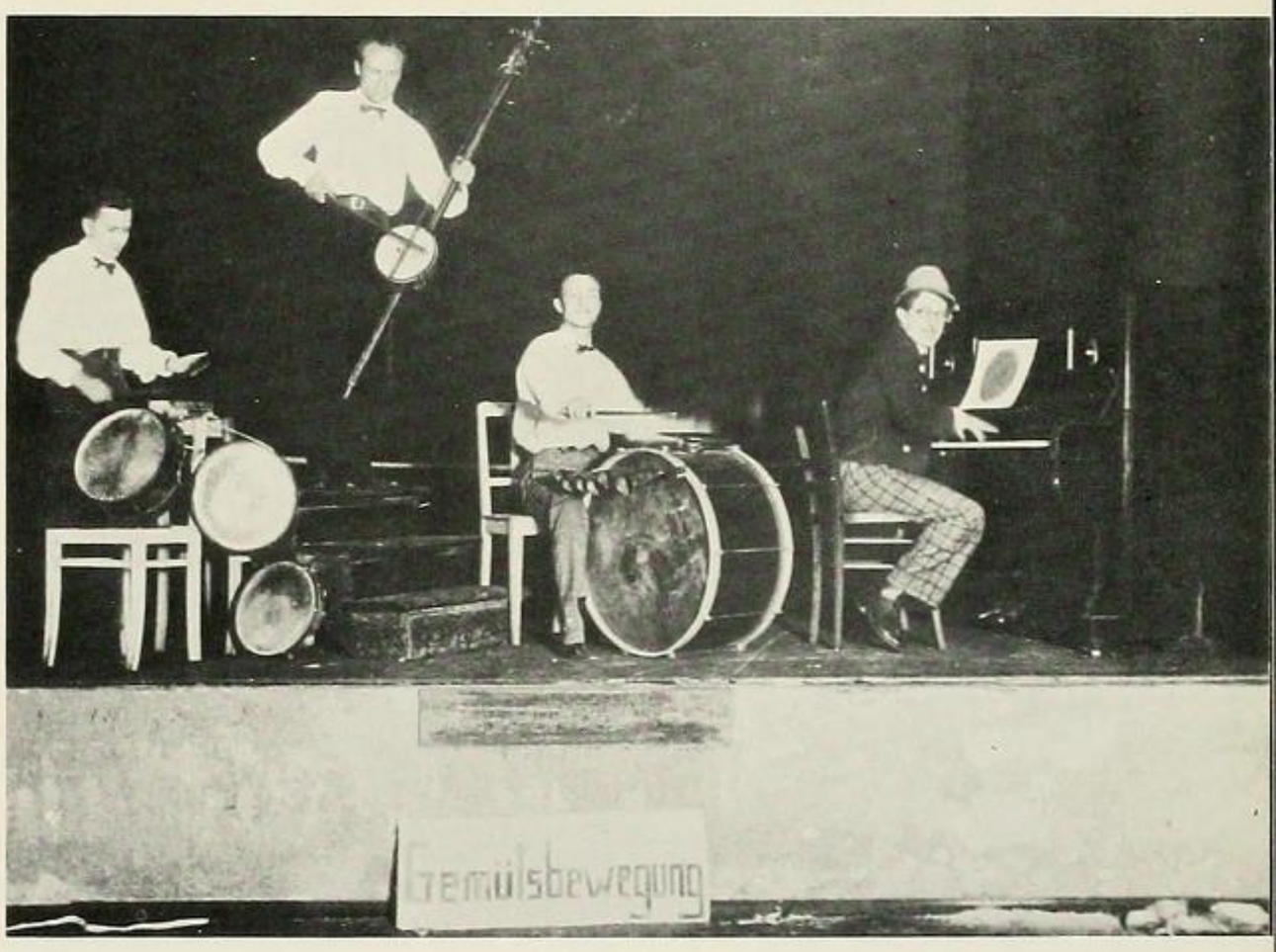
> Certain composers have nothing in view in their works but a succession of titillating aggregations of sound—material for the most part of terrifying intractability—and have no intellectual concern with anything but external sensorial effect. . . .Italian Futurists, why do you merely reproduce the vibrations of our daily life only in their superficial and distressing aspects?[19]

All the same, vanguard composers and their friends among the visual artists were increasingly interested in the vibrations and sounds of daily life. Erik Satie, after his exhilarating collaboration with Picasso in *Parade* found himself increasingly drawn to visual artists and, perhaps under their influence, conceived of his *musique d'ameublement,* music as furnishing. The first and only performance of his furniture-music was described by Darius Milhaud, whom he had persuaded to work with him in a concert in an art gallery:

> Just as one's field of vision embraces objects and forms, such as the pattern on the wallpaper, the cornice of the ceiling, or the frame of the mirror, which the eye sees but to which it pays no attention, though they are undoubtedly there, Satie thought that it would be amusing to have music that would not be listened to.[20]

Milhaud recounted[21] how he and Satie had posted their instrumentalists in all corners of the room, as well as on the balcony, and how in a program note they had warned their audience not to pay any more attention to the ritornellos that would be played during the intermissions than to the candelabra, the seats, or the balcony. But, during the intermission, when the music started up, the audience streamed back to their seats, making this first experiment in background music a failure– one that was eventually





Above: Piet Mondrian *Broadway Boogie Woogie* 1942–43, oil on canvas, 50 x 50 inches, The Museum of Modern Art, New York
Below: The Bauhaus Band, Weimar, 1924, photo: Bauhaus-Archiv, Berlin

rectified by the invention of art forms, such as the sound motion-picture, in which the sounds are deliberately composed as background.

Satie's kinship with visual artists was exceptionally profound, as is evident in his so-called "white music," with its great blank spaces and ornamental repetitions, its striving for aural purity. His friendship with the sculptor Brancusi was significant. Brancusi, at around the same time that Satie was composing his astonishing *Socrate,* performed first in 1920, was carving a solid wooden cup that he titled *Of Socrates.* Valentine Hugo said that Satie was Socrates, and Brancusi was Socrates' brother. It is not difficult to understand the affinities between the two purifying artists, or to find similarities in Satie's thought processes for the composition of *Socrate* and Brancusi's attitude toward sculpture. One of Satie's notes states: "Do not forget that melody is the Idea, the contour, just as much as it is the form and content of a work."[22]

A quite different attitude toward melody was expressed by another purist, Piet Mondrian (page 17) in *de Stijl* of February 1921. Mondrian considered the jazz band as the way to a musical future that would suppress ancient melody (page 17). "The jazz band dares brusque demolitions of melody,"[23] he wrote. He believed that it would lead toward a new spirit in music in which "the old tonal scale and usual instruments must be banished."[24] Mondrian's vision of new instruments presaged post-World-War-II developments such as art objects used as instruments. He wrote:

> Stringed, wind, brass instruments must be replaced by a battery of hard objects. The construction and the materials of new instruments is of the highest importance. Thus the "hollow" and the "round" will be replaced by the "flat" and the "plane" because the timbre depends on the form of the material employed. . . . As for the method of *production of sound* it will be preferable to use *electricity, magnetism, the mechanical.*[25]

The search for new objects to convey a belief in "sound," as opposed to "note," in music was considerably amplified after the First World War when there were numerous experiments in *Gesamtkunstwerk* variations. In 1920 El Lissitzky spoke of an opera in which all creative energies would be organized in a "simultaneity of happenings."[26] In 1922 at the Bauhaus, Oskar Schlemmer was formulating his theory of a mechanical theater, and especially ballet, as the "best promise of total art."[27] His own *Triadic Ballet* "would follow the plane geometry of the dance surface and the solid geometry of the moving bodies, producing that sense of spatial dimension which necessarily results from tracing such basic forms as the straight line, the diagonal, the circle, the ellipse, and their combination."[28] Two years later, László Moholy-Nagy announced that the "theater of totality" is the future of art and specified that:

> In the future *Sound Effects* will make use of various acoustical equipment driven electrically or by some other mechanical means. Sound waves issuing from unexpected sources—for example, a speaking or singing arc-lamp, loud-speakers under the seats or beneath the floor of the auditorium, the use of new amplifying systems—will raise the audience's acoustic surprise-threshold so much that unequal effects in other areas will be disappointing.[29]

Moholy-Nagy also thought that color would have to undergo an even greater transformation than sound. He spoke of the "new action of light"[30] and suggested that the use of precision-made metallic masks and costumes would lend monumentality to new kinds of light-projection. Films would also be projected onto various surfaces, and effects that future technology would make possible would fuse all the arts.

Since the 1920s there have been countless crossovers, combinations, convergences, and experiments reasserting synaesthetic principles long established. Many generations of visual artists and musicians have found common ground. John Cage proposed his own total theater when he began working with the dancer Merce Cunningham on the premise that music and dance could be treated independently and result in an experience of "a multiplicity of events in time and space."[31] His experiments with the "prepared" piano, with performances in which silence is the main ingredient, and even with symphony orchestras, are in the synaesthetic tradition. His general theory of the interpenetration of the arts was not radically different from that of vanguard predecessors such as Satie, or Georges Antheil who, in 1925, wrote the score for Fernand Léger and Dudley Murphy's abstract film *Ballet méchanique* with sixteen grand pianos, a mechanical piano, an airplane propeller, anvils, saws, and hooters. When Cage composed his *Concert for Piano and Orchestra* he used sirens, cuckoo sounds, pistol shots, belly laughs, the shattering of glass bottles, and the opening and shutting of a large black umbrella. The gestures of the performers and their various unexpected acts were in keeping with Cage's conception of the "happening," which was first broached at Black Mountain College and was indebted to the Dada tradition. Cage's natural ancestor was Marcel Duchamp who, as early as 1913, created *The Bride Stripped Bare by Her Bachelors, Even. Erratum Musical,* a composition, derived by chance, in a procedure involving numbered balls dropping through a large funnel into five wagons passing beneath.

Younger composers, stimulated by Cage, were frequently more closely allied with the art world than the music world. Morton Feldman, whose penchant for silence was pronounced, saw in his own work a "plastic quality," and spoke of painters Kline, Rauschenberg, deKooning, and Guston as inspirations. Sound in itself, he said in the 1950s, can be a totally plastic phenomenon suggesting its own shape, design, and poetic metaphor.[32] His contemporary, Earle Brown, found affinities with Jackson Pollock, sometimes called himself a "collagist," and credited Alexander Calder's mobile *Chef d'orchestra* with suggesting his fundamental idea of the mobility of musical movements. Eventually Brown collaborated with Calder and, in 1966, produced a piece in which Calder's mobile *Chef d'orchestra* was both the chief instrument and the conductor (page 86).

The work of these composers, with its freedom from musical convention, led to many other kinds of convergences. New ways of scoring, for instance, opened a new area of speculation. Certain of the composers' scores of aleatory compositions were so eminently graphic that they doubled as works of visual art. A few composers have had exhibi-

tions of their scores in which they were presented frankly as drawings. In other ways, the dismantling of conventional instruments, as in the "prepared" piano, led to the invention of new ones that often, as in the case of the Baschet (page 58) could be seen either as sculptures or as musical instruments. Certain sculptors, on the other hand, have discovered the joys of the virtual. Marvin Torffield's (page 19) wooden baffles, so beautiful in themselves, preside over a complex set of sound-forms that hover, like concrete entities, or slide or plunge into the space between spectator and baffle. The percussionist Max Neuhaus (page 74) has expanded the notion of sounds as shapers of the environment with experiments in radio electronics and environmental installations. In 1967, for instance, he adorned a Toronto stairwell with sounds from speakers on eight landings, and in 1971 he produced his Water Whistle compositions of sounds that could be heard only under water. The limitless possibilities in such experiments have appeared more and more attractive to contemporary artists, producing the hybrid category, "intermedia," that has gone far toward realizing the prolonged dream of the total work of art.

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3. Richard Wagner to Hector Berlioz in Herbert Barth et al., *Wagner: A Documentary Study* (New York: Oxford University Press, 1975).
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15. *Ibid.*, p. 17.
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18. Carlo Carrà, *The Painting of Sounds, Noises and Smells*, as quoted in Umbro Apollonio, ed., *Futurist Manifestos* (New York: Viking Press, 1973), pp. 114–15.
19. Varèse as quoted in Ouellette, *Varèse*, p. 61.
20. Darius Milhaud, as quoted in Pierre Daniel Templier, *Erik Satie*. trans. Elena L. French and David S. French (Cambridge: MIT Press, 1969), p. 45.
21. Milhaud, *Notes without Music: An Autobiography*, Rollo H. Myers, ed. (New York: Alfred A. Knopf, 1953).
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23. Piet Mondrian, *Le Néo-plasticisme: Principe général de l'équivalence plastique* (Paris: Galerie de l'Effort Moderne, 1920).
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26. Lazar El Lissitsky, as quoted by Pontus Hultén in *The Machine As Seen at the End of the Mechanical Age* (New York: The Museum of Modern Art, 1968), p. 131.
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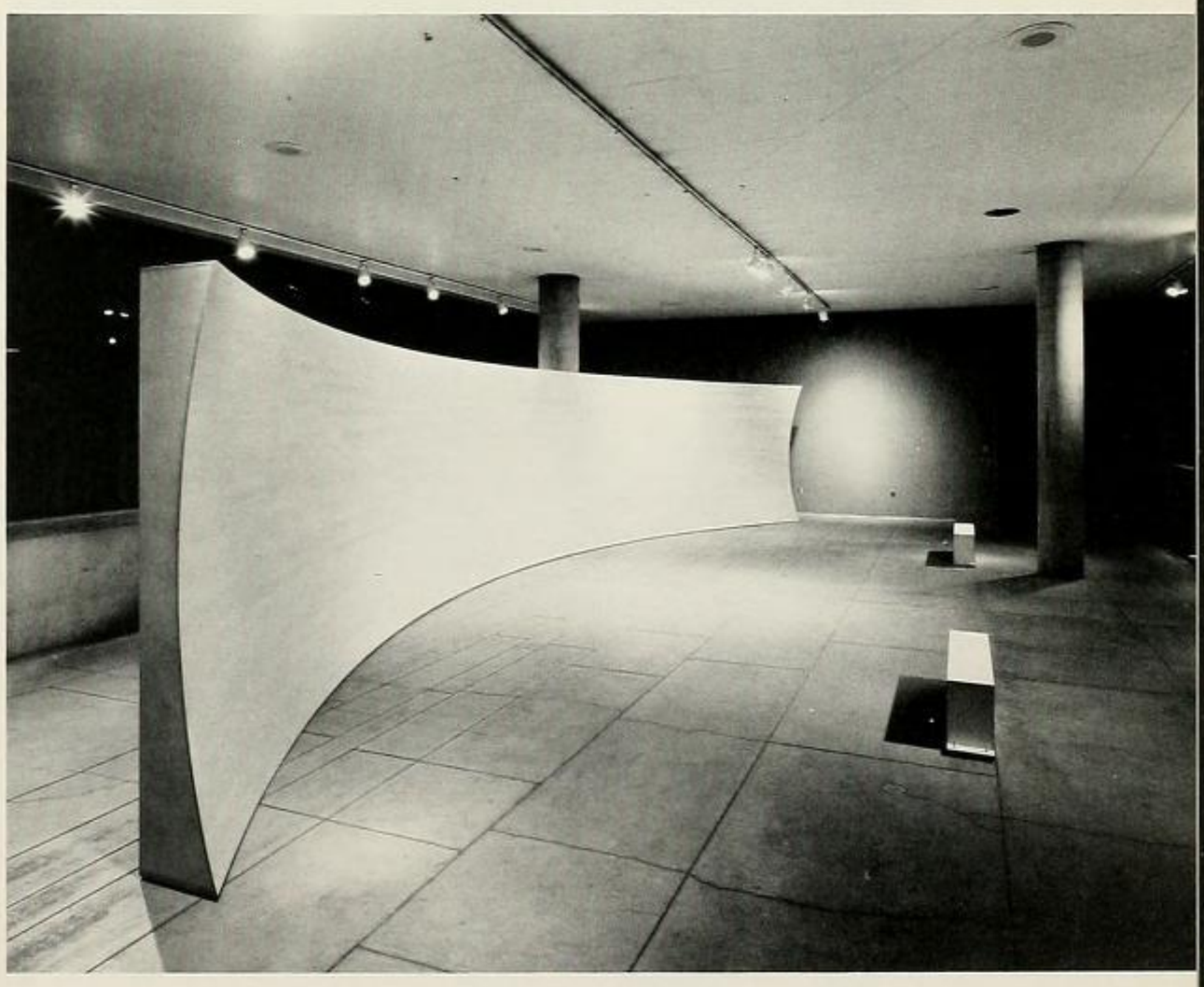


Marvin Torffield *Untitled* 1977, wood, 7½ x 40 x 1¼ feet, installation: Carpenter Center, Harvard University, Cambridge, photo: Jim Dow

Above: *The Residents* 1980, photo: Ralph Records
Below: The Red Crayola with Art and Language *Kangaroo?* 1981, Rough Trade Incorporated

GERMANO CELANT: ARTSOUND

Translated by Carla Sanguineti Weinberg

It is the opinion commonly accepted by authentic libertines that the sensations communicated by the organs of hearing are the most exciting and that their impressions are the most vivid.
Marquis de Sade: Les 120 Journées de Sodome

Once there was an avant-garde, and it represented opposition. Today it is so totally accepted and established that it has become a common and quotidian matter. One can no longer speak about it because the violation of the rules is rhetorical, and intellectual discourse no longer evolves within the dialectic between avant-garde and tradition, but rather between avant-garde and avant-garde or, say, between tradition and tradition. The permutability of the terms carries within itself a challenge to the progression of tendencies and movements as much as it does to the interchange between progress and retrogression, revolution and reaction, development and involution, quality and quantity. At this stage, the sign is not susceptible to criticism and secures for itself a place in history without causing its antecedent to lose its place. The themes of discussion and struggle that used to condition inquiry crumble, and an all-encompassing course is adopted in which convention embraces experimentation. All values become comparable but subtly subordinate to the well-being of the art establishment which, with the fall of the prohibition against non-involvement, is no longer differentiated from the industrial establishment. In fact, with the end of the political discords that characterized the art establishment during the sixties, some compromises are announced in which artists exclude the representation of disorder and the defeat of the imaginary.

What is produced now is no longer an agitation but an assent, the excess value of which resides in its maneuverability and reproducibility. Such a transformation could be explained as much by current consumer demands as by the

withdrawal of artistic involvement that has realized the rise on the social scene of a creativity of the masses. The effect of homoginization, from which current inquiries suffer, is, furthermore, both the consequence of an overall conformity in accordance with which the area reserved for personal choice has been reduced and the realm of production has been extended—and of an indoctrination characteristic of a society which, in the levelling association among products, tends to abolish disassociation and discussion. Art as well is associated with this process and so confounds its art-objects with decoration for the eye and ear that it disintegrates every sign of change and vitality. Furthermore, in order not to run the risk of becoming disassociated, art often aims at a passive imitation of the past, which, recycled by quotation, becomes contemporary in order to satisfy the demands of the consumer. In this sense, a part of "the new" is presented as a copy of the modern and fulfills, in the post-modern, the double role of an object which is "experimental" yet based on the security of the historical model. The subject of the sale is then secure; it moves between the tradition of the avant-garde and the avant-garde of the tradition.

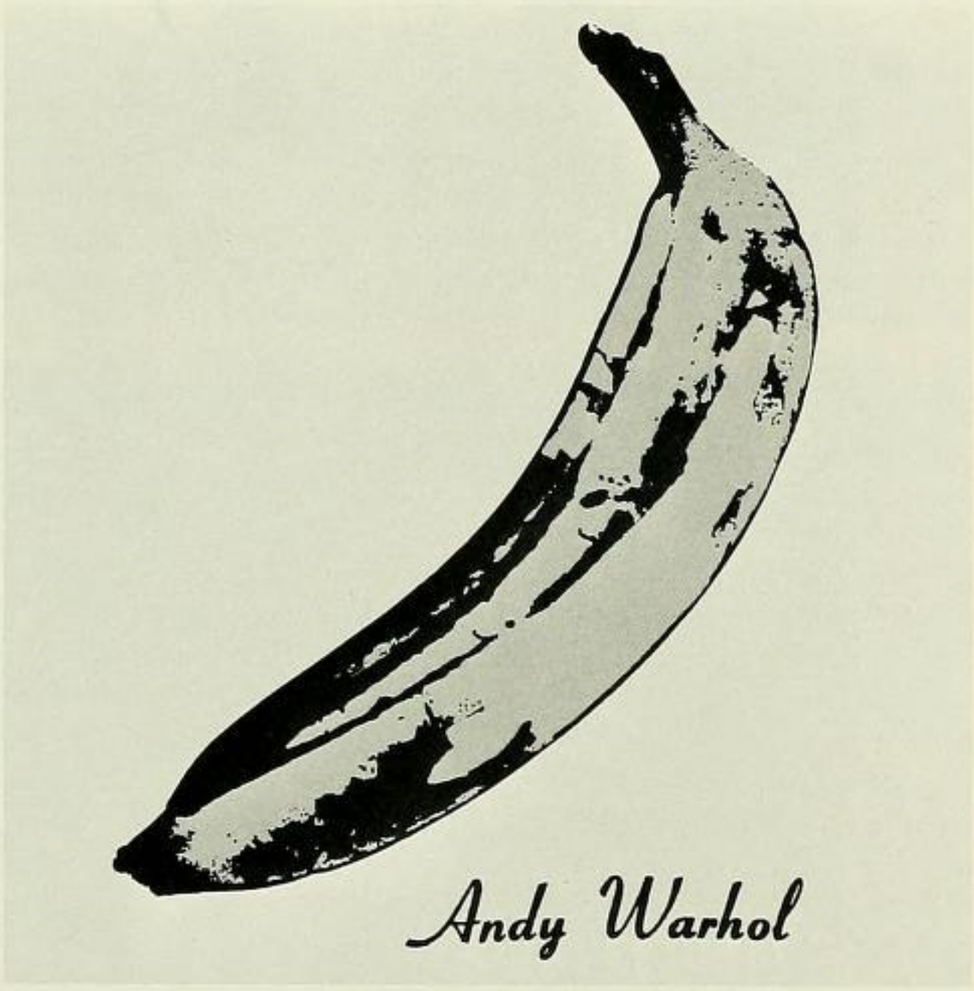
In the U.S., too, the acceleration of the contemporary, brought about by the consumption of art as well as by the demographic explosion of gallery owners, dealers, curators, and museum directors, has so enlarged the base of power and cultural exchange that the illusion of a democratization of art has arisen. This mirage, sustained by the National Endowment for the Arts and by corporations, has taken on the appearance of an overall conformity to such an extent that individual sensibility has made itself subservient to a surrendering of taste and inquiry to the masses that has no equal in history. Exhibits multiply, new museums spring up, and private galleries flood the field, but the call to debate the procedures as well as the process of making art is extinguished, and the face of culture shows the terrified expression of one who waits behind the counter for the real and true command, the request of what to serve.

Along with its apolitical content, a linguistic debasement is the consequence to such an extent that, if one were to think about pattern-painting and the neo-Fauves, one would find a rise in the value of decoration and eclecticism as escapes from every problem other than business affairs and the multiplication in quantity of the "artistic gadget" that is to be collected on the walls of the petty bourgeoisie. In this process of despoliation that confounds the lightshade, the carpet, the couch, the fresco, and the painting, the aim of art is to be at the level of all the consumer signs. In respect to art's exit from the margin and its entrance into a decoration that satisfies the common taste, one may adopt various positions. One may enact an ideological amorality, as for years Warhol has done, and in a cynical way dry up the very concept of margin in order to render it anti-heroic and commercial, that is to say, to enact the total and definitive annulment of the concept "avant-garde" in order to turn it into a subculture for the rich. Or, one may move within art with the humanistic—and therefore idealistic—hope that art will bring something good to the world. The latter hypothesis, we know, is a suicidal one because it continues to believe in the separate womb of culture where the petty-bourgeois rarities are formed. At the same time, the former hypothesis, riskier but lucid and indifferent, seems open because in letting itself be maneuvered by the stars of finance, film, fashion, and musical stage, it can reach out for the definitive levelling between industry and art in which both reproduce inexpressive and cold objects and images that are the only experiences common to millions of persons. To redouble industry in order to devour it in a system of its own may seem utopian and unreal, but it also means that the passive becomes active and the artist attempts to put himself in the place of the object.

The artist's identification with an undistinguished and easily recognizable entity (it could be a book, record, film, photograph, advertisement, etc.) may be considered the norm of the mass-society in which the factitiousness of mass-consumption and of the fetishism of the signals does not mean losing oneself nor negating oneself, but keeping up with the times. And because the cadence is accelerated, one has to make the signals denser rather than rarer. The repetition carries with it a disturbance of the unique, but it increases its identity with the mass. Now, it is not surprising that contemporary artists identify themselves with everything that the artist of yesterday "lacks," in particular, the circulation of his wares and his signals. Here they are, then, taking into consideration the possibility of a real diffusion through mechanical and electronic repeaters, with which they might lose themselves in the fields of television and radio. The goal for the artist is to divest himself of whatever is predestined and humiliating in his creativity, and to make of this predestination and humiliation, not a praxis of ruin, but of success.

The first step consists in discovering the threshold for crossing from one establishment to another so as to be able to circulate freely in the diversified fields of both the star establishment and the art establishment. The first breakthrough seems to have occurred in music and in the production of scores and records. Many artists today seem to address themselves to passing from an artisan to a machinelike function in order to translate their "dexterity" into consumption and money and their imagination into a warehouse from which business emerges. Now, there is no richer nor more fashionable field than music—a territory in which the "signed" sign produces an economic and mythical acme. The idea of taking music-recording technology as a model for our own alteration dates from the beginning of this century when the Futurists and the Dadaists, renouncing using themselves as a unit of measurement, trusted themselves to radio and the cinema like ecstatic lovers. The process continued up to the seventies* but always within the ambit of the experimental.

Today, instead, the process seems to flood throughout the music industry itself, where the image of creativity is subservient to the work done by Ralph Records or RCA. In a kingdom of sounds, where once artists occupied a small reservation, art seems to have carved out for itself a domain. This is a proof of power, and for this reason art's intolerableness is today considered to be a uniqueness which can, however, be multiplied into millions of copies of



Above: Cabaret Voltaire *The Voice of America* 1980, Rough Trade Incorporated
Below: The Velvet Underground & Nico *Untitled* 1967, Verve, distributed by Polydor

either records or tapes. This attitude, by now common among artists and persons interested in art, is disquieting to those who have a horror of multiplication and reproduction, but it excites instead all those who are interested in the perfection of the "transmissions" because the absence of error typical of reproduction in a review or book serves to obliterate the difference between direct experience and indirect information. This coincidence occurs in records and concerts. For a generation educated via cable and satellite, which provide at home all the data and all the patterns, both narrative and cinematic, what counts is reception—because expression transformed into image and sound must result in perfection—since it is perfection that determines attention even more than content. The passion, in fact, turns on the quality of the recording and of the reprinting, and it is on these that the eye and ear express their judgment. All bits of information, insofar as they are expressed, recommend themselves for their reproductive and receptive qualities. What is consumed, sitting in front of a television and a movie screen, or walking or roller skating with the earphones of a cassette-recorder, is ever less a statement or a story and ever more an inexpressive and uniform image and sound. One might even say that the real stereotype travels in photographic and musical disguises. Those are the ones that are trustworthy as being objective—because they are controlled technically—more than the accounts of the human eye and ear.

The exasperating minutiae that these new realities form offers great interest today. Compared to the silence and opaqueness of painting and sculpture, music seems sensational—owing to a certain fashionable dazzle which fascinates—because it corresponds to quotidian reality. Each sound is an absolute entity, born out of fixed points, but it renders the world something unheard of. The unusual, which the frame or the pedestal used to send forth, today originates from loudspeakers and the projector. For this reason the greatest measure of the contemporary artist is that of self-expression in order to be a painter, a photographer, a filmmaker, and a musician like Robert Longo and Mayo Thompson, Alan Vega and Laurie Anderson, Jack Goldstein and The Residents. Their needs are regulated, in fact, in accordance with the imprint left on the paper, the film, and the record, on which one is able to incise a perfect sign. In addition, the original matrices shape the world itself, because from them thousands of copies—consequently millions of images and sounds—are derived which circulate everywhere in the eye and ear of all. Now, since artists have always been interested in shaping reality, or at least in influencing it, what better process is there than to reproduce their own ideas in limitless quantities? As may well be seen, after the opening up of the media that has taken place in the last twenty years, all the artists are now armed with cameras and recorders. To them, to click a shutter or record a tape is a normal process; it serves to tranquilize them, since they are able to take away with them any image or sound whatsoever, on the instant, without designing or composing it. The identification between trace and real world renders the world a box of sounds; therein lies its own existence, the rest does not count. And so it is perfectly logical that artists today react to their own restricted existence, and they start to roam like

vagabonds in the space of electronic and filmic images. On this ground, the location is not fixed, as it is in painting and sculpture, but spread out, since the panoply of figures and noises pours out through gigantic sources of emission. It is not surprising, then, that following the historic example of the Velvet Underground, the artists working at the beginning of this decade have broken away from the margination of art and have passed from the "personal show" to the "music show" in nightclubs and on television.

The list of artists or persons coming from the art world who have formed groups is today very long; it goes from Red Crayola (dubbed Art & Language) to the Disband of Martha Wilson, from Cabaret Voltaire to Alan Suicide, from Brian Eno to Glenn Branca, from Rhys Chatham to David Byrne. For these, imagination or the process of conceptualization has made everything useable, to the point where they urge the creation of an indiscriminate catalogue of products. This attitude is premonitory of a change in the artistic establishment as well as in the musical establishment, as if it were aiming at a spectacular tune-up of the avant-garde. It is not by chance that the Talking Heads have put into music poems by Hugo Ball and that Cabaret Voltaire has used the sonorous poems of Marinetti, or that Phil Glass "translated" himself in Polyrock.

Besides, music is an industrial sector; it permits expansion toward the audience and the direct verification of its reactions. In contrast to the sepulchral silence of exhibition spaces, the actions induced by music are explosive, almost like an exorcism of a dead painted or sculpted object. Each sound eradicates, in fact, the knowledge of the body, to the point of revitalizing the blind and spent pupil as well as the atrophied arms of the spectator of the show.

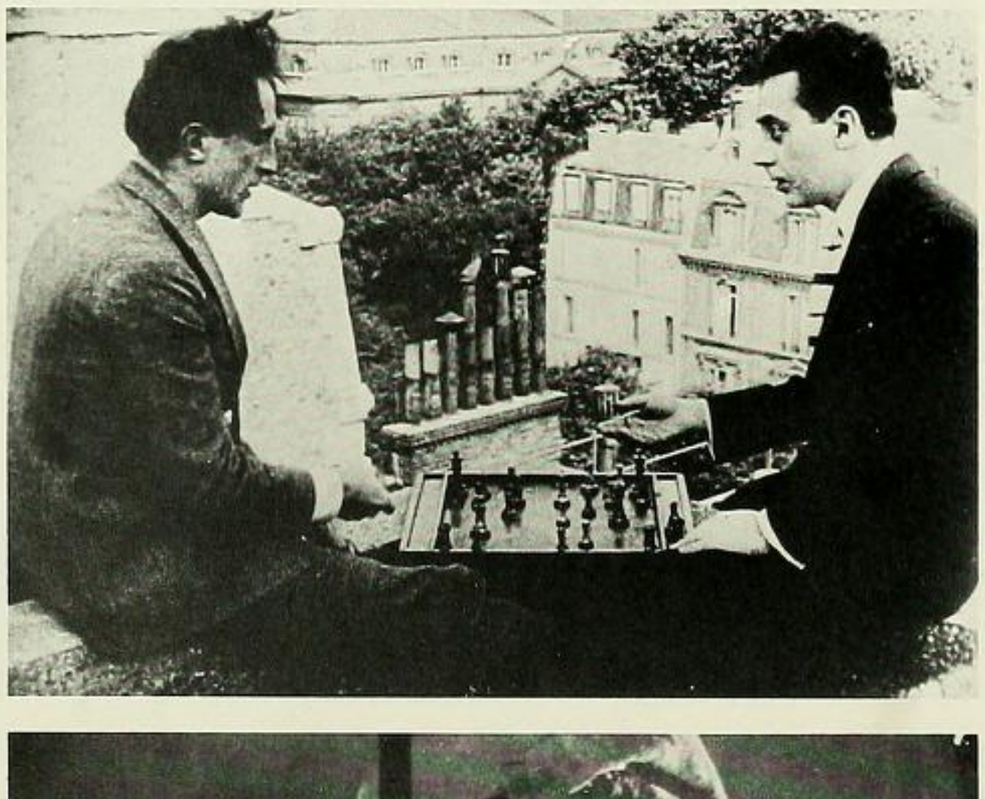
Might the mechanism which was formed in these years of musical wandering now be called "inversion," which is to say, substitution of one establishment for another? One might say, no; one might, rather, speak of equivalence, due to the fact that industry entered into art, and art, instead of being passively present at its own despoliation, has entered into industry. In addition, if the musician allows himself the luxury of artistry, he does it because art "acts" on the audience, and it can then be put on the stage. The musical rite is, therefore, complementary to the artistic sacrifice, except that the artist hides behind the object, does not transcribe himself, and remains separate from the senses of the audience, while the singer and the musician do not. In some way, if artists form bands, from Peter Gordon to Arto Lindsay and Pere Ubu, it means that art aspires to the destruction of the limits that condition its systems of traditional reception. It attempts to sacrifice itself, sweats and howls, in order to be accepted and adored by thousands of spectators, to whom the "diversity" of the rite gives pleasure. All forget, in fact, that the aspiration of every artist is to penetrate the castle of society and to be recognized; now, from 1968 to 1977, with the feeling of shame caused by political involvement, this chance was just missed unless they had recourse to the "tragedy" of decoration. And yet if it is moralistic to declare oneself rich, as well as poor, today no one wants to oust himself from the world, and artists least of all.

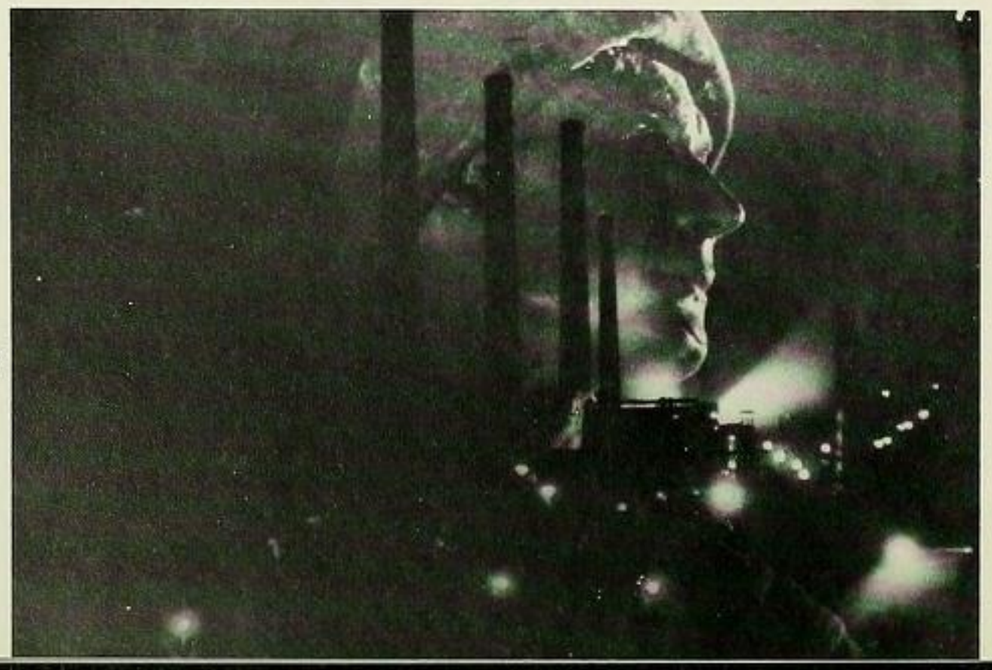
So, now that they no longer seem to have anything to do with politicians, they have been infiltrating the shows, first in performances and in the theater, now in concerts. Since the show is made to be seen, the jump from visual art does not prove unnatural; in addition, the event occurs for everyone, in a way that replaces the loneliness of art with a mass-participation that is further augmented by the circulation of records. Welcome, then, be the exchanges and collaborations between artists and filmmakers, musicians and photographers, who meet together at the Mudd Club or the Rocky Lunch in New York in order to set up gigs with Blondie and Lydia Lunch, Steve Pollack, the Bush Tetras, and DNA. Naturally, debarking in the *terra incognita* of music is not easy. We understand, then, the trust in chance and improvisation that characterizes the musical products of the "new wave." The vagabondage of persons educated within the avant-garde of Futurism and Dadaism, of metaphysics and Surrealism, cannot be predirected, but must be found, like a readymade. Many musicians neither know music nor know how to use traditional musical instruments; they often trust themselves to toys and gadgets, which, along with gestures, lights, and filmed bits, become resounding instruments on a par with percussion instruments and the guitar. The horizontal convergence of "diverse" sonorous apparatuses, even if bound together by their "immateriality," does not alter the status of the artist, who, operating in the Minimal and the Conceptual, is accustomed to carry to the extreme any "material" whatsoever that results in the sensitive or the insensitive, expressive or inexpressive, so as to satisfy the spectator and the audience, who today seem more and more interested in sustaining the opinion of de Sade.

NOTE

*Germano Celant, *The Record As Artwork: From Futurism to Conceptual Art* (Fort Worth, TX: The Fort Worth Art Museum, 1977).

Brian Eno and David Byrne *The Jezebel Spirit* 1981, E.G. Records Limited, distributed by Polydor





LUCY FISCHER: SOUND WAVES

But again, and yet again, this chimerical problem of sound rises up to strike us down in our tracks, film and video artists alike, and we cannot forever solve it by annihilating it. Sooner or later, we must embrace the monster and dance with it.[1] *Hollis Frampton*

Throughout the history of cinema there has been a recurrent controversy concerning the proper role of sound, that Frankenstein's monster spawned by the powers of the film industry and technology. Most critics and filmmakers have felt it to be a quintessentially visual medium in the tradition of other imagistic arts. For some, there has even been an overt hostility toward sound, as though it had led cinema astray from its true formal inclinations. In 1929, on the eve of the silent film's demise, René Clair asked whether "'style'. . . would survive the coming of sound" and prophesied grimly that those "who [had] seen an art being born may also have seen it die."[2]

Even well into the sound era certain filmmakers have expressed a resistance to the cinema's aural component. Avant-garde artist Stan Brakhage, for example, made a conscious choice at some point in his career to treat cinema as primarily a pictorial medium.[3] As he wrote in a letter to Ronna Page in 1966:

> I now see/feel no more absolute necessity for a sound track than a painter feels the need to exhibit a painting with a recorded musical background.[4]

Opposing this point of view over the course of cinema's history has been a group of artists who regard sound as a desirable, even requisite, element of the film. In the transitional years of 1926 and 1927 when acoustic technology took over the industry, Rouben Mamoulian was immediately impressed by "the magic of sound recording" that "enabled [him] to achieve effects that would be impossible and unnatural on the stage or in real life, yet meaningful and eloquent on the screen."[5] Likewise, Jacques Tati has called the sound track "of capital importance,"[6] and Orson Welles has claimed that language is, for him, the essence of cinema. "I know that in theory the word is secondary," he has remarked, "but the secret of my work is that everything is based on the word. I do not make silent films."[7] More recently, avant-garde artist Paul Sharits has deemed the relation of sound to visuals "the most engaging problem of cinema."[8]

Despite the critical controversy concerning sound's place within or without film's aesthetic canon, in truth, it has always made its presence known. The very roots of cinema go back to early sound recording when Thomas Alva Edison conceived the Kinetoscope film viewer as an extension of his photograph apparatus. As he stated:

> In the year 1877 the idea occured to me that it would be possible to devise an instrument which would do for the eye what the phonograph would do for the ear and that by a combination of the two, all motion could be recorded and reproduced simultaneously.[9]

Although the proponents of an image-bound cinema often bolster their claims by noting the historical prece-

Top to bottom: Thomas Alva Edison *Nursery Favorites* 1913; *The Jazz Singer* 1927, photo: The Museum of Modern Art/Film Stills Archive; *Singin' in the Rain* 1952, photo: The Museum of Modern Art/Film Stills Archive; René Clair *Entr'acte* 1924, photo: The Museum of Modern Art/Film Stills Archive; Dziga Vertov *Enthuziazm* 1930, photo: The Museum of Modern Art/Film Stills Archive.

dence of a silent era, sound was actually a central part of film exhibition long before 1926. Not only did the idea for Edison's Kinetoscope arise from the phonograph, but almost immediately upon its production, sound-film viewers and projectors were developed as well. As early as 1889 Edison's assistant, William K. L. Dickson, produced a Kinetophone, a film viewing-machine synchronized with a cylindrical record. As the legend goes, Dickson greeted his boss on the morning of 6 October with a movie in which he tipped his hat and said: "Good morning, Mr. Edison . . . I hope you are satisfied with the Kineto-Phonograph."[10] Only one Kinetophone film survives from this era, showing Dickson playing a violin for two dancing men as he stands next to a huge recording horn (page 29). From the descriptions that remain, it would seem that all Kinetophone films from this early period depict the sound-recording equipment itself as well as the sound source.

The Kinetophone was available in the 1890s, but its heyday was 1913–14, when the technology had been further perfected. Edison's *Nursery Favorites* 1913 (page 24) was made in this period and has the look of most Kinetophone films. It presents a group of performers captured in a continuous, static long-shot, as they dance and gesture to songs on the audiotrack. The effect is constrained and theatrical; the style, devoid of editing and varied camera positions, is a throwback to film's primitive days.

Although sound films were common novelties from the 1890s through the teens, it is clear that in this era most films exhibited did not have a synchronized sound track. Nonetheless, it is a mistake to conceive of the existence of a silent cinema, since sound was always a crucial part of film exhibition. In the alleged silent years, there were various human sound-systems that foreshadowed the mechanical track. Frequently, of course, musical arrangements accompanied films—be it the improvisations of the local piano player or a cued orchestral score. Less known is the fact that actors often stood behind the screen, providing dialogue and sound effects. Some films even had a narrator who related the story to the audience. Thus, the silent era propagated by the critical literature turns out to be a myth. Long before the transitional years of 1926–27, sound had functioned as an integral part of the film experience.

If sound was always an aspect of film exhibition, what precisely happened in 1926 that led critics to divide film history into two distinct periods? Essentially, the year marks a major commercial event in the cinema rather than a complete transformation of film technology or aesthetics. For in 1926–27 the film industry made a financial commitment to the wide-scale production, distribution, and exhibition of mechanically synchronized sound movies. Though the public had been intermittently exposed to sound-film experiments in the teens and the twenties, in the years following 1926 the market was saturated on a grander scale.

As always when a new technology is introduced, there was widespread fascination with the mechanics of the process, with learning how the ventriloquist's trick was done.[11] In the transitional years there were many short educational films that explained basic aspects of sound technique. *Finding His Voice* 1929, is a film in this genre. Created by Max Fleischer, this animated cartoon uses two personified filmstrips, one silent and one sound, engaged in a conversation about how the latter got his voice. Through this narrative ploy, various issues of sound recording and projection are explained, such as the need for soundproofed cameras and the function of the sound engineer.

In addition to being enthralled by the mechanics of sound recording, audiences were fascinated by the opportunity to hear famous people talk. Newsreel companies sent their camera crews around the world to interview various luminaries. *Shaw Talks with Movietone News* 1927, is one such film which provides an occasion for people to meet one of the world's outstanding literary geniuses. Shaw appears to the audience as a consummate raconteur, demonstrating his improvisational wit and humor. He closes the monologue by saying "Goodnight," noting wryly that the phrase would be inappropriate to spectators at a matinée.

Not only were viewers drawn by the magic of hearing famous people speak, but also they were interested simply in hearing the human voice of screen characters. The first attempts at synchronized-dialogue features, however, did not employ the technique throughout the length of the film. Rather, they intermixed sound and silent sequences in a bizarre format known as the "part-talkie." The most famous film of this hybrid genre was *The Jazz Singer* 1927 (page 24) directed by Alan Crosland. Sequences alternate in sound and silence, creating a strangely disjunctive effect. For example, in one scene Jack Robin returns home to his mother, and they greet and embrace in mute silence. When Jack goes over to the piano, however, the film suddenly erupts into sound, and we hear him sing "Blue Skies."

Within short order technical developments allowed for the production of "all-talking" films, the first being Bryan Foy's *Lights of New York* 1928. The mere existence of sound equipment did not assure its sophisticated use, however, and films of this era display a painful struggle with the complex machinery. Because cameras were immobilized by bulky soundproofing, the scenes in *Lights of New York* are oppressively static. Similarly, since the recording equipment of the era was too fragile to be moved, actors tended to cluster maladroitly around mikes which were inadequately camouflaged in the set.

The awkward and farcical growing pains of this era were captured affectionately in Stanley Donen and Gene Kelly's *Singin' in the Rain* 1952 (page 24). Set at the height of the transition period, the film comically charts the changeover in film technology and personnel, with the careers of many silent stars wrecked in the wake of the new sound wave. The film includes parodies of other works: thirties musicals and the early scored film *Don Juan* 1926. Jokes are made about the traumas of early sound recording—background static, loss of synchronization, squeaky voices.

Although the coming of sound generated a multitude of technological problems, it also offered an opportunity for creative filmmakers to conceive of the cinema in a new way. While sound had been part of film exhibition since the so-

called silent days, its use had rarely been within the director's purview. Aside from supervising the production of a cued score, as in René Clair's collaboration with Erik Satie in *Entr'acte* 1924 (page 24) directors had to leave the sound component to theater owners, who were rarely concerned about its artful use. With mechanical synchronization, however, the production of sound was in the director's hands. From the moment of a film's conception, sound and image had to be treated as an integrated function. This fusion led the cinema down two distinct paths. Some artists took the route of least resistance, using sound and image in the most obvious, realistic ways—ringing telephones, slamming doors, talking heads—sound rigorously synchronous with the image.

The coming of sound also produced the opposite effect. For those filmmakers with more audiovisual imagination, it provided the occasion for a burgeoning of experimentation with sound. This sense of excitement is articulated by the British director George Pearson in the following entry in a 1930 notebook:

> SCREEN DIALOGUE MUST BE FLEXIBLE—MOBILE—as is the camera
>
> What one did with the *moving camera* one *must do* with dialogue now—i.e. with sound
>
> PAN sound—move the mike *past* sound
> MIX sound—run one sound *into* another
> FADE sound—let sound *die* to nothing
> IRIS sound—eliminate all sounds *but one*
> RUN IN sound—let sound increase in volume
> CUT sound—suddenly end sound—drama![12]

Crucial to this sense of aural experimentation is the realization that sound and image are two separate tracks that can be matched realistically to produce an audiovisual illusion or separated to create myriad disjunctions. As critic Noel Burch has noted, the early sound films seem particularly reflective of this distinction. He writes, "in the first sound films . . . there was a notion of dissociation, that the two tracks could be used simply or dialectically."[13]

This creative use of sound was evident in various genres. One realm in which experimentation felt few constraints was that of animation, since its *mise-en-scène* was, by definition, liberated from the logic of the real world. Walt Disney's *Steamboat Willie* 1928, the first Mickey Mouse sound cartoon, displays this sense of whimsey. In one sequence, when a goat eats Minnie's violin and sheet music, Mickey plays "Turkey in the Straw" on his body, cranking his tail like a phonograph machine. Another charming animated genre of the period was the sing-a-long cartoon. Engaging the audience in direct aural and vocal participation, films like Max Fleischer's *I'm Forever Blowing Bubbles* 1930 and *Let's Sing-a-Long with Popeye* 1934 provided the audience with song lyrics, background orchestration, and the ubiquitous bouncing ball.

Certain documentary films of the era also pioneered experimentation with sound long before the contemporary *verité* approach had overtaken the genre. *Song of Ceylon* 1934, made in England by Basil Wright, displays this sense of sound innovation. A lyrical portrait of Ceylon, the film employs a variety of asynchronous, off-screen sounds—chants, songs, narration, natural noise—to achieve its formal thematic effect. Most impressive is the Voices of Commerce sequence, in which Wright critiques the British exploitation of Ceylon. As images of natives flash across the screen, complex sound mixes unfold, comprising dictated business letters, commodity-exchange figures, industrial machine noises, and other imperialistic traces.

The most extraordinary documentary sound film of the era is assuredly Dziga Vertov's *Enthuziazm* 1930 (page 24) made in the Soviet Union. Its theme is the efforts of the Don River Basin region to accomplish certain industrial and agricultural tasks of the First Five Year Plan. To convey this information, however, Vertov employs a catalogue of audiovisual effects: sound distortion, sound superimposition, sound reversal, and cacophonous aural collage. Sound is frequently mismatched with the image, as when the noise of an explosion accompanies a church spire's collapse. It is also, on occasion, disembodied, as when a symbolic ticking clock is heard over images of industrial production. Vertov's ultimate achievement in *Enthuziazm* is the reflexivity of his use of sound—his desire to make the viewer aware of the sound-film process. He frequently includes the sound equipment and crew within the image itself, calling attention to the process of making a film. For Vertov the ideal spectator is one informed of cinematic practice. As he said: "Long live the class consciousness of healthy men with *eyes and ears to see and hear with.*"[14]

This sense of reflexivity is apparent in some of the early fiction sound-films as well, as for example in Fritz Lang's *Das Testament von Dr Mabuse (The Testament of Dr. Mabuse)*, made in Germany in 1933. A work in the crime-film genre, it relates a gangster's attempts to quit the mob of Dr. Mabuse, an infamous mastermind. The film is particularly noteworthy for its concrete and dramatic use of sound: the opening sequence, with its inexorable clanking of a counterfeiter's printing press, or the blackout scene, in which a man's screams in the dark alert us to a dangerous situation. One thinks, as well, of the inventive sound bridges Lang employs, having the dialogue from one shot cue in to the next. Most interesting of all is the highly reflexive nature of the film's plot, for Dr. Mabuse never addresses his mob in person, but creates the illusion of his presence by the use of a cut out silhouette and a loudspeaker behind a screen. What better metaphor could Lang have found for the dynamics of the sound film itself?

Although in the years following the coming of sound, experimentation with audiovisual aesthetics continued, by around 1935 a style of facile naturalism tended to predominate in the documentary and fiction genres. Periodically, however, a film would emerge that again demonstrated the full potential of sound. Jacques Tati's *Playtime* 1967 (page 27) is a work of this stature, set in the comic mode. Rather than rely on dialogue or verbal jokes, Tati bases his humor on a rendering of the aural *mise-en-scène*. Thus Tati pokes fun at modern architecture by mocking the sounds of swinging doors, electronic intercoms, harsh synthetic floors, or overstuffed vinyl chairs. Likewise, he satirizes the ubiquitous contemporary public-address system that wafts sound indiscriminately

through airport, hotel, and hospital. What Tati achieves is the extension of the borders of traditional caricature into the aural domain. To accomplish this he rigorously post-synchronizes his films, eschewing location noise for his own synthetic-sound creations. As Tati has stated, when he has finished shooting the film's imagery "it remains . . . to 're-shoot' each scene . . . for sound."[15]

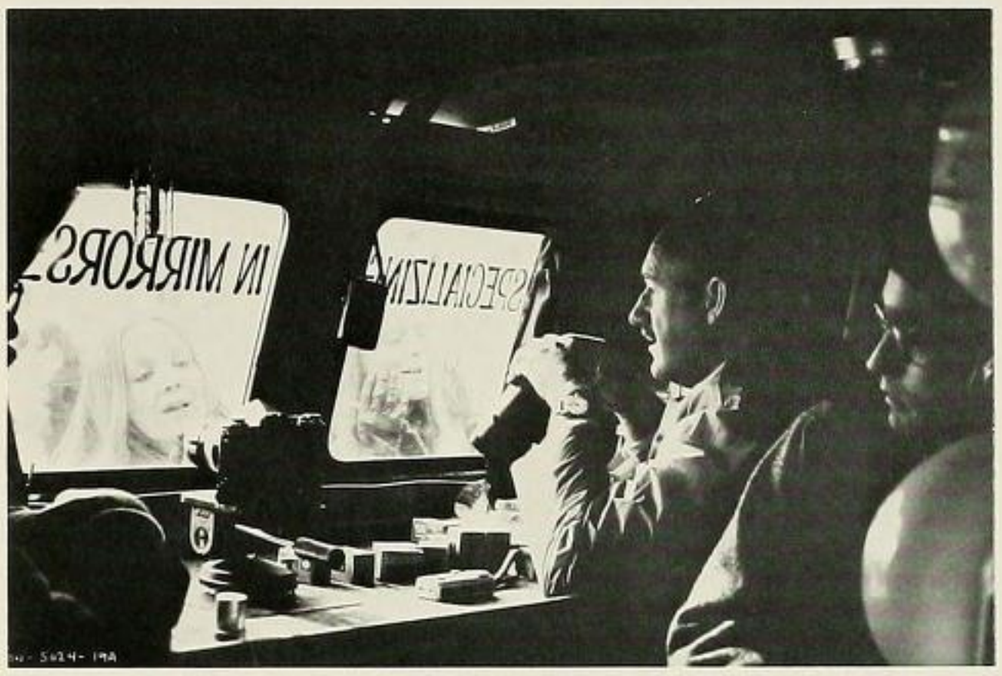
The Conversation 1974 (page 27) by Francis Ford Coppola, is another film that experiments with the audiotrack. Like *Dr. Mabuse,* its narrative concerns the topic of sound itself, for it focuses on the character of Harry Caul, a professional eavesdropper. In the opening sequence a couple is seen talking in the midst of a San Francisco crowd. It soon becomes clear that the camera is spying on them and that their conversation is being secretly recorded. For the rest of the film, Harry Caul replays this dialogue scene, filtering out static and decoding latent meanings. We hear the conversation clear and distorted, with or without recording beeps. At points, images of the couple reappear on the screen devoid of synchronous sound. In other segments Coppola replays the audiotape alone, radically changing the narrative context. He notes:

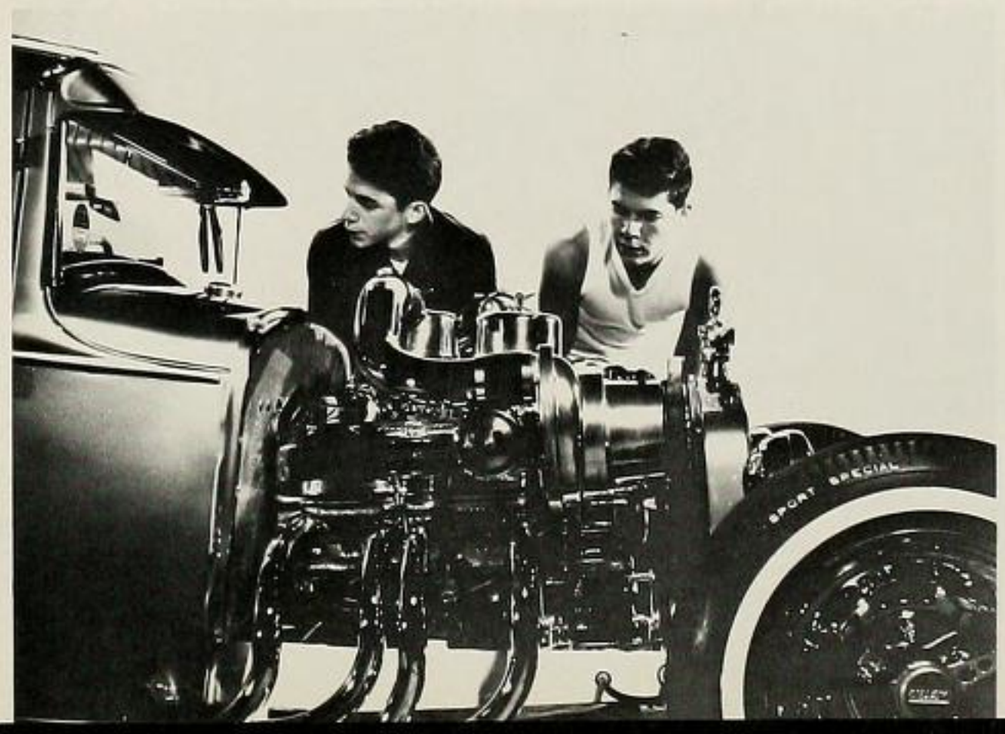
> As the couple walks through the park, one of the things they talk about is a bum they see on the bench, a derelict. The girl says "whenever I see one of those old guys, I always think, where are his parents or his uncles." This line is repeated on the tape recorder as Harry is lying on this couch, and the audience is meant to superimpose the image of the bum on Harry.[16]

The viewer's active response to the film is central to Coppola's method of sound experimentation. He has said: "I hope to use the audience as a real element in this film so that they can put things together."[17] In *The Conversation,* Coppola not only articulates a drama about sound—about a paranoid private-ear who lives in a world of acoustic space—but also carries on a challenging conversation with the audience on the potential of sound recording.

Although the mainstream commercial cinema has always had its monuments to the creative use of sound, by and large a routinely realistic aesthetic has predominated. In avant-garde cinema, however, a vocal minority has been committed to audiovisual experimentation, though many experimental filmmakers have viewed sound with more ambivalence and skepticism. Some independent artists have chosen not to use sound at all—discouraged by its expense, or committed to silent cinema as being more pure, more imagistic. But for those avant-garde filmmakers who have employed sound, experimentation has been a vital tradition. As Hollis Frampton would have it, they have embraced the monster and danced with it. Avant-garde filmmakers have collectively set out to reinvent the rhetoric of sound in the cinema. They have sought to explore its vast potential, its abstract, symbolic, concrete, and evocative qualities, its dialectical relation to the visual image.

Whereas classical cinema has pursued a realistic sound-to-picture match, the experimental film has worked to tear the illusion asunder, to reveal the mechanics of the process. Clearly, the production of a sound-image illusion is based on the dynamics of synchronization. Precisely because





Top to bottom: Jacques Tati *Playtime* 1957; Francis Ford Coppola *The Conversation* 1974, photo: The Museum of Modern Art/Film Stills Archive; Hollis Frampton *Hapax Legomena III: (Critical Mass)* 1971; Oskar Fischinger *Motion Painting No. 1* 1949, photo: The Museum of Modern Art/Film Stills Archive; Kenneth Anger *Kostum Kar Kommandos* 1965

traditional film has labored long and hard to produce a clean sound illusion, avant-garde filmmakers have sought to disrupt it, to expose the existence of two discrete tracks. Hollis Frampton's *Hapax Legomena III: Critical Mass* 1971 (page 27) is a clear example of a film in this genre. A man and a woman are seen enacting a typical lovers' quarrel. Rather than allow us to hear their dispute, Frampton tears sound and image apart, having them argue just like the couple. Throughout the film, audio- and visual tracks stutter, taking two steps forward and one back. Furthermore, sound and image frequently go out of synch, so that we see the man talking but hear the the woman's voice. At points a harsh recording beep overlies the dialogue, making their litany of criticisms incomprehensible.

Another treatment of synchronization may be seen in Lawrence Weiner's *It Is/Done To* 1974. In this film, silent images of two women conversing are temporally disjoined from their voices on the sound track. Only midway through the film, when the voices finally emerge, do we connect them with the earlier mute images. In *L.A. Carwash* 1975, Janice Crystal Lipzin even more radically separates picture from sound. The film opens with an empty gray screen and a harsh mechanical noise. After a few moments the sound fades off, and multi-screen images of a carwash appear, the source of the earlier sounds. Bruce Nauman's *Playing a Note on the Violin while I Walk around My Studio* 1967–68 (page 29) makes a joke of sound sychronization. He stands in his loft playing the violin, a posture reminiscent of the earlier William K. L. Dickson, but his strings are tuned to D.E.A.D., and the tones emitted are strange and distorted. Furthermore, he periodically stops his bowing, his gesture hopelessly out of synch with the music's final note. Intermittently, the music stops, and he leaves the frame, almost as though he were changing a record.

Certain experimental filmmakers have used the resonant, evocative powers of sound to create a synaesthetic melding of picture and sound. Australian filmmaker Paul Winkler achieves such an effect in *Bark Rind* 1977 through audiovisual editing. Presented on the screen are gyrating, close-up shots of flowers, bark, grass, and leaves. Accompanying them is the shrill, piercing shriek of insects, repeated and amplified in loop printing. The sense achieved is one of extraordinary kinetic energy—the images themselves vibrating as though they were the source of the buzzing sound. In a similar vein, David Gerstein in *Alternations of Perspective* 1977, conjoins pulsating, fragmented, urban images with a jarring collage of noise: sirens, static hum, hammering, buzzing, as well as electronic music. When a jackhammer is heard on the track, the visuals vibrate in such a manner that the image itself seems to be drilled.

Other filmmakers have seen in the formal potential of sound an occasion to relate film to music. Oskar Fischinger was a pioneer in this area. Working in Germany in the late twenties, he produced a body of films that tied visual design and movement to musical progression. *In Motion Painting No. 1* 1949 (page 27) made after he had moved to the United States, Fischinger orchestrates his oil-on-glass abstractions to Bach's *Third Brandenburg Concerto.* On an entirely different note, Bruce Conner and Kenneth Anger have used music derived from pop-culture forms. In *Permian Strata* 1969, Conner ironically links found images of an apostle being martyred to Bob Dylan's lyric "Everybody Must Get Stoned." *In Kostum Kar Kommandos* 1965 (page 27), Kenneth Anger wryly weds the rock-and-roll song "Dream Lover" to images of young men erotically buffing their fetishized cars. Bruce Baillie in *Castro Street* 1966 strives for an equivalence between sound and visuals, joining matted, superimposed industrial imagery to a dense fabric of music and ambient sound. He has referred to the film as "inspired by a lesson from Erik Satie,"[18] a composer whose music drifts periodically through the sound track. A compositional sense also informs the sound tape for Meredith Monk's *Ellis Island* 1980, which accompanies haunting images of immigrants held in benign detention. Finally, some artists have chosen to integrate instrumental performance into their films. Like Bruce Nauman's *Playing a Note,* Larry Gottheim's *Harmonica* 1970–71 is a work in this genre. Essentially, it is a single-take film of a man in a moving car holding a harmonica. At some points he actually mouths the instrument, but most often he simply holds it in the air, allowing it to be played by the wind. As the man gracefully moves the harmonica back and forth in various trajectories and arcs, different sounds are produced, from train-whistle chords to wails.

While music has attracted certain avant-garde filmmakers because of its non-referential quality, language has fascinated others because of its semantic potential. Whereas the classical cinema has traditionally employed words as synch-sound dialogue or voice-over narration, experimental film has attempted to exploit their formal and expressive possibilities. In *Mujer de Milfuegos (Woman with a Thousand Fires)* 1976, Chick Strand conjoins images of a mysterious woman with a sound track of poetic incantation. George Landow's *Institutional Quality* 1969, on the other hand, is a mock test-film that uses language for its conceptual powers. In a comedy of mixed signals, a voice speaks in direct address to the audience, instructing it to do things inappropriate to the film-viewing situation. In Lawrence Weiner's *It Is/Done To* 1974, the narrative capacity of language is analyzed and demonstrated. As silent images of two women conversing appear, the sound track is filled with the multilayered vocal repetition of oblique phrases: "and the," "an undermining of the sequence," "a treatment of dissonances." Given the narrative fragmentation of the film, these phrases tend to highlight the conjunctive power of words and images.

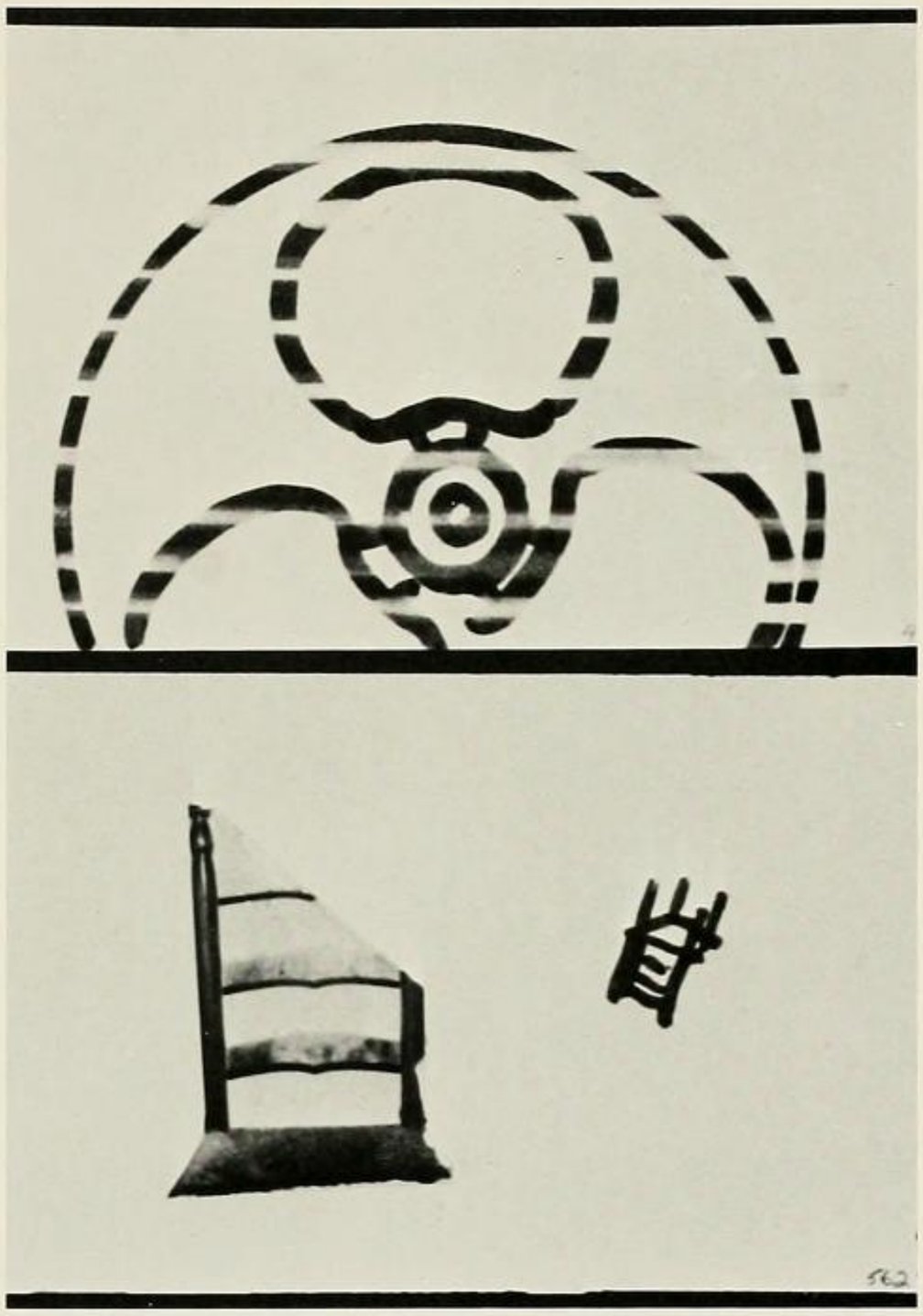
Still other experimental filmmakers have explored the nature of ambient sound and its ability to create a spatial sense. Frequently, animated films have been the most innovative in this regard since they are freed from the rigorous constraints of real physical and acoustical space. Jane Aaron's *Interior Design* 1980 (page 29) which explores the terrain of some rooms, employs natural sounds—sheets folded, water dripping, a whistling teapot—to lend authenticity to her drawn and photographed animation. In a similar vein, Robert Breer's *T.Z.* 1980 (page 29) creates an abstract domestic atmosphere by conjoining sketchily drawn visuals with concrete material sounds—pots clanking, phones ringing, fat frying, etc. In the live-action film

Breakfast (Tabletop Dolly) 1972–76, Canadian filmmaker Michael Snow accompanies his mobile still life with off-screen sounds that create an early morning ambience—water dripping, pots banging, a radio spouting weather forecasts. In all of these films a sense of physical presence is created, not so much by the composed and rarified visuals, as by the concrete materiality of sound.

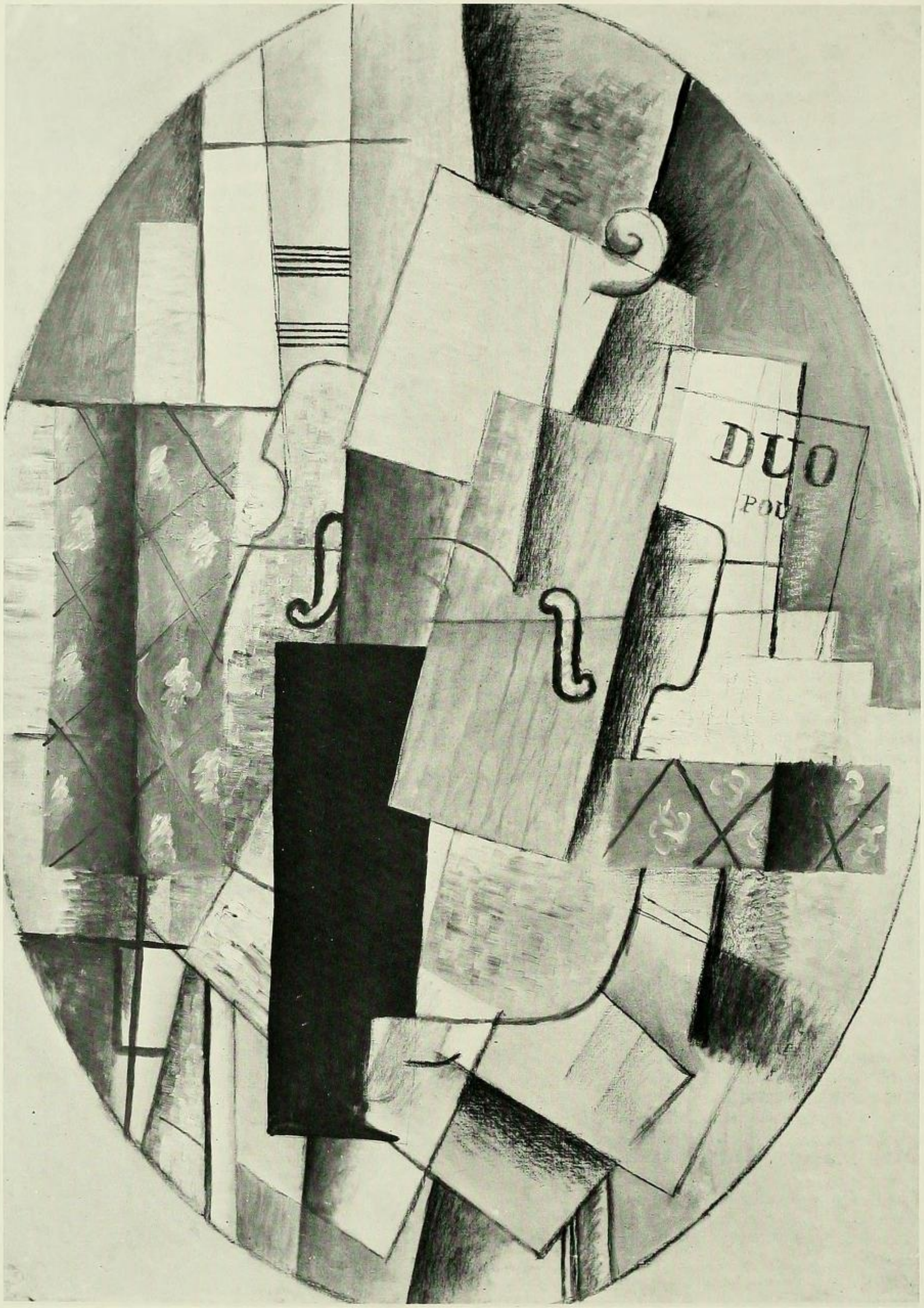
In a highly reflexive gesture, experimental filmmakers have frequently chosen to highlight the nature of film sound and the dynamics of its production. In *Arnulf Rainer* 1958–60, Austrian Peter Kubleka fashions an audiotrack from white sound, a mixture of all audible frequencies. In *Dots* and *Loops,* both 1939–41, made in Canada, Norman McLaren produces sound by drawing directly on the celluloid ribbon. In *Color Sound Frames* 1974, Paul Sharits creates a score from sprocket-hole noise, while simultaneously depicting the moving filmstrip on the screen. Curiously, in this impulse to expose the very materials of the sound-film medium, avant-garde artists have unconsciously harkened back to the aesthetics of the Kinetophone movie, which quaintly included the sound-recording horn within the bounds of the film frame itself.

NOTES

1. Hollis Frampton, "The Withering Away of the State of the Art," photo-copy (Paper delivered in New York at The Museum of Modern Art Conference "Open Circuits: The Future of Television," January 23–25, 1974).
2. René Clair, *Cinema Yesterday and Today* (New York: Dover, 1972), p. 125. (Clair writes in 1970 recollecting his feelings in the 1920s).
3. Brakhage has made several films, however, *e.g.*: *Daybreak* and *Whiteye,* both 1957, *Blue Moses,* 1962, and more recently *The Stars Are Beautiful,* 1974.
4. Stan Brakhage to Ronna Page in P. Adams Sitney, ed. *The Avant-Garde Film: A Reader of Theory and Criticism* (New York: New York University Press, 1978), p. 135.
5. Rouben Mamoulian in Andrew Sarris ed. *Interviews with Film Directors* (New York: Avon Books, 1967), pp. 346–47.
6. Jacques Tati in Brent Maddock, *Jacques Tati* (Metuchen, NJ: Scarecrow Press, 1977), p. 142.
7. Orson Welles in Sarris, *Interviews,* p. 535.
8. Paul Sharits, "From 'Words per Page'" in Sitney, *Avant-Garde Film,* p. 262.
9. Thomas Alva Edison in Edward Kellogg, *History of Sound Motion Pictures.* Reprinted from *Journal of the Society of Motion Picture and Television Engineers,* 64 (1955): 1.
10. Quoted in Rosalind Rogoff, "Edison's Dream: A Brief History of the Kinetophone," *Cinema Journal,* 5 (Spring 1976): 60.
11. Rick Altman discusses this concept in "Moving Lips: Cinema As Ventriloquism," *Yale French Studies,* 60 (1980): 67–69.
12. George Pearson in Rachel Low, *History of the British Film* vol. 4 (London: Allen and Unwin, 1948), pp. 210–11.
13. Noel Burch, "Beyond a Theory of Film Practice: An Interview with Noel Burch," *Women and Film* 1 (1974): 20–31.
14. Dziga Vertov in Annette Michelson, *"The Man with the Movie Camera:* From Magician to Epistemologist." *Artforum* (March 1972): 66.
15. Jacques Tati in Maddock, *Tati,* p. 142.
16. Francis Ford Coppola in *"The Conversation": Handbook of Production Information* (New York: Paramount Pictures, 1974) p. 9.
17. *Ibid.*, p. 10.
18. Bruce Baillie in P. Adams Sitney, *Visionary Film* (New York: Oxford University Press, 1974), p. 208.



Top to bottom: Jane Aaron *Interior Design* 1980; Robert Breer *T.Z.* 1980; Bruce Nauman *Playing a Note on the Violin while I Walk around My Studio* 1967–68; Thomas Alva Edison *Kinetophone Film* ca. 1889, photo: Edison National Historic Site



Georges Braque *Oval Still Life* 1914

CATALOGUE TO THE EXHIBITION

WEST GALLERY
PAINTINGS, OBJECTS & BOOKS
THAT SOUND OR IMPLY SOUND

GUILLAUME APOLLINAIRE
Italian born 1880 Rome
died 1918 Paris

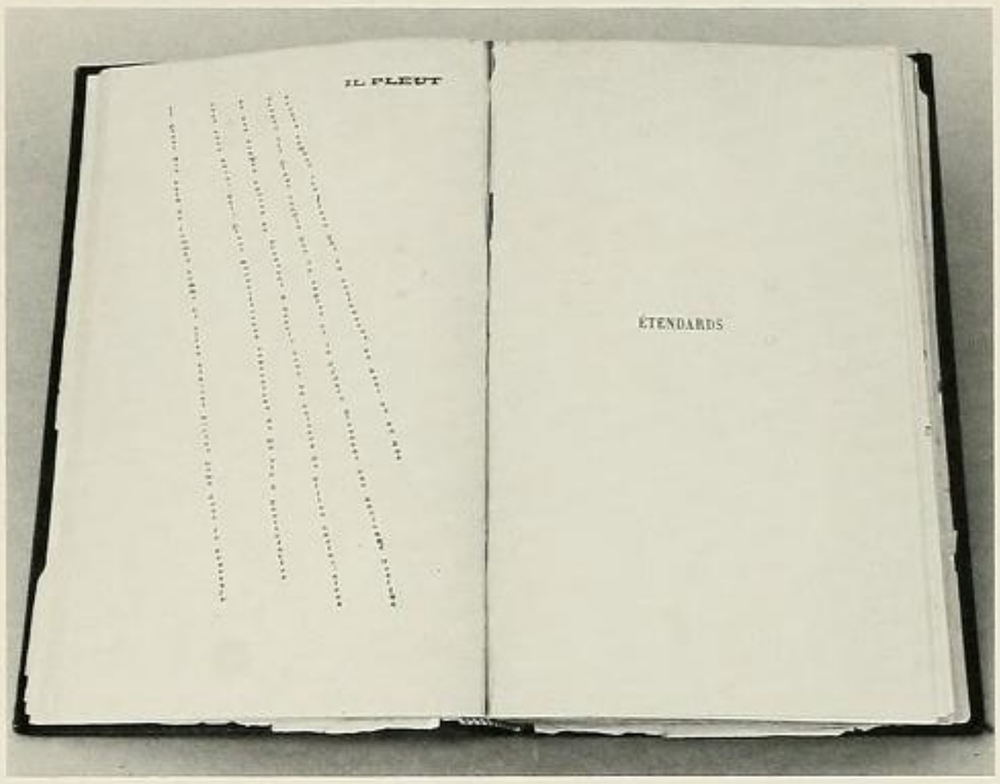
Calligrams: Poems of Peace and War 1913 – 1916 (Calligrammes: Poèmes et de la paix de la guerre, 1913 – 16) 1918
book of poems with portrait of Apollinaire by Picasso, engraved by R. Jaudon
printer's ink on paper
8½ x 5½ inches
second edition
publisher: Editions du Mercure de France, Paris
lent by Case Western Reserve University
Freiberger Library

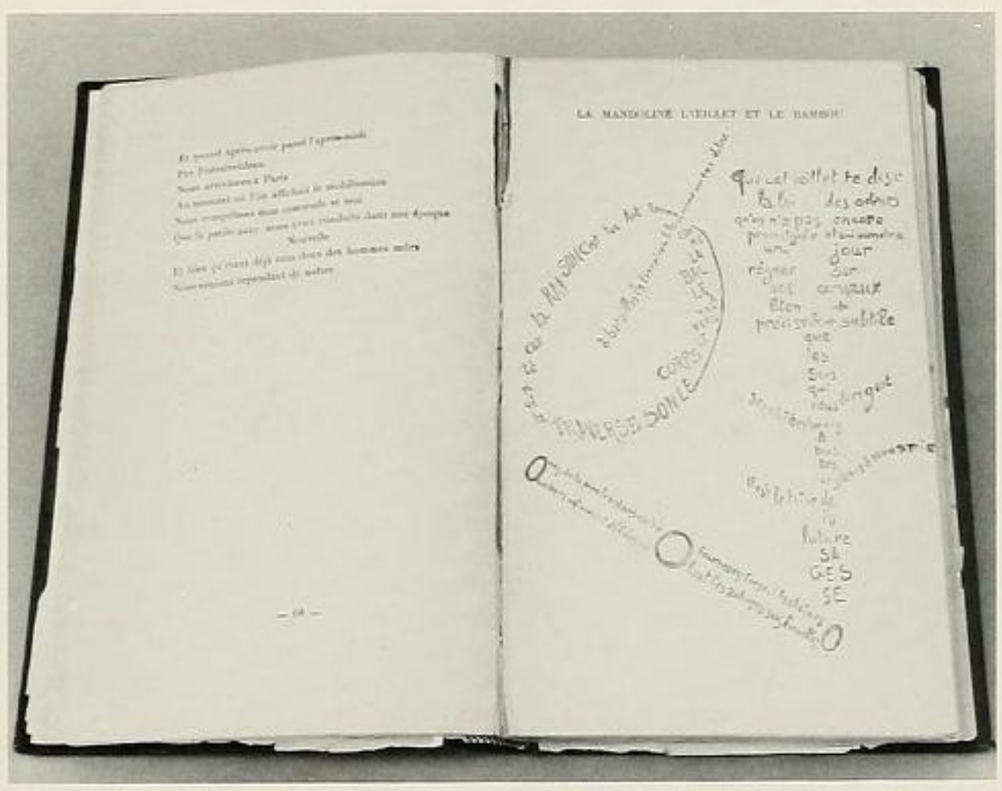
GEORGES BRAQUE
French, born 1882 Argenteuil-sur-Seine
died 1963 Paris

Oval Still Life (Le Violon) 1914
oil on canvas
36½ x 25¾ inches
lent by The Museum of Modern Art
gift of the Advisory Committee

GEORGE BRECHT
American, born 1924 Blomkest, Mississippi
lives in Cologne-Sulz, West Germany

Water Yam 1959–62
cardboard box with seventy-nine paper cards
printer's ink on paper
1¾ x 6⅜ x 5¾ inches
publisher: Fluxus Editions, New York
lent by Backworks





Above and Center: Guillaume Apollinaire *Calligrams: Poems of Peace and War 1913 – 16* 1918, photo: Earl Ripling
Below: George Brecht *Water Yam* 1959–62, photo: Earl Ripling

LA PITTURA
DEI SUONI, RUMORI, ODORI

Manifesto futurista

Prima del 19° secolo, la pittura fu l'arte del silenzio. I pittori dell'antichità, del Rinascimento, del Seicento e del Settecento non intuirono mai la possibilità di rendere pittoricamente i suoni, i rumori e gli odori, nemmeno quando scelsero a tema delle loro composizioni fiori, mari in burrasca e cieli in tempesta.

Gl'Impressionisti, nella loro audace rivoluzione fecero qualche confuso e timido tentativo di suoni e rumori pittorici. Primi di loro, nulla, assolutamente nulla!

Però dichiariamo subito che dal brulichio impressionista alla nostra pittura futurista dei suoni, rumori e odori vi è una enorme differenza, come fra un brumoso mattino invernale e un torrido e scoppiante meriggio d'estate, o, meglio ancora, come fra i primi accenni della gravidanza e l'uomo nel pieno sviluppo delle sue forze. Nelle loro tele i suoni e i rumori sono espressi in modo così tenue e sbiadito come se fossero stati percepiti dal timpano di un sordo. Non è il caso di fare qui una disamina particolareggiata dei principii e delle ricerche degl'impressionisti. Non è il caso d'indagare minuziosamente tutte le ragioni per le quali i pittori impressionisti non giunsero alla pittura dei suoni, dei rumori e degli odori. Diremo soltanto che essi, per ottenere questo risultato avrebbero dovuto distruggere:

1. Il volgarissimo *trompe-l'œil* prospettico, giocherello degno tutt'al più di un accademico, tipo Leonardo, o di un balordo scenografo per melodrammi veristi.
2. Il concetto dell'armonia coloristica, concetto e difetto caratteristico dei Francesi, che li costringe fatalmente nel grazioso, nel genere Watteau, e perciò nell'abuso del celestino, del verdino, del violettino e del roseo. Abbiamo già detto più volte quanto disprezziamo questa tendenza al femminile, al soave, al tenero.
3. L'idealismo contemplativo, che io ho definito *mimetismo sentimentale della natura apparente*. Questo idealismo contemplativo contamina le costruzioni pittoriche, degl'impressionisti come contaminava già quelle dei loro predecessori Corot e Delacroix.
4. L'aneddoto e il particolarismo che (pure essendo, come reazione, un antidoto alla falsa costruzione accademica) li trascina quasi sempre nella fotografia.

Quanto ai *post-* e *neo*-impressionisti, come Matisse, Signac e Seurat, noi constatiamo che, ben lungi dall'intuire il problema e dall'affrontare le difficoltà del suono e del rumore e dell'odore in pittura, essi preferirono rinculare nella statica, pur di ottenere una maggior sintesi di forma (Matisse) e una sistematica applicazione della luce (Seurat, Signac).

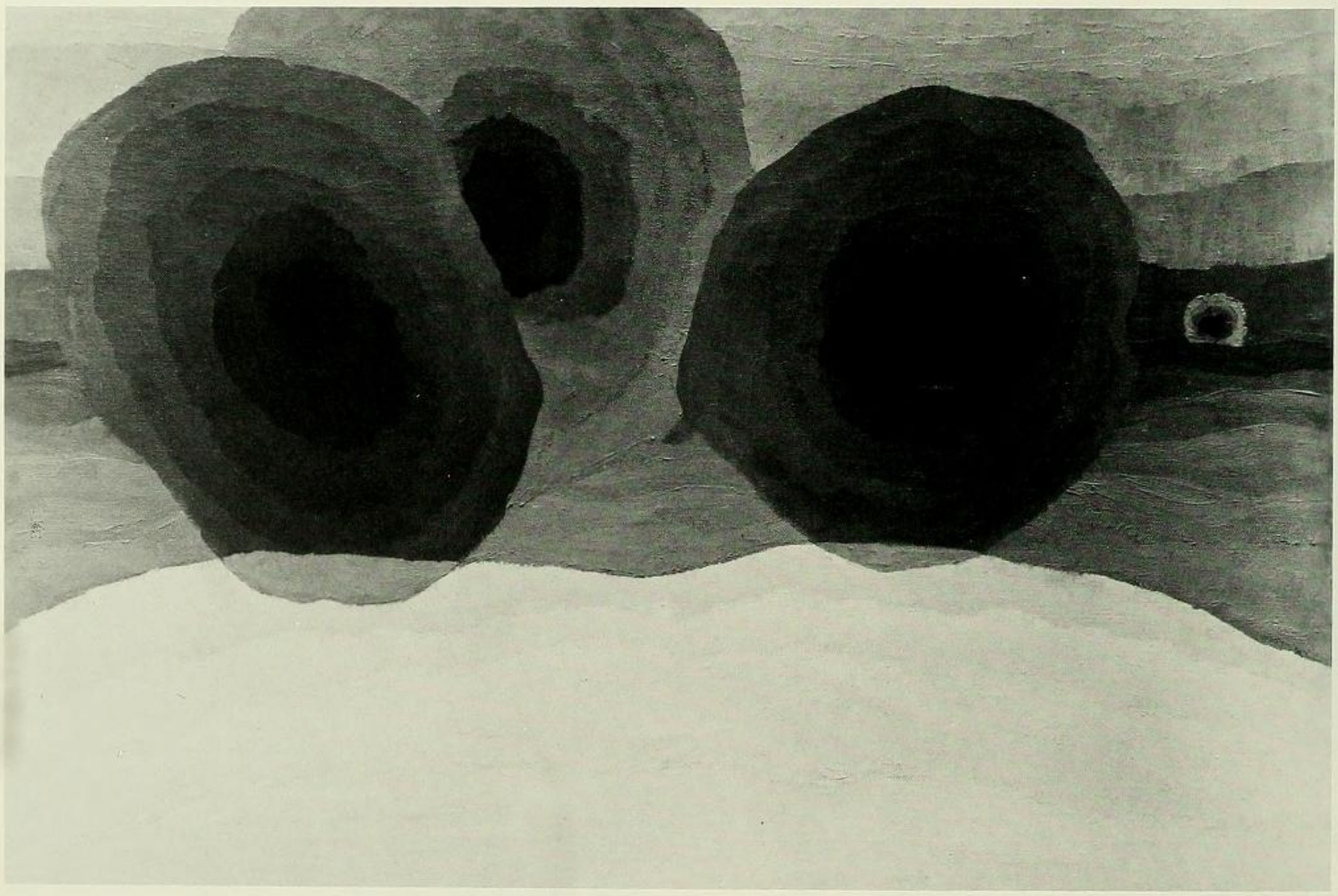
Noi futuristi affermiamo dunque che portando nella pittura l'elemento suono, l'elemento rumore e l'elemento odore tracciamo nuove strade. Abbiamo già creato negli artisti l'amore per la vita moderna essenzialmente dinamica, sonora rumorosa e odorante, distruggendo la stupida mania del solenne, del triste, del serioso, dell'ieratico, del mummificato, dell'intellettuale, insomma.

CARLO CARRA
Italian, born 1881 Quargento
died 1966 Milan

The Painting of Colors, Sounds, Smells – Manifesto of the Futurist Movement (La Pittura de suoni, rumori, odori – Manifesto del movimento futurista) 11 August 1913
published in Milan
printer's ink on paper
11½ x 9 inches
lent by Ex Libris

ARTHUR DOVE
American, born 1880 Canandaigua, New York
died 1946 Huntington, New York

Fog Horns 1929
oil on canvas
18 x 26 inches
lent by Colorado Springs Fine Arts Center
anonymous gift



Above: Carlo Carrà *The Painting of Colors, Sounds, Smells—Manifesto of the Futurist Movement* 11 August 1913, photo: Will Brown
Below: Arthur Dove *Fog Horns* 1929

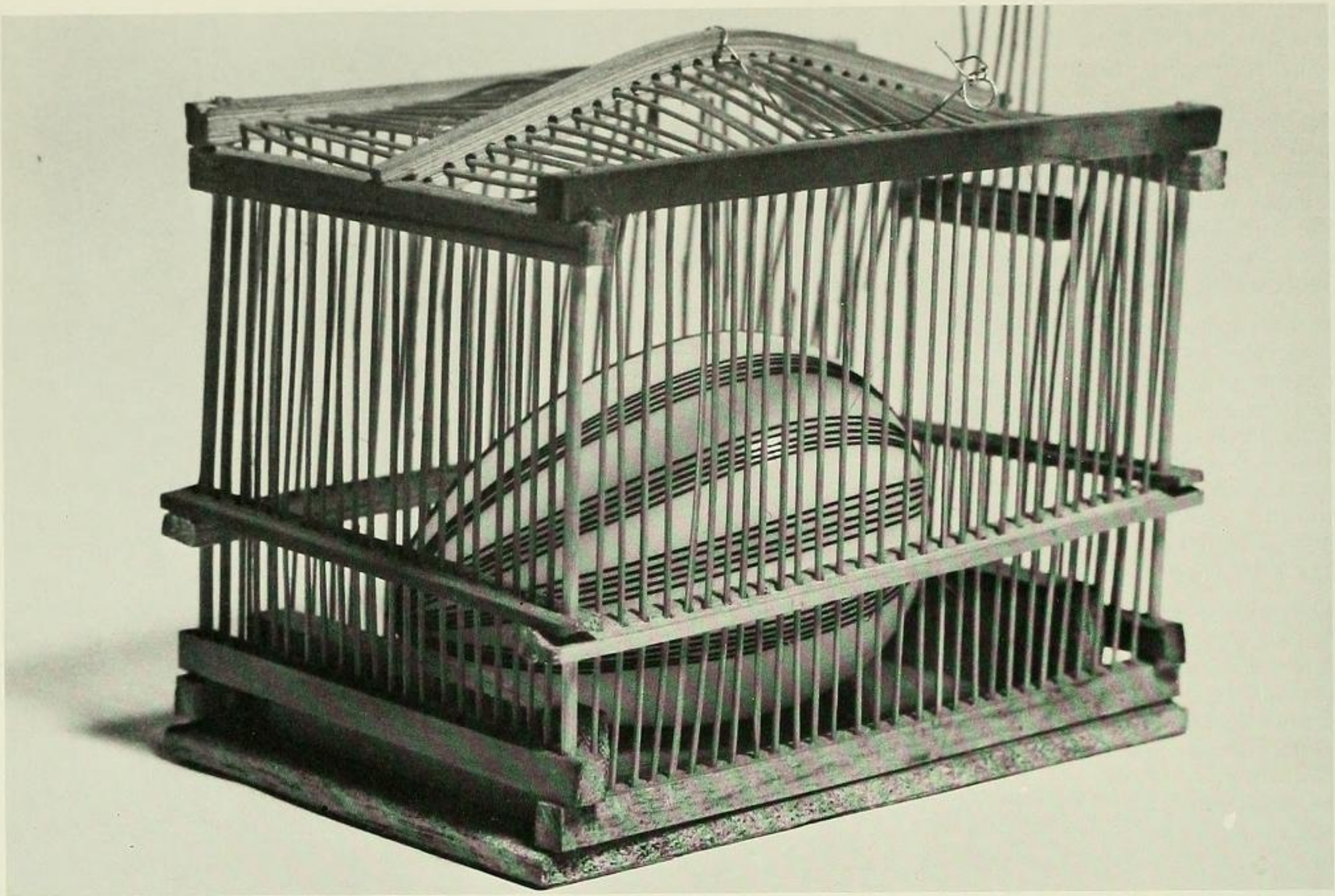
MARCEL DUCHAMP
French, born 1887 Blainville
died 1968 Neuilly, France

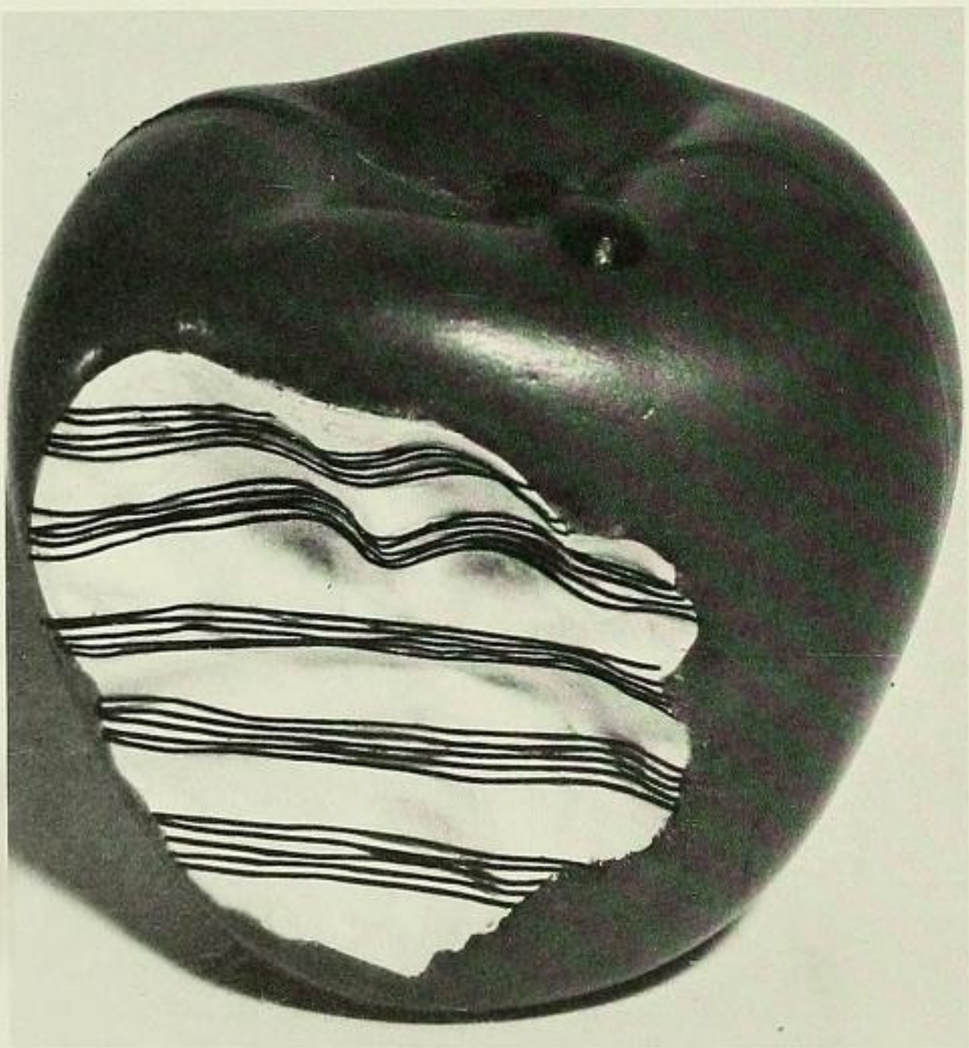
With Hidden Noise 1916
readymade: ball of twine between two brass plates, joined by four long screws, containing a small unknown object added by Walter Arensberg
$5^{1}/_{16}$ inches high
lent by Philadelphia Museum of Art
The Louise and Walter Arensberg Collection

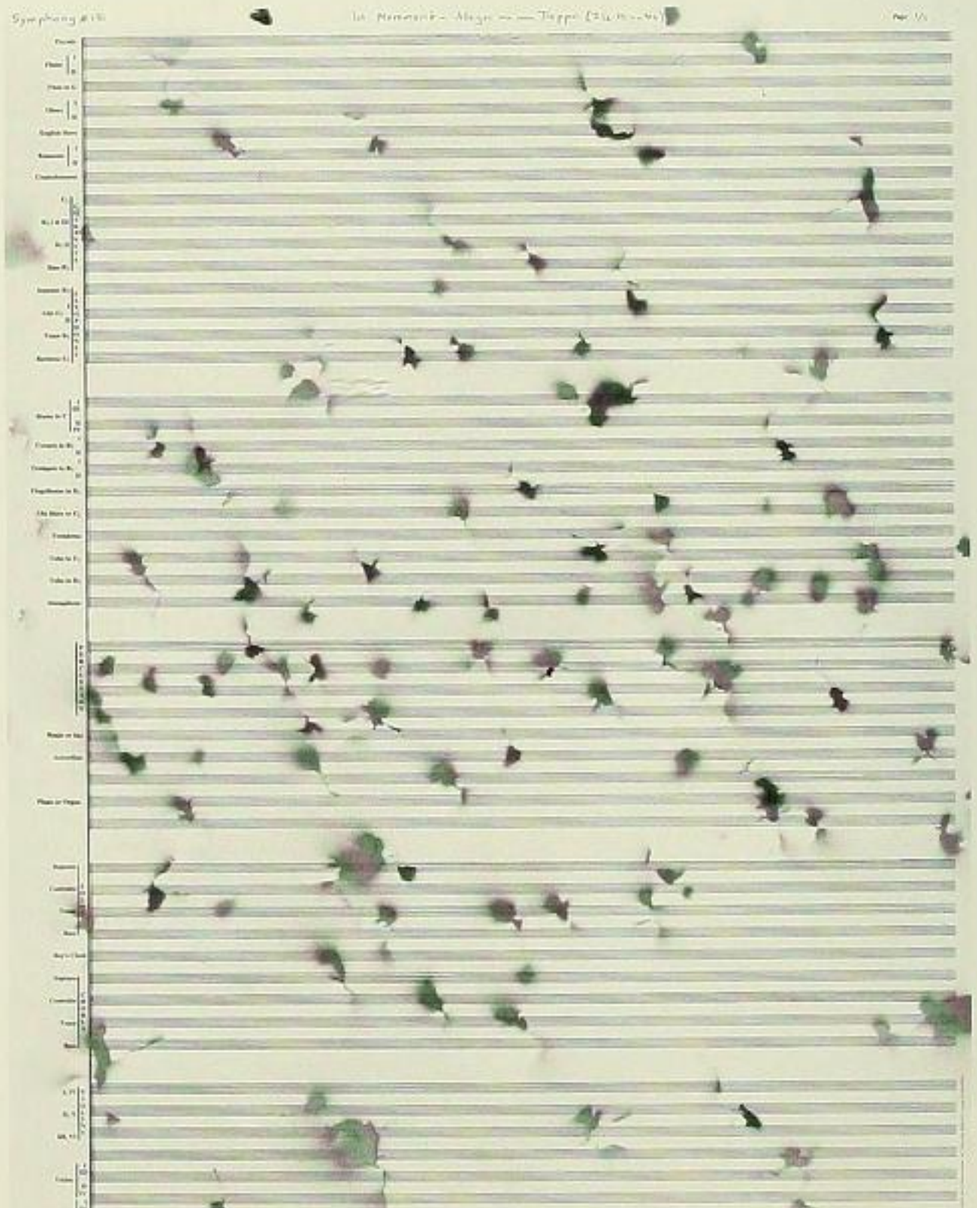
The Bride Stripped Bare by Her Bachelors, Even (La Mariée mise à nu par ses célibataires, même) (The Green Box) 1934
one color plate and 93 facsimiles of manuscript notes, drawings, and photographs, contained in a green flocked cardboard box
$13^{1}/_{16}$ x 11 x 1 inches
deluxe edition of 20, regular edition of 300
publisher: editions Rrose Sélavy, Paris
lent by The New York Public Library
Rare Books and Manuscripts Division

The Bride Stripped Bare by Her Bachelors, Even. Erratum Musical 1913
player-piano roll with music for a mechanical keyboard instrument
2 inches in diameter
deluxe edition of 10, regular edition of 500
production: Petr Kotik
manufacturer: QRX Music Company, Buffalo, New York
collection of Neuberger Museum
State University of New York at Purchase

Above: Marcel Duchamp *With Hidden Noise* 1916
Below: Jean Dupuy *One Two . . .* 1972–81, photo: Earl Ripling







Above: William Hellermann *Homage to John Cage* 1979
Below left: William Hellermann *New York Music* 1978
Below right: Dick Higgins *Symphony #181*, 1st Movement, 1967 remade 1981, photo: Will Brown

JEAN DUPUY
French, born 1925 Moulins-Alliers
lives in New York

One Two . . . 1972–81
oak stand with box containing one hundred pages, of which twenty-two are unique, eight-page index, and audiotape
36 x 25½ x 23 inches
edition of 5
audio production: New Wilderness, New York
lent by the artist

WILLIAM HELLERMANN
American, born 1939 Milwaukee, Wisconsin
lives in New York

Frozen Music Is Not Melted Architecture 1975
plastic ice-cube tray, resin, beads, and ink
2 x 11 x 4 inches
lent by the artist

New York Music 1978
rubber apple, tape, and paint
2 x 2½ x 2 inches
lent by the artist

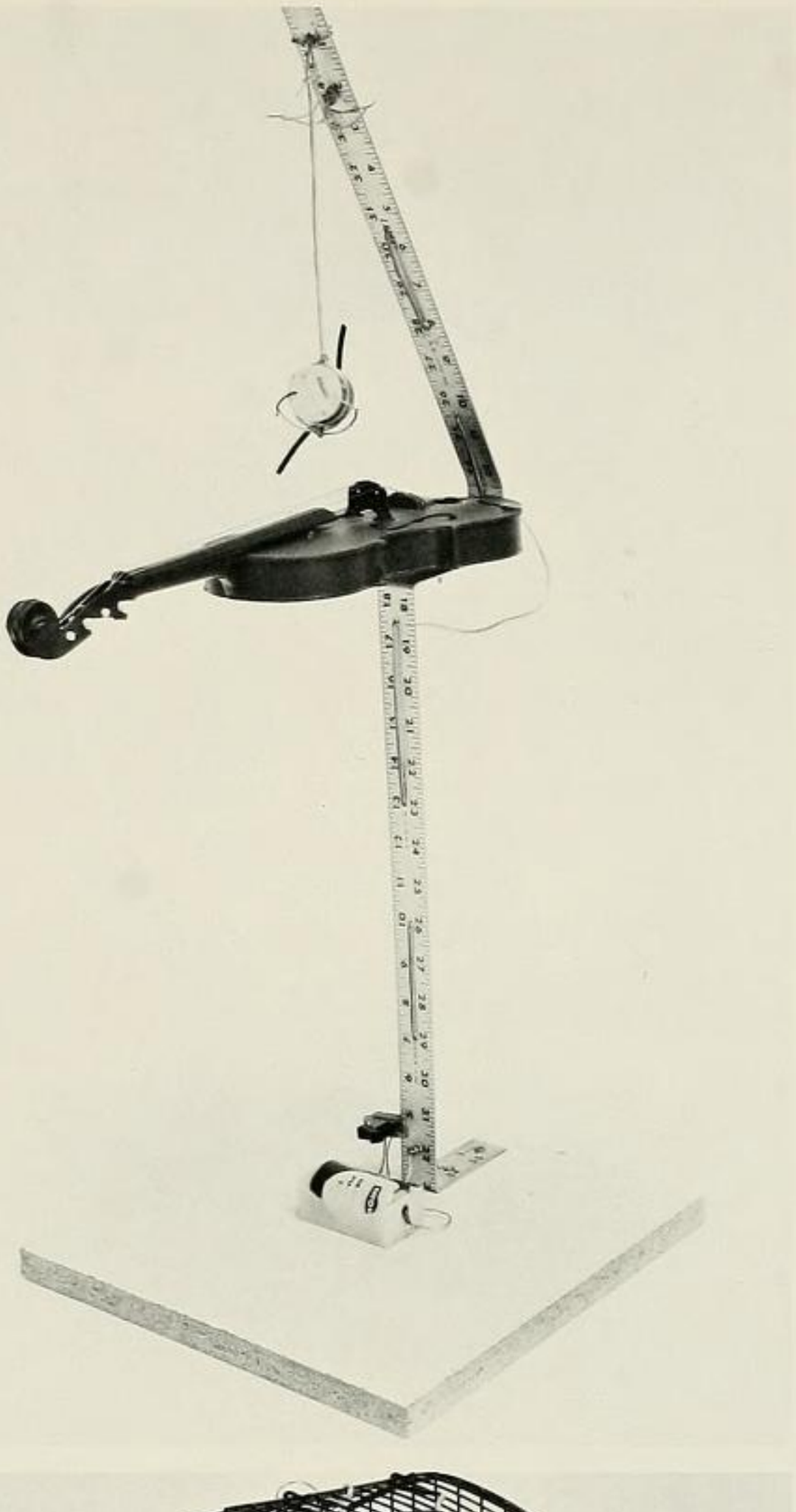
Homage to John Cage 1979
glass, wood, and tape
4 x 3½ x 3 inches
lent by the artist

DICK HIGGINS
American, born 1938 Cambridge, England
lives in Barrytown, New York and West Grover, Vermont

three movements for *Symphony #181*
1st Movement—Allegro ma non Troppo (3½ minutes)
2nd Movement—Andante Tremuloso (5 minutes)
3rd Movement—Allegro Vivace (3 minutes)
from the series *The Thousand Symphonies* 1967 remade 1981
specially made music paper with paint sprayed through a stencil made from an identical sheet of paper machine-gunned by the Police Department of South Brunswick, New Jersey
each 22¾ x 17½ inches
lent by the artist

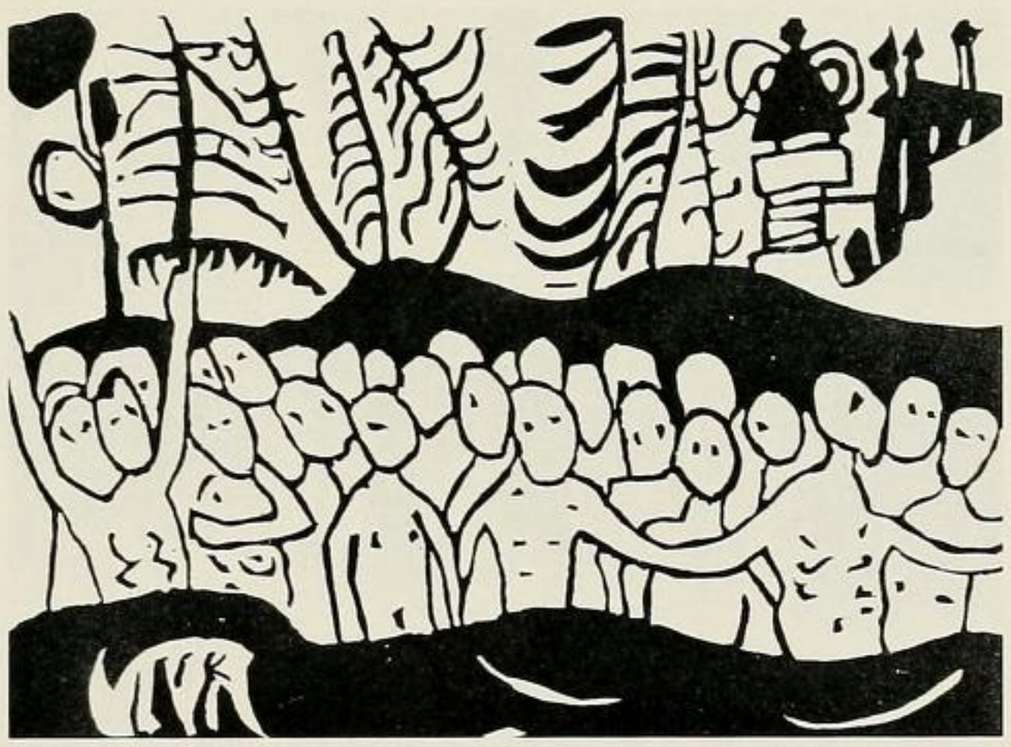
RICHARD HUELSENBECK
American, born 1892 Frankenau, Germany
died 1974 Locarno, Switzerland

Fantastic Prayers (Phantastische Gebete) 1920
book, 23 pages with illustrations by George Grosz
printer's ink on paper
10¼ x 7¼ inches
publisher: Malik-Verlag, Berlin
lent by Timothy Baum



Above: Joe Jones *Four-String, Black-Painted Violin* from *Erector-Set Series* ca. 1968–69 rebuilt 1978, photo: Earl Ripling
Below: Joe Jones *Violin in a Bird Cage* 1981, photo: Earl Ripling

Wassily Kandinsky *Fugue No. 193 (Great Fugue)* 1914



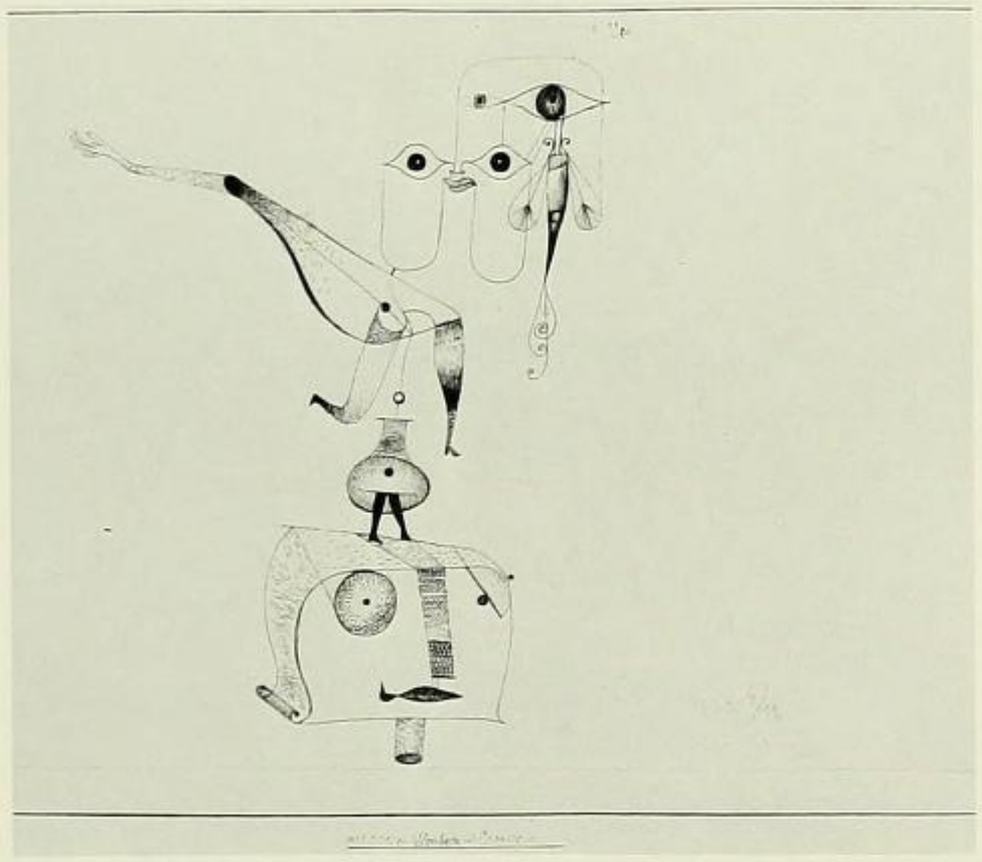
Above left: Wassily Kandinsky, color woodcut accompanying poem "Chalk and Soot" from *Klänge* 1912
Above right: Wassily Kandinsky, color woodcut accompanying poem "Spring" from *Klänge* 1912
Center left: Wassily Kandinsky, woodcut accompanying poem "Exit" from *Klänge* 1912
Center right: Wassily Kandinsky, woodcut accompanying poem "Adventure" from *Klänge* 1912
Below left: Wassily Kandinsky, color woodcut accompanying poem "Seeing" from *Klänge* 1912
Below right: Wassily Kandinsky, woodcut accompanying poem "Hills" from *Klänge* 1912, all photos: The Robert Gore Rifkind Collection

JOE JONES
American, born 1934 New York
lives in Asolo, Italy

Four-String, Black-and-White Plastic Guitar from *Erector-Set Series* ca. 1968–69, rebuilt 1978
toy guitar, D-cell battery, with two-directional switch mounted on the base
24 x 22 x 12 inches
lent by Backworks

Four-String, Black-Painted Violin from *Erector-Set Series*
ca. 1968–69, rebuilt 1978
toy violin, paint, D-cell battery, with single-directional switch mounted on the base
30 x 16 x 12 inches
lent by Backworks

Violin in a Bird Cage 1981
toy violin in a bird cage, D-cell battery, with two-directional switch mounted on the side of the cage
14 x 9 x 14 inches
lent by Eléonore Hendricks

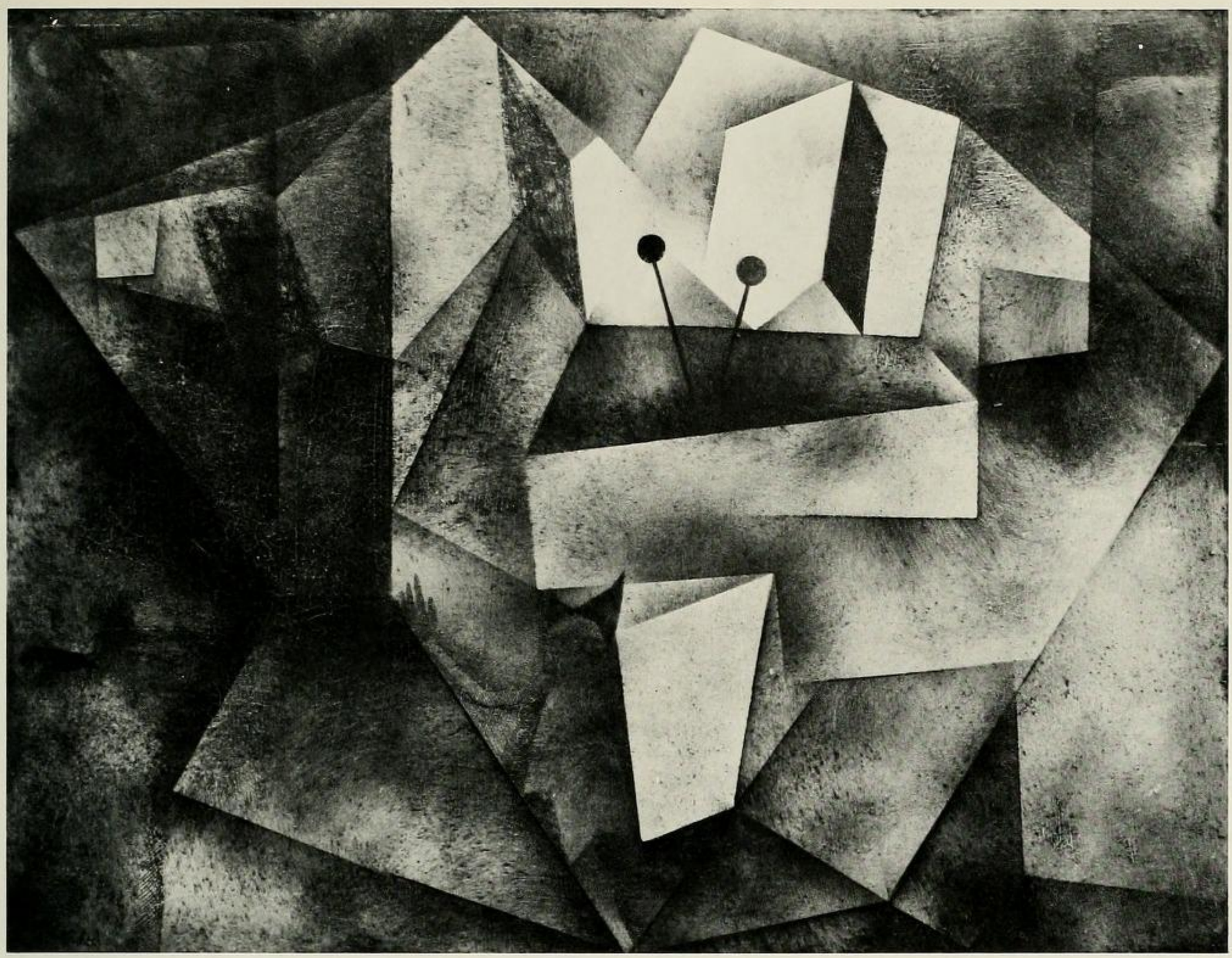


WASSILY KANDINSKY
Russian, born 1866 Moscow
died 1944 Paris

Fugue No. 193 (Great Fugue) 1914
oil on canvas
51¼ x 51¼ inches
lent by The Solomon R. Guggenheim Museum
gift of Solomon R. Guggenheim

Sounds (Klänge) 1912
book with thirty-eight poems and fifty-six woodcuts, twelve in color
printed on handmade Dutch paper, bound in a pasteboard cover with linen spine
11¼ x 11¼ inches
edition of 300 signed and 45 unsigned copies
publisher: R. Piper & Co., Verlag, Munich
printer: Poeschel & Trepte-Leipzig, Leipzig
(a) lent by the The Art Institute of Chicago
(b) lent by The Robert Gore Rifkind Collection

Above: Wassily Kandinsky, reproduction of a painting from Wassily Kandinsky and Franz Marc *The Blue Rider* 1912, photo: Earl Ripling
Below: Paul Klee *A Balance-Capriccio* 1923



Paul Klee *Kettledrum-Organ* 1930

WASSILY KANDINSKY
Russian, born 1866 Moscow
died 1944 Paris

FRANZ MARC
German, born 1880 Munich
died 1916 Verdun, France

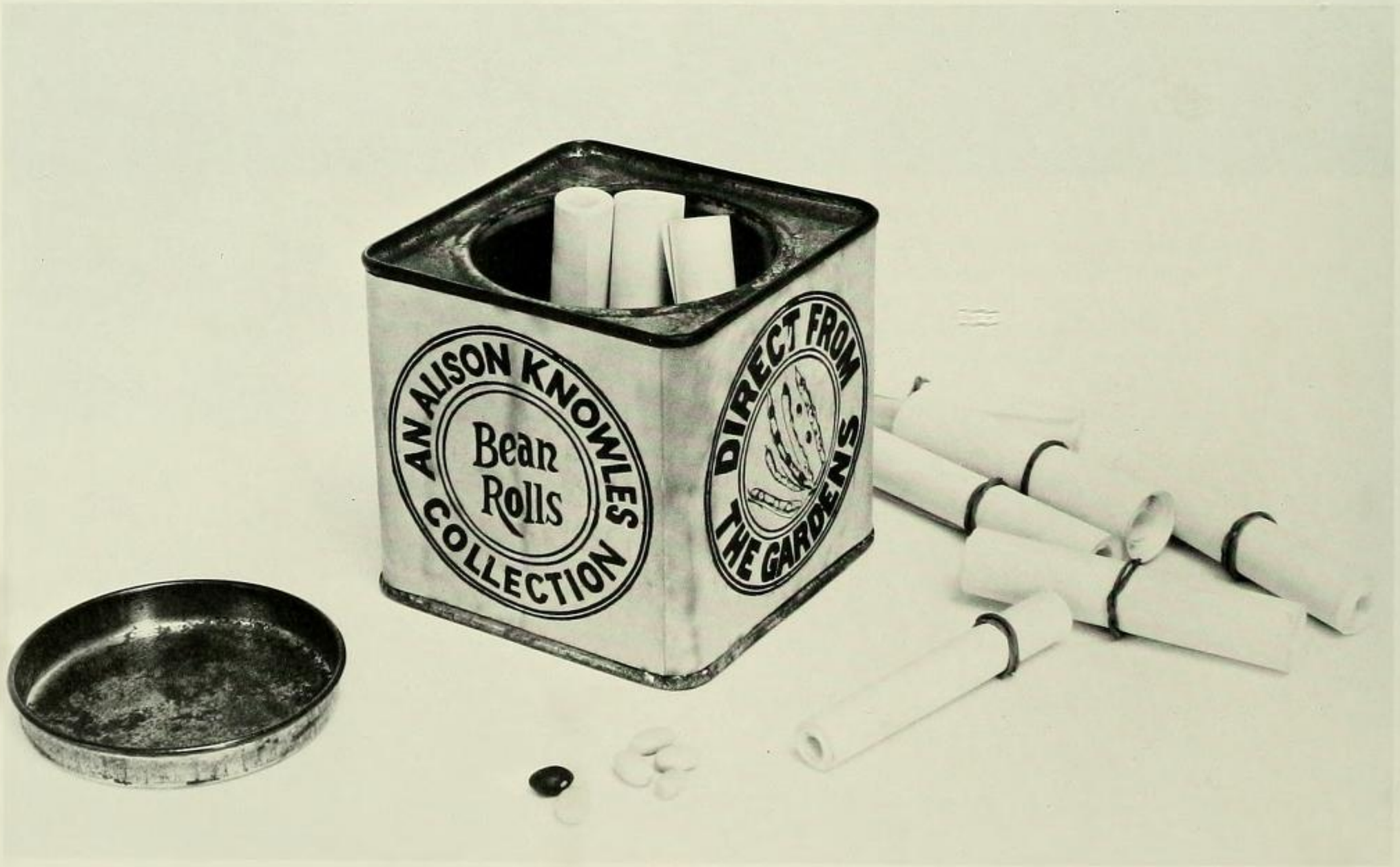
The Blue Rider (Der Blaue Reiter) 1912
book of 140 pages including halftone reproductions and line cuts of works by old, modern, and primitive masters 4 initial letters and 1 vignette designed by Hans Arp; 2 color reproductions of paintings by Wassily Kandinsky and Franz Marc; 31 leaves of reproductions and 5 leaves of music by Arnold Schoenberg
printer's ink on paper
11⅜ x 8⅝ inches
publisher: R. Piper & Co., Verlag, Munich
(a) lent by Kempe Collection
(b) lent by Yale University, Art and Architecture Library

PAUL KLEE
Swiss, born 1879 Muchenbushsee
died 1940 Muralto-Locarno, Switzerland

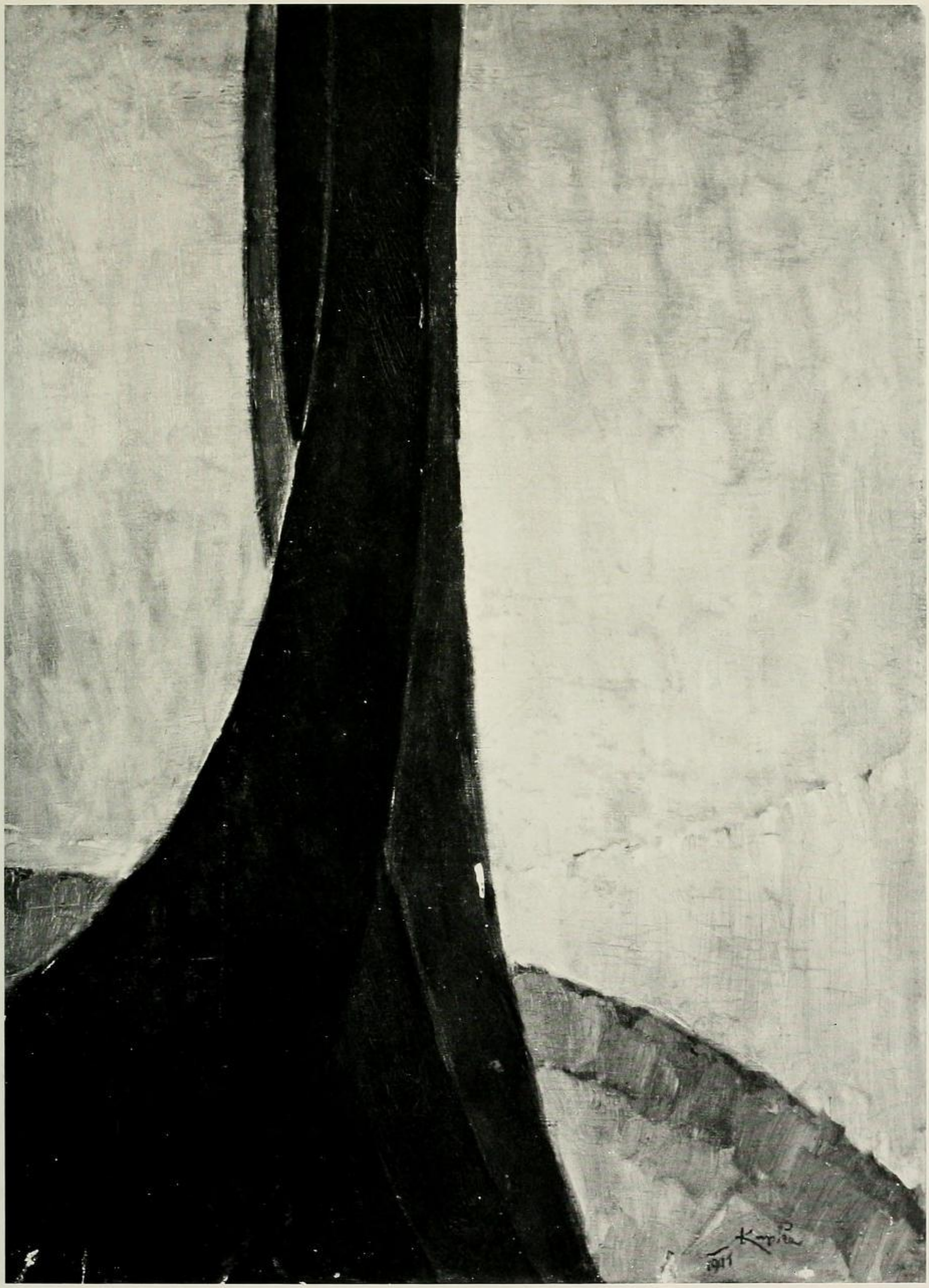
Lady Bell-Tone Bim (Glockentonin Bim) 1922
pen and ink on paper
8⅞ x 16⅜ inches
lent by The Museum of Modern Art
acquired through the Lillie P. Bliss Bequest

A Balance-Capriccio (Ein Gleichgewicht-Capriccio) 1923
pen and ink on paper
9 x 12⅛ inches
lent by The Museum of Modern Art
A. Conger Goodyear Fund

Kettledrum-Organ (Die Paukenorgel) 1930
oil on paper board
12½ x 16½ inches
lent by Allen Memorial Art Museum, Oberlin College
R.T. Miller, Jr. Fund



Alison Knowles *Bean Rolls* 1964, photo: Earl Ripling



Frantisek Kupka *Vertical Planes (Study)* 1911–12

Stanton Macdonald-Wright *Conception Synchromy* 1915

ALISON KNOWLES
American, born 1933 New York
lives in New York

Bean Rolls 1964
tin box with lid, containing six beans and thirteen printed scrolls bound by rubber bands
23 x 3¼ x 3¼ inches
publisher: Fluxus Editions, New York
lent by Jon Hendricks

TAKEHISA KOSUGI
Japanese, born 1938 Tokyo
lives in Berlin

Interspersions: For 54 Sounds 1980
musical installation with electronic devices, sand, salt, and sugar, supported by a wooden base
variable size, 24 x 60 inches, overall
lent by the artist

FRANTISEK KUPKA
Czech, born 1871 Opocno, Bohemia
died 1957 near Paris

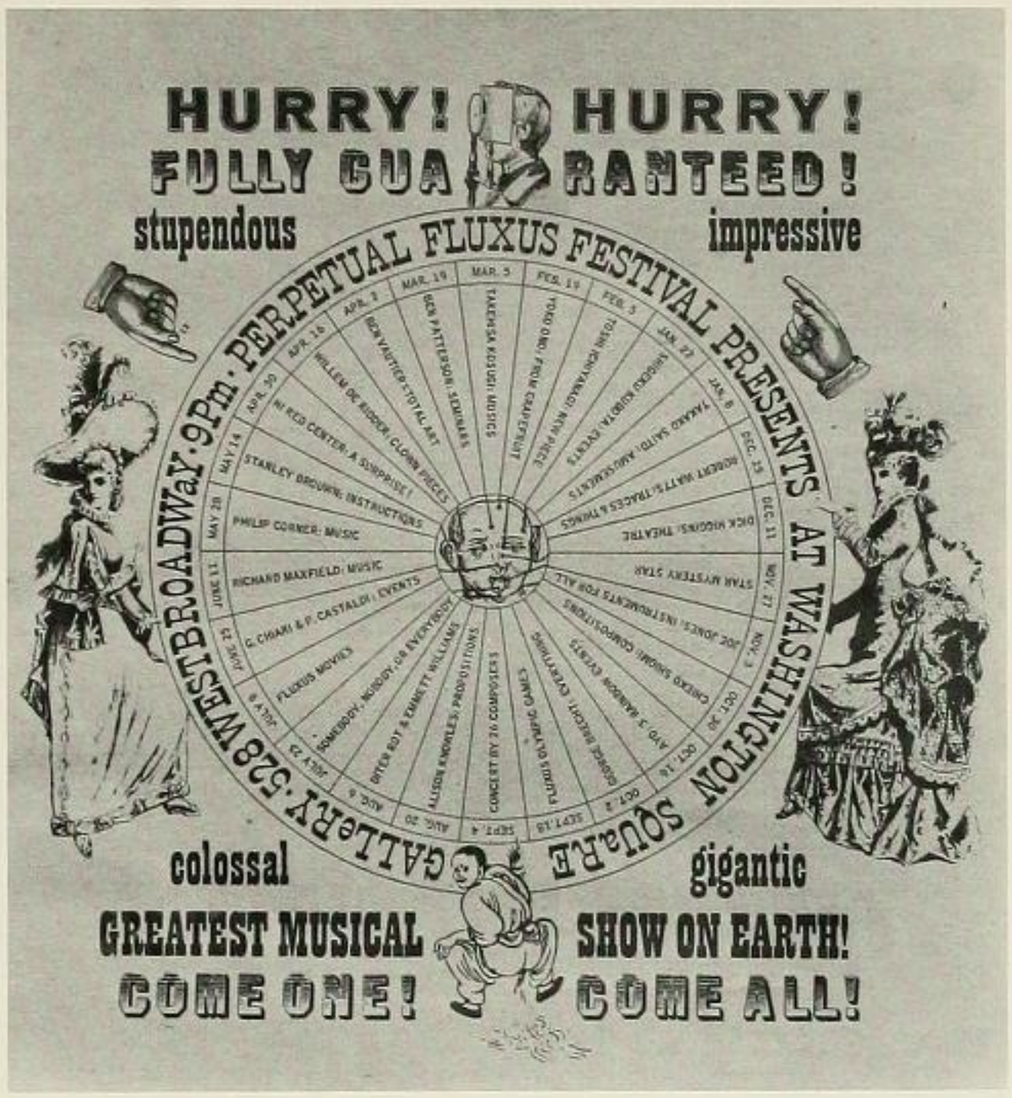
Vertical Planes (Study) 1911 – 12
oil on canvas
25¾ x 18¼ inches
lent by The Museum of Modern Art
gift of Alfred H. Barr, Jr.

STANTON MACDONALD-WRIGHT
American, born 1890 Charlottesville, Virginia
died 1973 Pacific Palisades, California

Conception Synchromy 1915
oil on canvas
30 x 24 inches
lent by Whitney Museum of American Art
gift of George F. Of

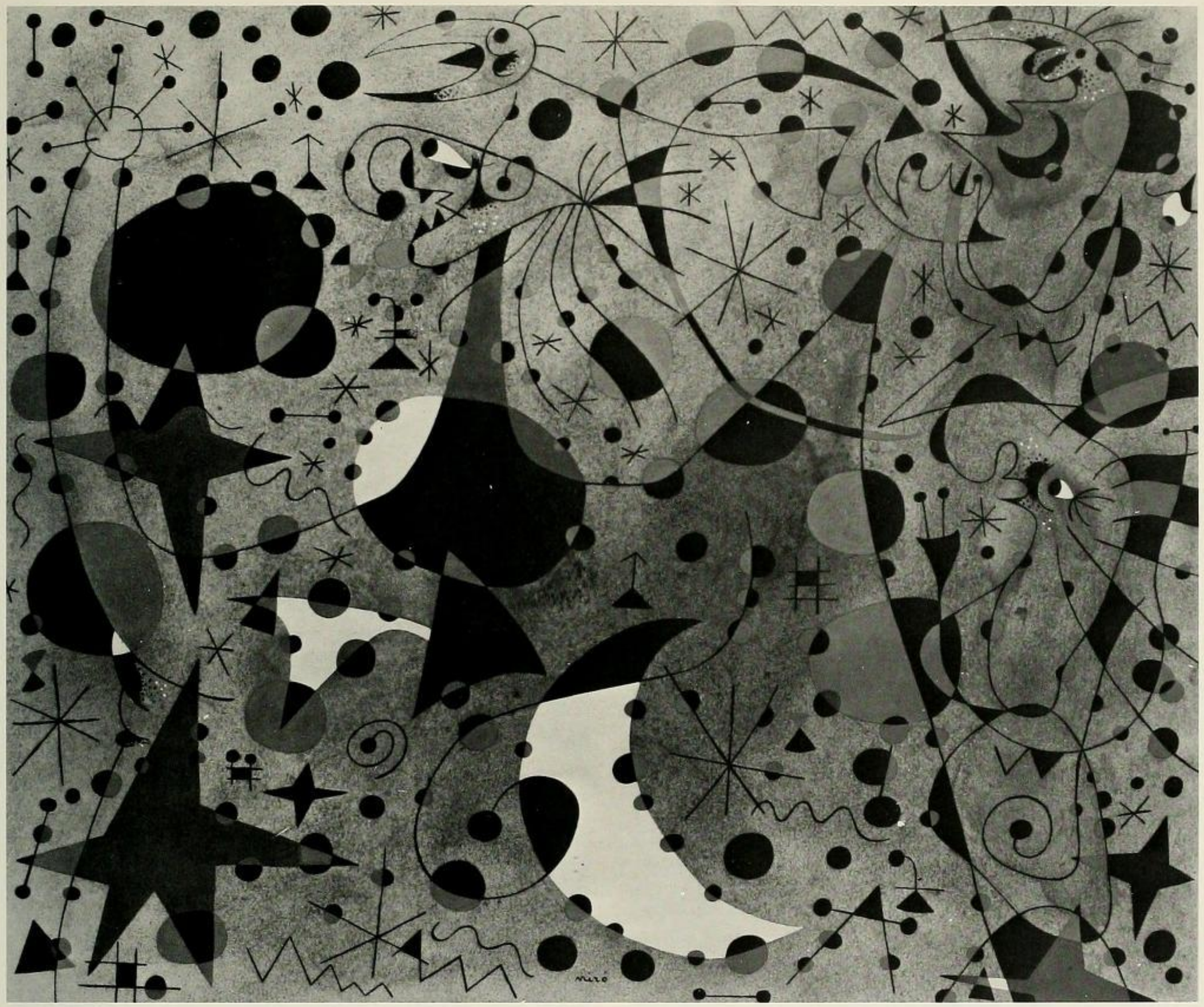
GEORGE MACIUNAS
American, born 1931 Kqunas, Lithuania
died 1978 Boston

Perpetual Fluxus Festival 1964
poster for Fluxus performances, Washington Square Galleries, New York
printer's ink on paper
17½ x 16⅛ inches
lent anonymously

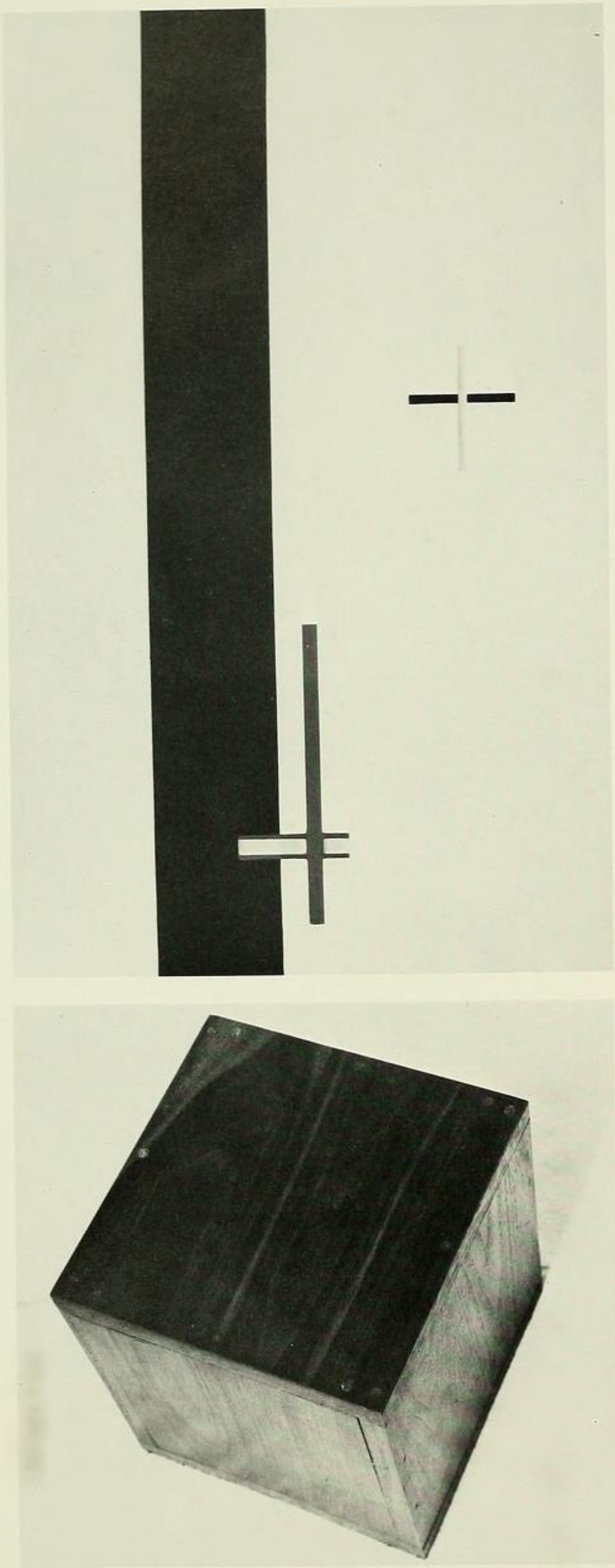


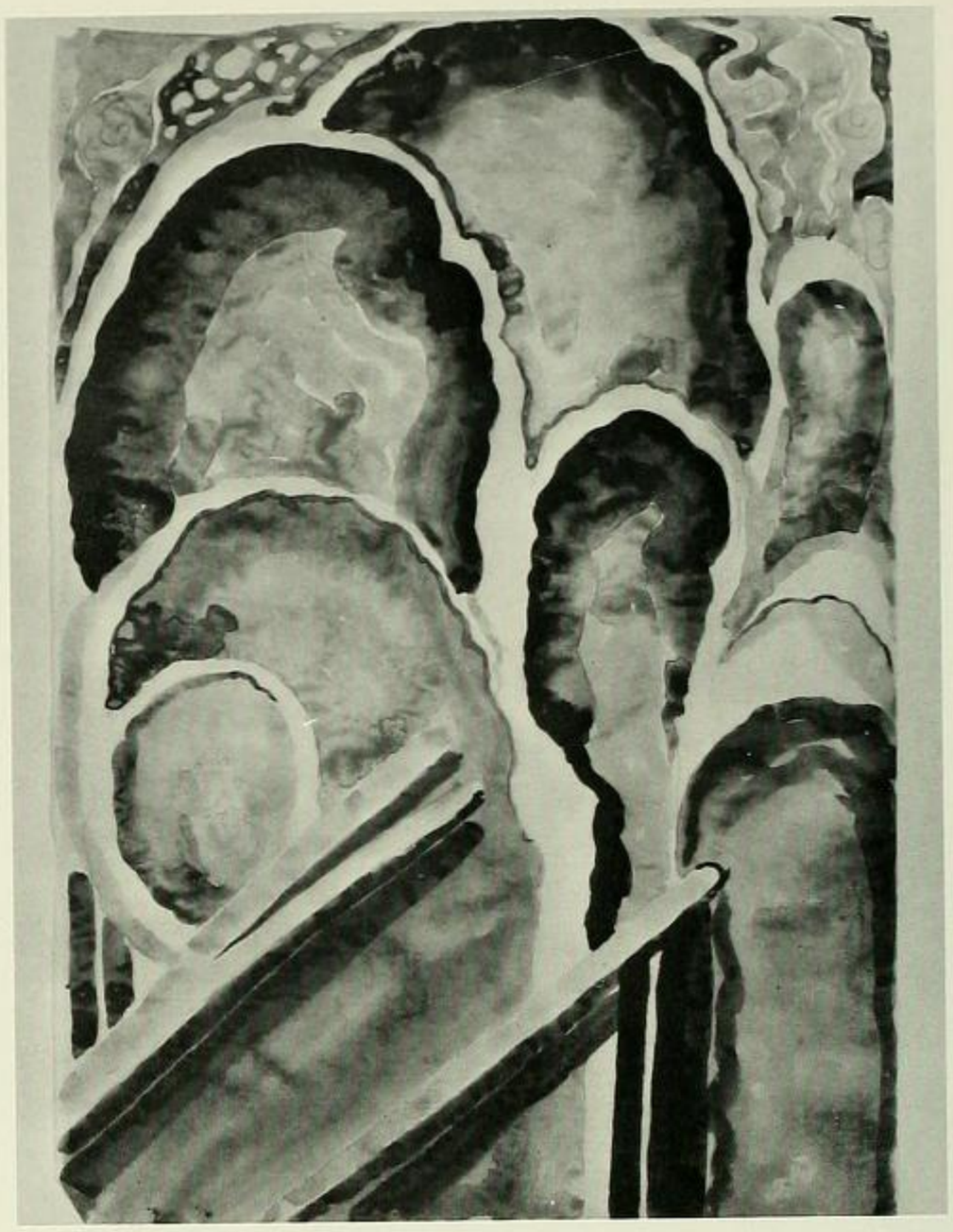
George Maciunas *Perpetual Fluxus Festival* 1964, photo: Earl Ripling

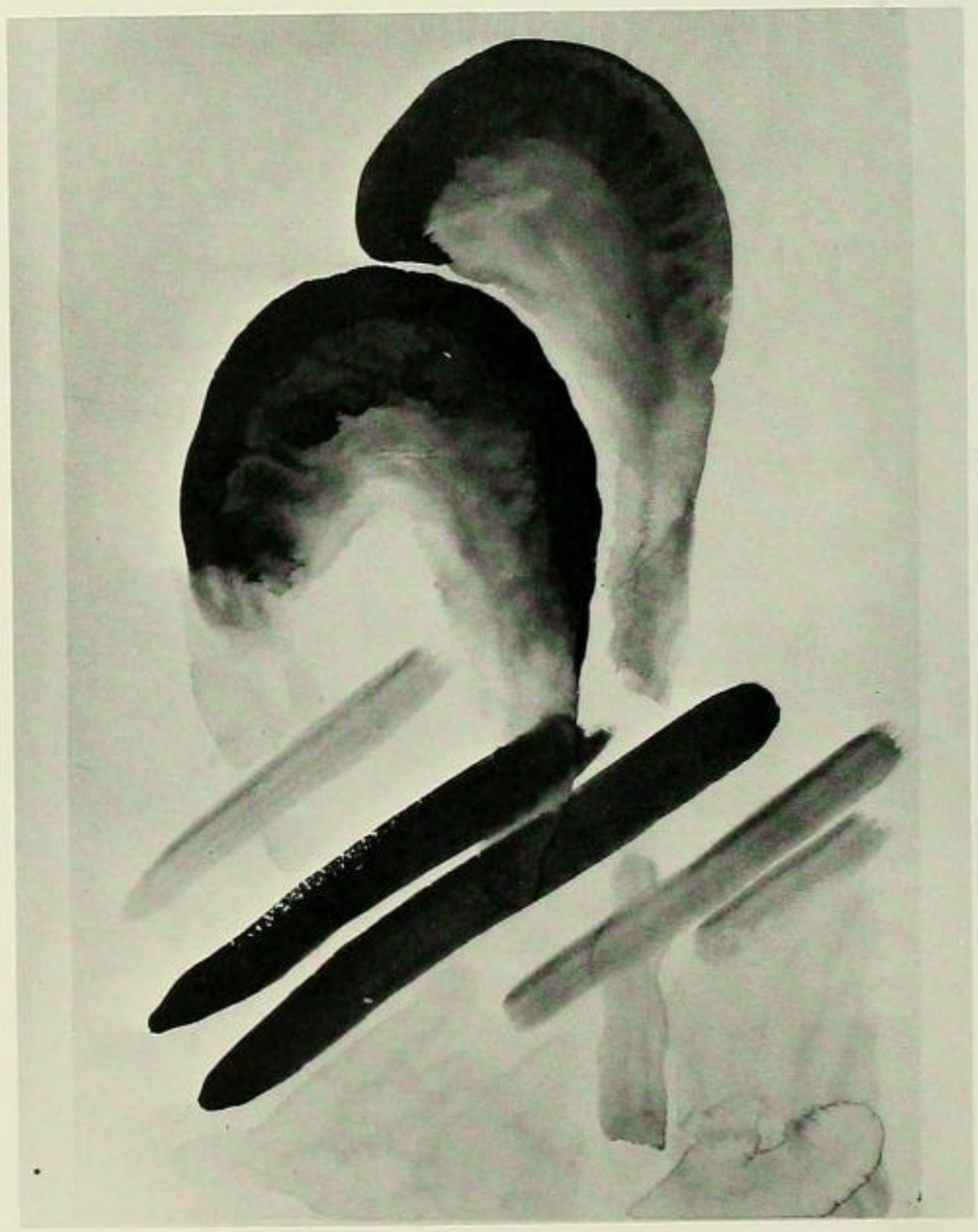
Filippo Tommaso Marinetti *Futurist Words in Liberty* 1919, photo: Earl Ripling



Joan Miró *The Nightingale's Song at Midnight and Morning Rain* 4 September 1940







Above: László Moholy-Nagy *Telephone Picture EM 3 192*, photo: Rudolph Burckhardt
Below: Robert Morris *Box with the Sound of Its Own Making* 1961

Above: Georgia O'Keeffe *Blue No. I* 1916
Below: Georgia O'Keeffe *Blue No. III* 1916

FILIPPO TOMMASO MARINETTI
Italian, born 1876 Alexandria, Egypt
died 1944 Belagio, Italy

Futurist Words in Liberty (Les Mots en liberté futuristes) 1919
periodical, 108 pages
printer's ink on paper
7⅝ x 5 inches
publisher: Edizioni Futuristes di "Poesia," Milan
lent by Timothy Baum

three unfolded pages from *Futurist Words in Liberty (Les Mots en liberté futuristes)* 1919
lent by Kempe Collection

After the Marne, Joffre Visited the Front by Car (Après la Marne, Joffre visita le front en auto)
10¼ x 9¼ inches

A Tumultuous Assembly: Numerical Sensibility (Une Assemblée tumultueuse: Sensibilité numérique)
10½ x 13¼ inches

In the Evening, Lying on Her Bed, She Kept Rereading the Letter from Her Artilleryman at the Front (Le Soir, couchée dans son lit, elle relisait la lettre de son artilleur au front)
13½ x 9⅛ inches

JOAN MIRÓ
Spanish, born 1893 Barcelona
lives in Palma de Mallorca, Spain

The Nightingale's Song at Midnight and Morning Rain (Le Chant du rossingnol à minuit et la pluie matinale) 4 September 1940
gouache on paper
15 x 18 inches
lent by Perls Gallery

LÁSZLÓ MOHOLY-NAGY
Hungarian, born 1895 Borsod
died 1946 Chicago

Telephone Picture EM 2 (Telephonbild EM 2) 1922
porcelain enamel on steel
9½ x 6 inches
lent by The Museum of Modern Art
gift of Philip Johnson in memory of Sibyl Moholy-Nagy

Telephone Picture EM 3 (Telephonbild EM 3) 1922
porcelain enamel on steel
18¾ x 11⅞ inches
lent by The Museum of Modern Art
gift of Philip Johnson in memory of Sibyl Moholy-Nagy

ROBERT MORRIS
American, born 1931 Kansas City, Missouri
lives in Gardiner, New York

Box with the Sound of Its Own Making 1961
wood and audiotape
9 x 9 x 9 inches
lent by Mr. and Mrs. Bagley Wright

GEORGIA O'KEEFFE
American, born 1887 Sun Prairie, Wisconsin
lives in Abiquiu, New Mexico

Blue No. I 1916
watercolor on paper
$15^{11}/_{16}$ x 11 inches
lent by The Brooklyn Museum
bequest of Mary T. Cockroft

Blue No. III 1916
watercolor on paper
$15^{15}/_{16}$ x 11 inches
lent by The Brooklyn Museum
bequest of Mary T. Cockroft

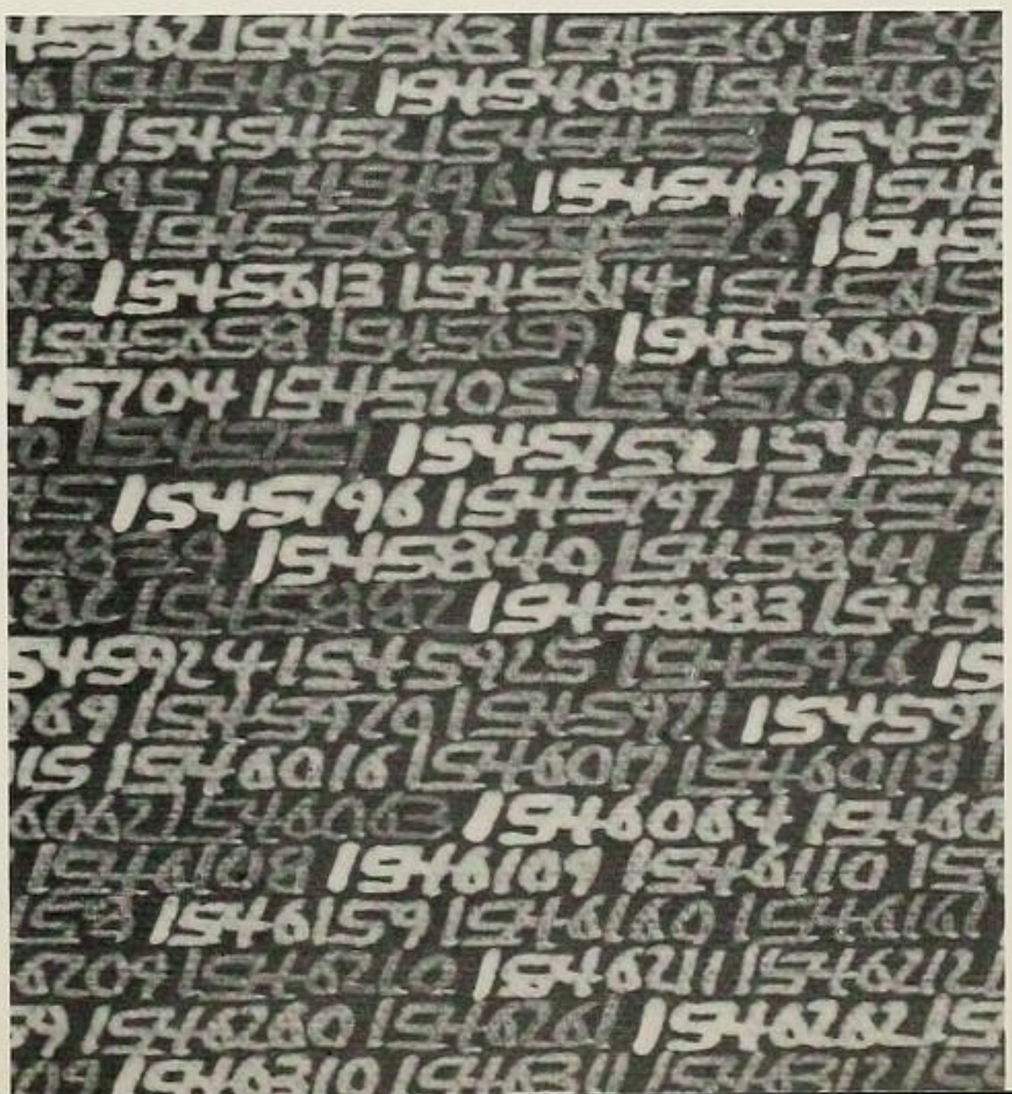
Blue No. IV 1916
watercolor on paper
$15^{15}/_{16}$ x 11 inches
lent by The Brooklyn Museum
bequest of Mary T. Cockroft

ROMAN OPALKA
Polish, born 1931 Abbeville, France
lives in Tournon d'Agenais, France

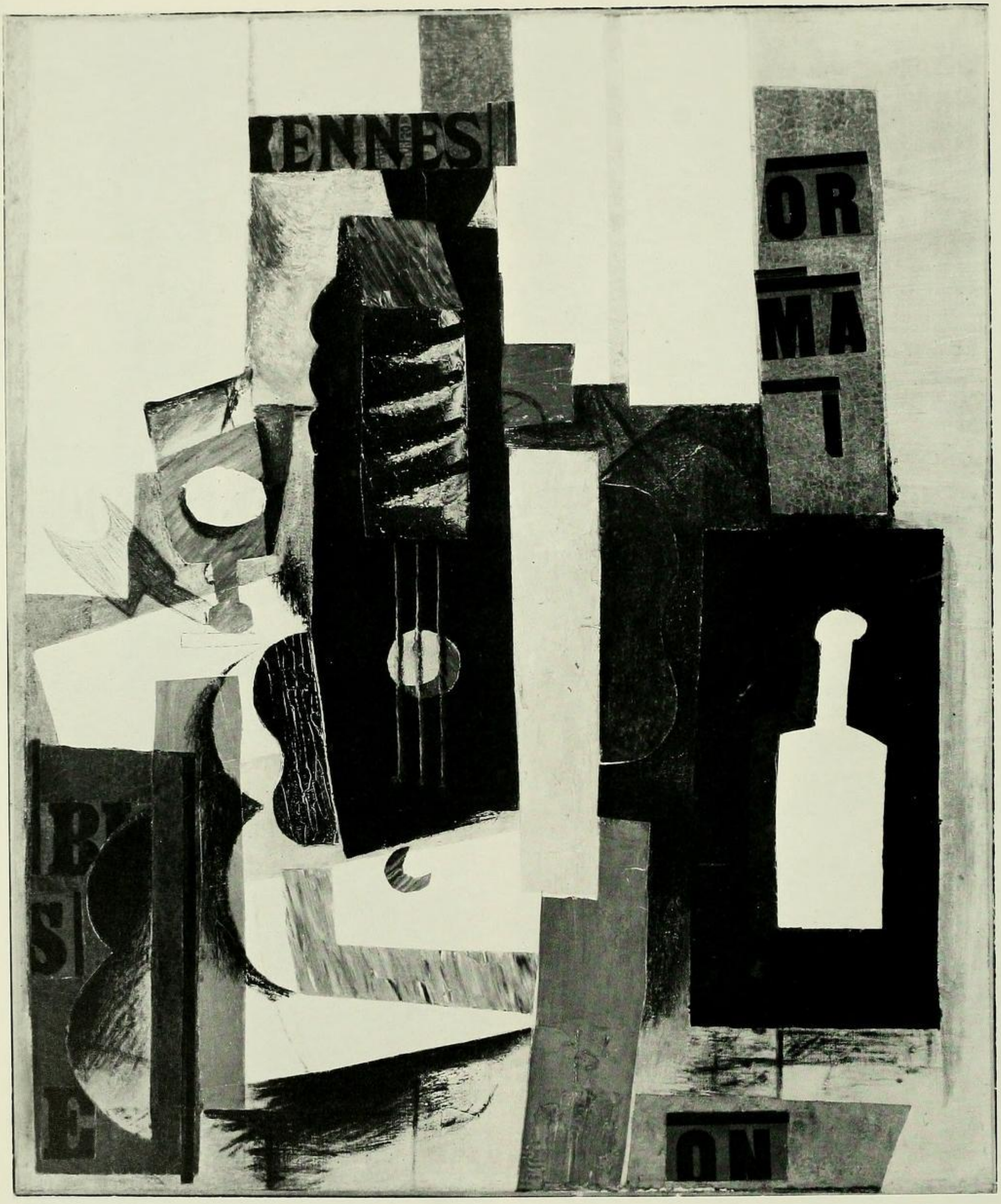
1 – ∞/Detail 2668393-2688144 from a continuing series
1965 onwards
acrylic on canvas
77¼ x 53¼ inches
lent by John Weber Gallery

PABLO PICASSO
French, born 1881 Malaga, Spain
died 1973 Mougins, France

Glass, Guitar, and Bottle Winter 1913–14
oil, collage, gesso, and pencil on canvas
25¾ x 21⅛ inches
lent by The Museum of Modern Art
gift of Sidney and Harriet Janis



Roman Opalka *1 - ∞/Detail 2668393 – 2688144* (from a continuing series) 1965 onwards (detail)



Pablo Picasso *Glass, Guitar, and Bottle* Winter 1913–1914

MAN RAY
American, born 1890 Philadelphia
died 1976 Paris

Indestructible Object 1958
replica of *Object to Be Destroyed* 1923
wooden metronome with photograph mounted on pendulum
8¾ x 4⅜ x 4⅜ inches
lent by Mr. and Mrs. Morton G. Neumann

ROBERT RAUSCHENBERG
American, born 1925 Port Arthur, Texas
lives in New York and Captiva, Florida

Music Box 1953
wooden box, nails, and three stones
11 x 7½ x 9½ inches
lent by Jasper Johns

Dry Cell 1963
in collaboration with Billy Klüver
silkscreen on plexiglas, metal, string, sound transmitter, wire, circuit board, motor, and batteries
15 x 12 x 15 inches
lent by the artist

MORGAN RUSSELL
American, born 1886 New York
died 1953 Broomall, Pennsylvania

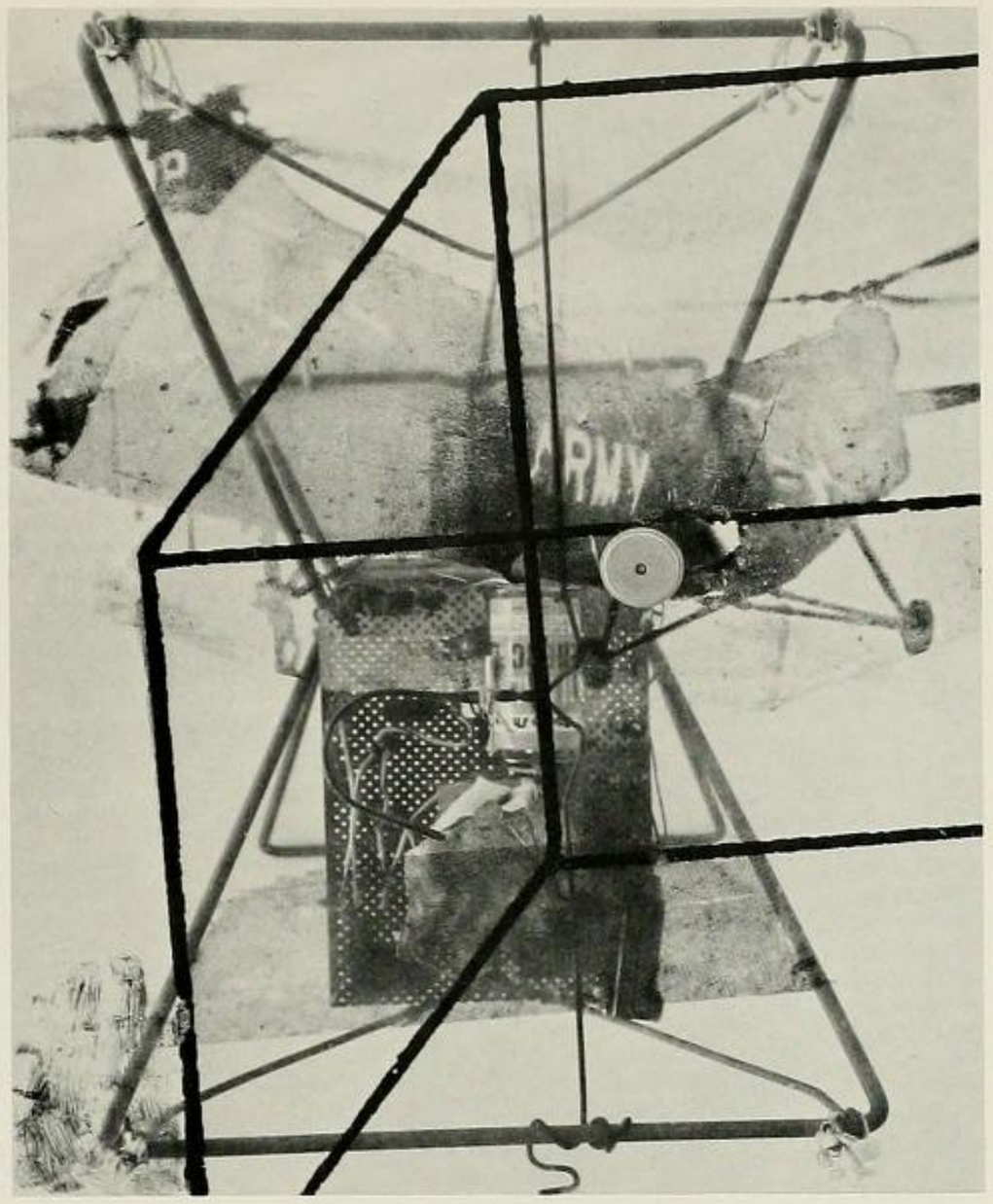
Cosmic Synchromy (Synchromie cosmique) 1913–14
oil on canvas
16½ x 13¼ inches
lent by Munson-Williams-Proctor Institute

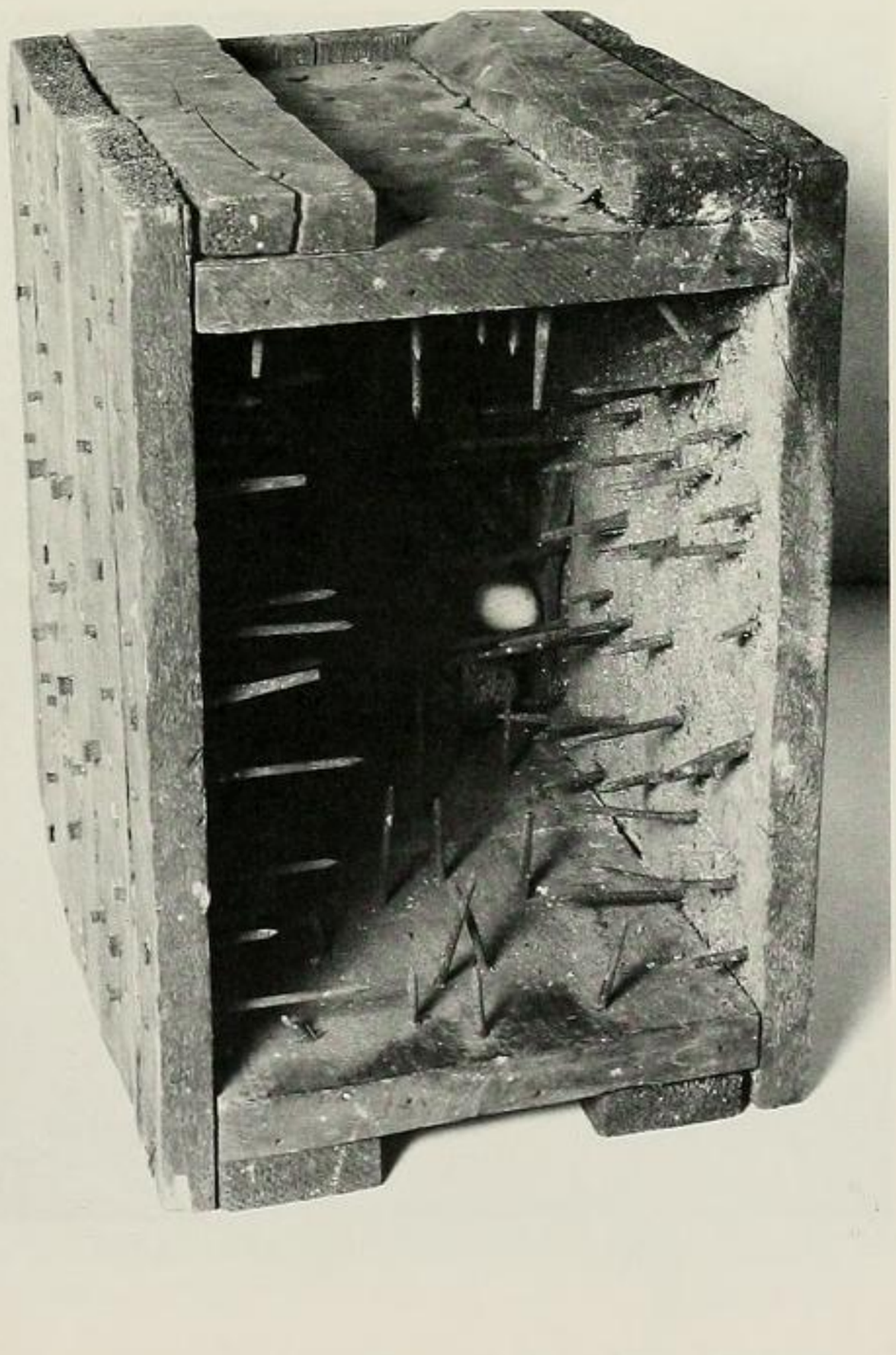
Untitled, Study in Transparency ca. 1913–23
oil on tissue paper
4 x 15¾ inches
lent by Whitney Museum of American Art
gift of Mr. and Mrs. Henry M. Reed

Study for Kinetic Light Machine ca. 1916–23
ink on paper
8⅞ x 6¾ inches
lent by Whitney Museum of American Art
gift of Mr. and Mrs. Henry M. Reed

uncatalogued page from notes
Diurnal No. 1: Spring (Diurne No. 1: Printemps) 1940
graphite and colored pencil on paper
10⅝ x 13¾ inches
lent anonymously

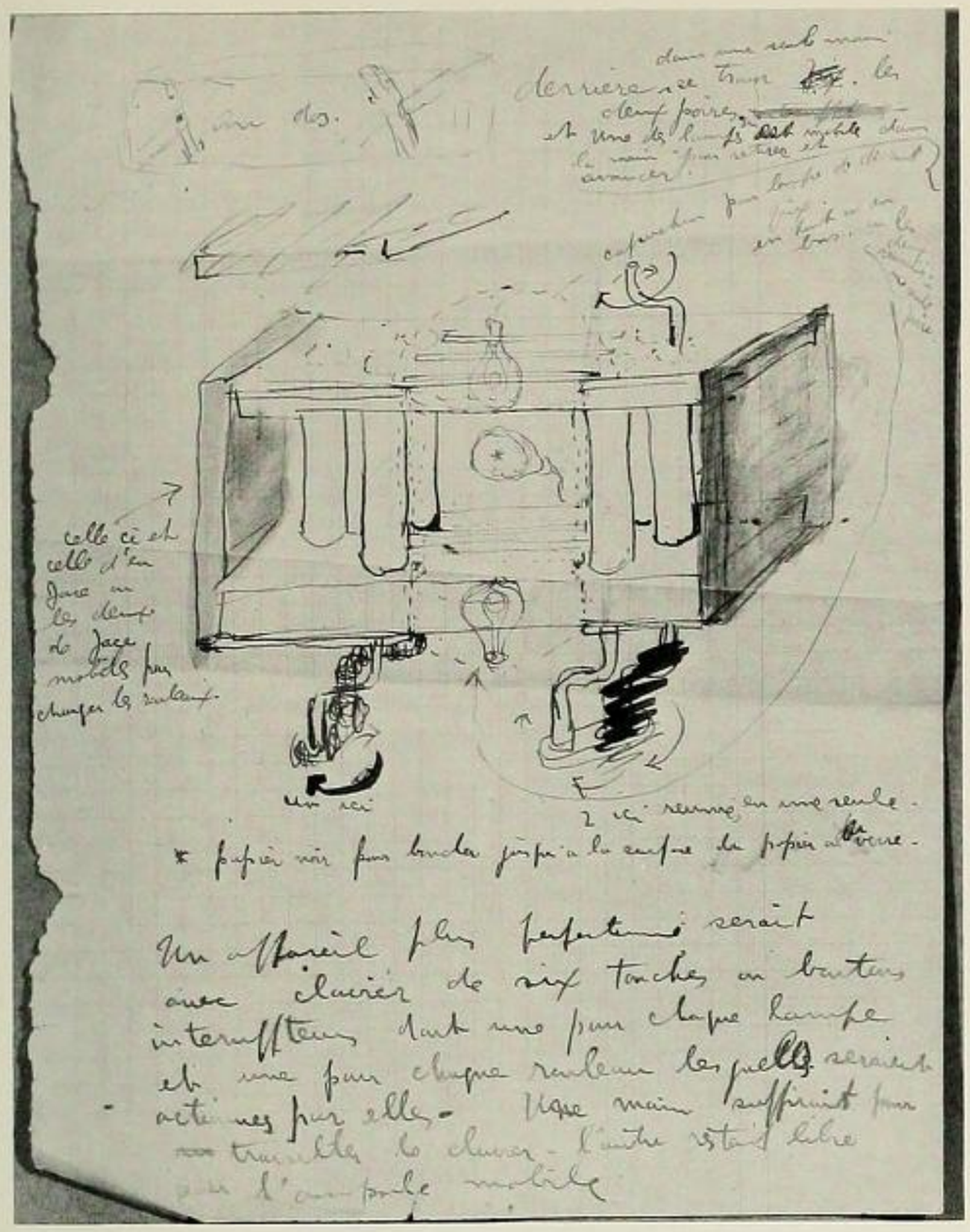
uncatalogued page from notes
Letters Are Taken from Frenchmen (Les Lettres sont tirées des hommes français) n.d.
pencil on paper
8½ x 5½ inches
lent by Whitney Museum of American Art
gift of Mr. and Mrs. Henry M. Reed

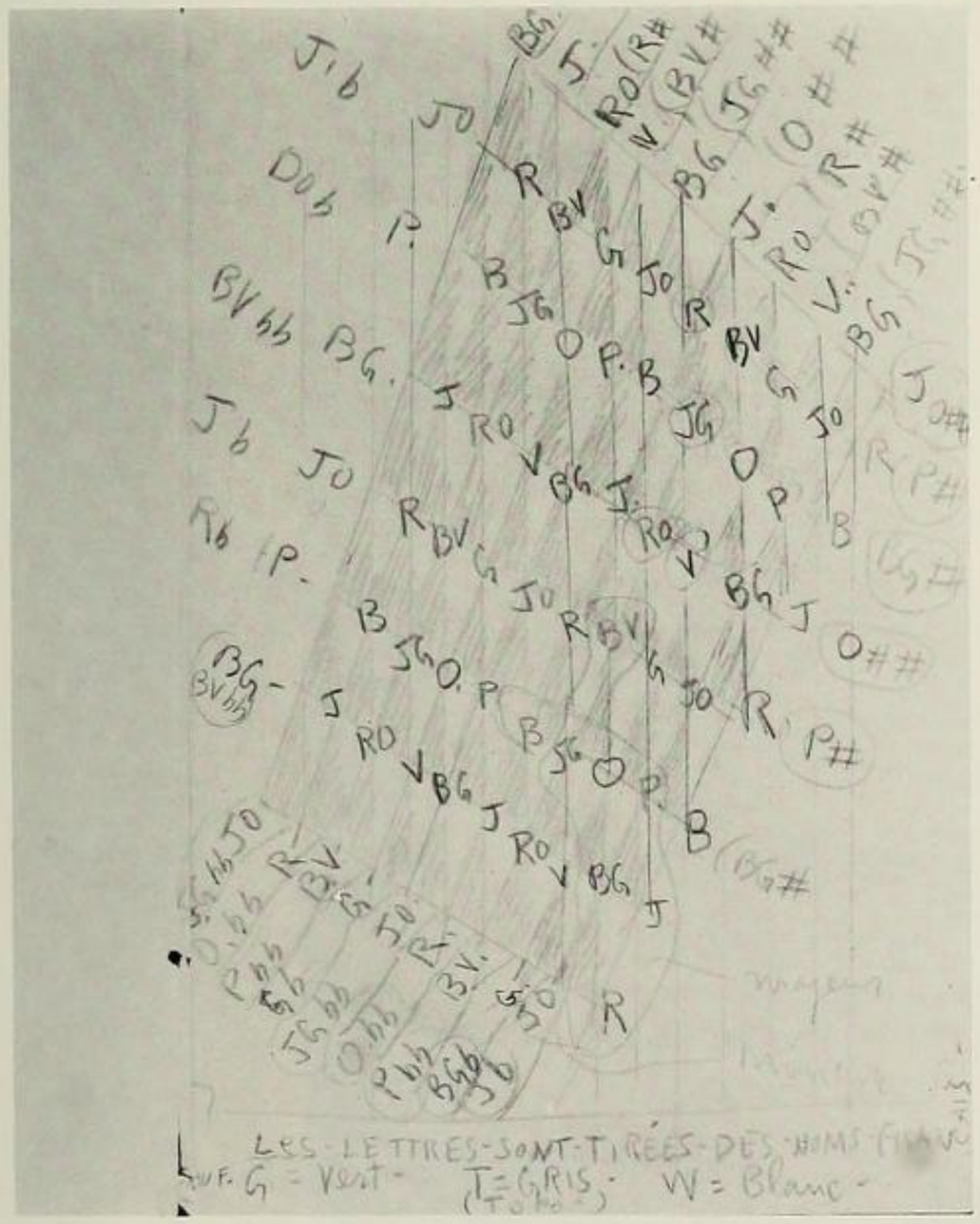




Above: Robert Rauschenberg *Dry Cell* 1963, photo: Bevan Davies
Below: Robert Rauschenberg *Music Box* 1953, photo: Rudolph Burckhardt

Morgan Russell *Cosmic Synchromy* 1913–14





Above: Morgan Russell *Study for Kinetic Light Machine* ca. 1916–23, photo: Geoffrey Clements
Below: Morgan Russell *Letters Are Taken from Frenchmen*, n.d., uncatalogued page from notes, photo: Geoffrey Clements

PREMIER CONCERT DE BRUITEURS FUTURISTES

Le 2 juin à Modène le peintre futuriste Russolo, créateur de l'*Art des Bruits*, expliquait et faisait fonctionner pour la première fois devant plus de 2000 personnes qui bondaient le Théâtre Storchi les différents appareils bruiteurs qu'il venait d'inventer et de construire en collaboration avec le peintre Ugo Piatti.

Le Musicien futuriste Pratella et le Poète Marinetti prenaient ensuite la défense de cette invention étonnante par un violent contradictoire, tenant tête éloquemment aux invectives et aux injures grossières des passéistes.

Aussitôt après cette soirée mémorable le peintre futuriste Russolo se remettait au travail pour perfectionner ses instruments bruiteurs et pour préparer ses *4 premiers* réseaux de bruits qui furent enfin exécutés dans un premier concert bruitiste à la Maison Rouge de Milan, le soir du 11 Août. Dans la vaste salle, autour de cet orchestre étrange se pressaient le groupe dirigeant futuriste et plusieurs membres importants de la presse italienne, qui saluèrent d'applaudissements et de hourrahs enthousiastes les 4 différents réseaux de bruits dont voici les titres:

Réveil de Capitale
Rendez-vous d'autos et d'aéroplanes
On dîne à la terrasse du Casino
Escarmouche dans l'oasis

Russolo dirigeait lui-même l'orchestre, composé de 15 *bruiteurs:*

3 bourdonneurs	**2 glouglouteurs**
2 éclateurs	**1 fracasseur**
1 tonneur	**1 stridenteur**
3 siffleurs	**1 renâcleur**
2 bruisseurs	

Malgré une certaine inexpérience de la part des exécutants, insuffisamment préparés par un petit nombre de répétitions hâtives, l'ensemble fut presque toujours parfait et les effets vraiment saisissants obtenus par Russolo révélèrent à tous les auditeurs une nouvelle volupté acoustique.

Les quatre *réseaux de bruits* ne sont pas de simples reproductions impressionnistes de la vie qui nous entoure mais d'émouvantes synthèses bruitistes. Par une savante variation de tons, les bruits perdent en effet leur caractère épisodique accidentel et imitatif, pour devenir des éléments abstraits d'art.

En écoutant les tons combinés et harmonisés des *éclateurs*, des *siffleurs* et des *glouglouteurs*, on ne pensait plus guère à des autos, à des locomotives ou à des eaux courantes, mais on éprouvait une grande emotion d'art futuriste, absolument imprévue et qui ne ressemblait qu'a elle-même.

Luigi Russolo, Program notes for *First Concert of Futurist Noisemakers* ca. 1914, Paris, photo: Earl Ripling

Le Matin

LE PREMIER INFORMÉ

Mardi 16

RÉDACTION &

2-4-6, Bouleva

1-3-5-7, Faubourg

TÉLÉPHONE : GUTE

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Agences

LONDRES : 160,

BERLIN : 51

SAINT-PÉTERSB

Jules MADR

LAIRE

U

menues

ville

Santé

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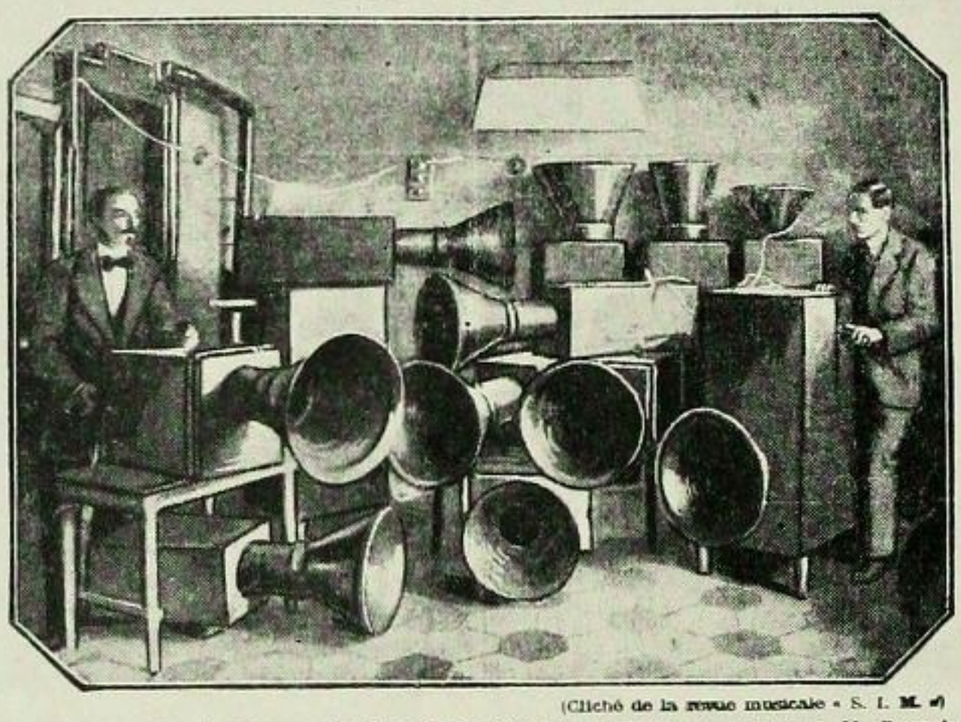
ons de

LA MODE FUTURISTE EN MUSIQUE

On bruitera



(Cliché de la revue musicale « S. I. M. »)

Les instruments « bruiteurs » du laboratoire futuriste de Milan. A gauche : *M. Russolo manœuvre un « hululeur » ;* à droite : *M. Piatti actionne un « bourdonneur »*

M. et Mme d'U'Remp ont le souci d'être non pas à la mode, mais en avant de la mode. Ils donnent des thés futuristes dans un salon cubiste où leurs hôtes sont obligés d'entrer à cloche-pied. Mais leur dernière invitation est une trouvaille et ils espèrent la voir copier cet hiver par les gens les plus élégants du Tout-Paris.

Elle est ainsi conçue :

Monsieur et Madame d'U'Remp

resteront chez eux le 24 décembre

ON BRUITERA

Suit le programme du concert.

Y prendront part : six bourdonneurs, six siffleurs, deux fracasseurs, quatre éclateurs, quatre bruisseurs, un stridenteur, un tonneur, deux glouglouteurs et dix renâcleurs.

On jouera plusieurs morceaux, parmi lesquels

Rendez-vous d'autos et d'aéroplanes.
On dîne à la terrasse du casino,

qui ont eu le plus grand succès récemment à Milan, dans le concert donné par les musiciens futuristes, car ces instruments et ces morceaux nous viennent d'Italie.

On sait en effet que la matchiche et le tango sont des fantaisies défuntes, que la musique a désormais perdu tout prestige et qu'une nouvelle école nous est née, qui s'intitule tumultueusement *l'école du bruit.*

C'est elle que le peintre Russolo a dépeinte dans une lettre à « son cher Balilla Pratella, le grand musicien futuriste », lettre que publie la revue musicale *S. I. M.* Il y expose que jusqu'au dix-neuvième siècle, tout n'a été que silence, qu'aujourd'hui seulement on peut se rendre compte de ce que c'est que le bruit.

Les concerts qu'il a entendus jusqu'ici ne lui ont inspiré qu'un méprisant « pouah ! ».

« Sortons vite, écrit-il à son ami, car je ne puis réprimer trop longtemps mon désir fou de créer une véritable réalité musicale en distribuant à droite et à gauche de belles gifles sonores, enjambant et culbutant violons et pianos, contrebasses et orgues gémissantes. »

Les futuristes sont sortis, et ils ont découvert dans la capitale la seule « réalité musicale » qu'ils puissent supporter.

« Nous varierons — écrit toujours le peintre Russolo — les plaisirs de notre sensibilité en distinguant les glouglous d'eau, d'air et de gaz dans les tuyaux métalliques, les borborygmes et les râles des moteurs qui respirent avec une animalité indiscutable, la palpitation des soupapes, le va-et-vient des pistons, les cris stridents des scies mécaniques, les bonds sonores (*sic*) des tramways sur les rails, le claquement des fouets, le clapotement des drapeaux.

» Nous nous amuserons à orchestrer idéalement les portes à coulisse des magasins, le brouhaha des foules, les tintamarres des gares, des forges, des filatures, des imprimeries, des usines électriques et des chemins de fer souterrains. »

Voilà ce qu'on entendra le 24 décembre chez M. et Mme d'U'Remp. Y allez-vous ?

LE MINI
encourage
par

Un rédacteur
lisations. On
le concier

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UN TUNNEL

DRE

Une œuvre d'art impériale qualifiée immorale

BERLIN, 15 décembre. — *Du correspondant particulier du « Matin »* (par téléphone). — la seconde fois, le parquet vient sous prétexte d'immora

Luigi Russolo "On Bruitera" from the front page of *Le Matin* Tuesday 16 January 1915, photo: Earl Ripling

LUIGI RUSSOLO
Italian, born 1885 Portogruaro
died 1947 Cerro di Laveno, Italy

The Art of Noises – Futurist Manifesto (L'Arte dei rumori – Manifesto futurista) 11 March 1913
printer's ink on paper
11 x 9 inches
published in Milan
lent by Ex Libris

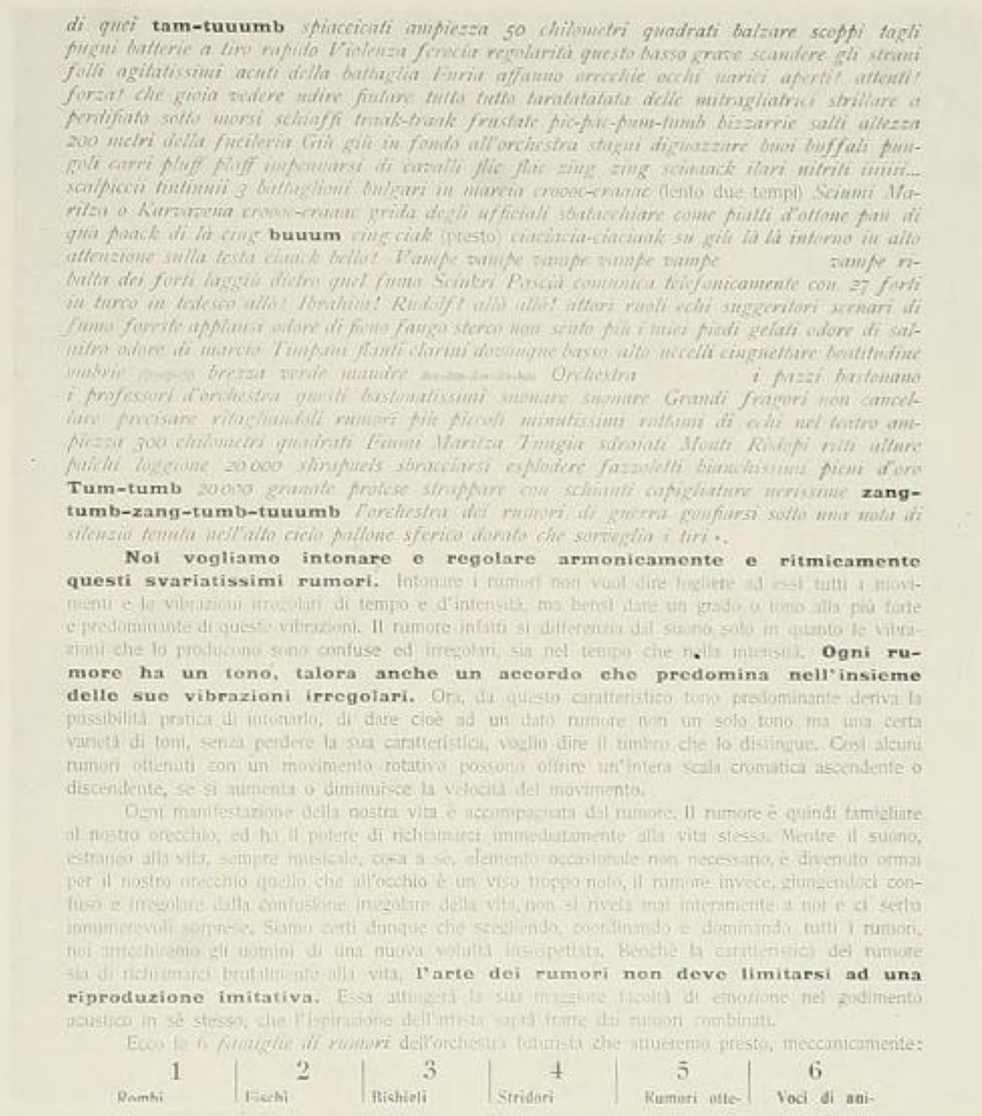
newspaper clipping *"On Bruitera" (We Will Make Noise)*
front page, *Le Matin* (Paris) Tuesday 16 January 1915
a report of the 24 December concert of Luigi Russolo's *Intonarumori,* or *Noise Machines,* in Paris; illustration shows his assistant, Piatti on the right, Russolo on the left
newsprint
from the papers and notes of Morgan Russell
lent by Dr. and Mrs. Barnett Malbin
(The Lydia and Harry Lewis Winston Collection)

program notes for *Premier concert de bruiteurs futuristes (The First Concert of Futurist Noisemakers)* ca. 1914
printer's ink on paper
15½ x 5⅝ inches
from the notes and papers of Morgan Russell
lent by Dr. and Mrs. Barnett Malbin
(The Lydia and Harry Lewis Winston Collection)

KURT SCHWITTERS
German, born 1887 Hannover
died 1948 Kendal, England

Die Blume Anna: Die neue Anna Blume 1918–22
book, 32 pages
printer's ink on paper
9 x 6 inches
publisher: Verlag Der Sturm, Berlin
lent by Timothy Baum

Archetypal Sounds (Ursonate) 1921–32
published in the periodical *Merz 24* 1932
39 pages
printer's ink on paper
8¼ x 5¾ inches
publisher: Merzverlag, Hannover
(a) lent by Kees Groenedijk
(b) lent by Dr. and Mrs. Hans J. Kleinschmidt



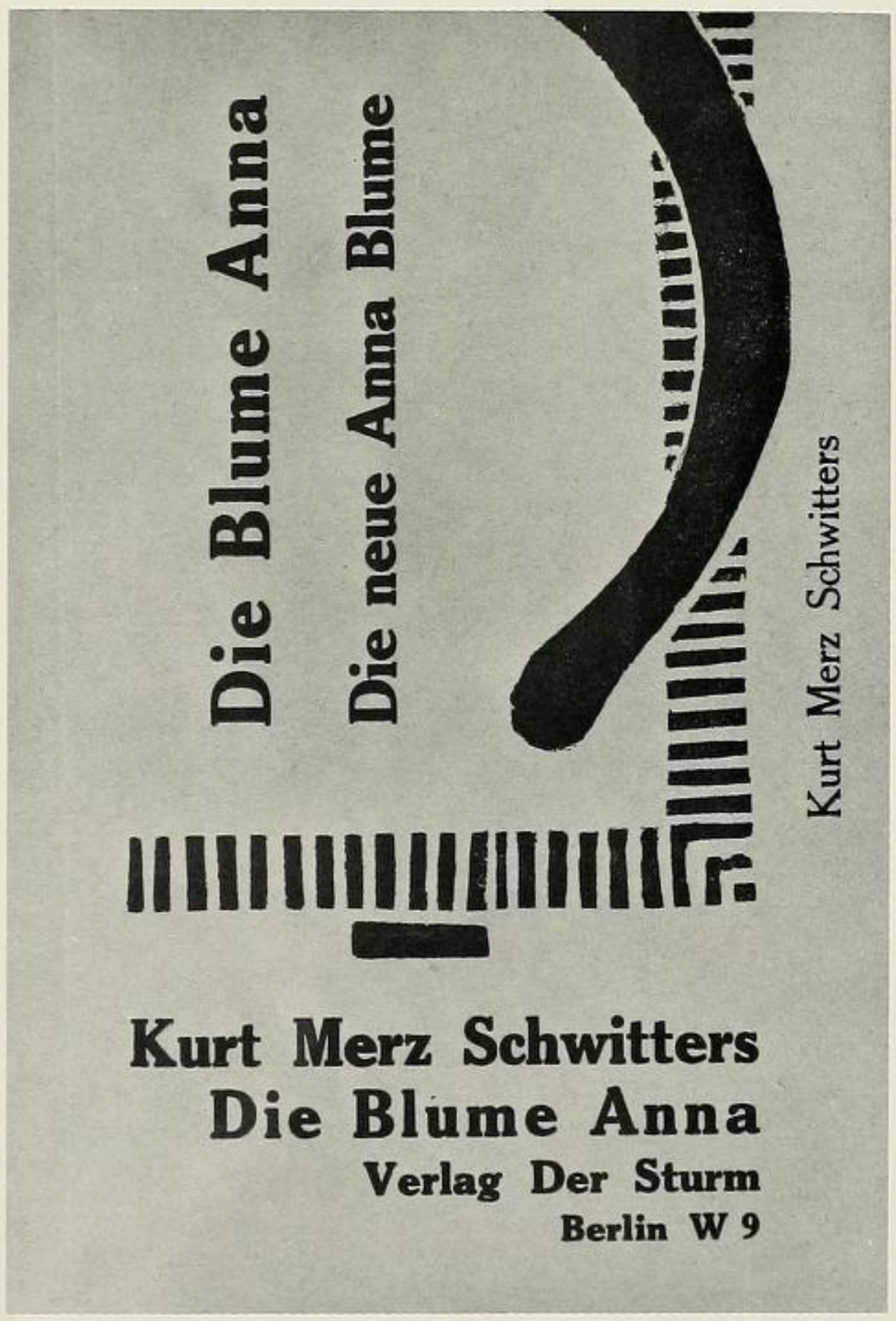
di quei **tam-tuuumb** *spiaccicati ampiezza 50 chilometri quadrati balzare scoppi tagli pugni batterie a tiro rapido Violenza ferocia regolarità questo basso grave scandere gli strani folli agitatissimi acuti della battaglia Furia affanno orecchie occhi narici aperti! attenti! forza! che gioia vedere udire fiutare tutto tutto taratatatata delle mitragliatrici strillare a perdifiato sotto morsi schiaffi trrakk-trrakk frustate pic-pac-pum-tumb bizzarrie salti altezza 200 metri della fucileria Giù giù in fondo all'orchestra stagni dignazzare buoi buffali pungoli carri pluff ploff impennarsi di cavalli flic flac zing zing scraaack ilari nitriti iiiiii... scalpicci tintinnii 3 battaglioni bulgari in marcia croooc-craaac (lento due tempi) Sciumi Maritza o Karvazena croooc-craaac grida degli ufficiali sbattacchiare come piatti d'ottone pan di qua poack di là zing* **buuum** *zing ciak (presto) ciaciascia-ciaciaak su giù là* ***là*** *intorno in alto attenzione sulla testa ciaack bello! Vampe vampe vampe vampe vampe vampe* ***vampe*** *ribalta dei forti laggiù dietro quel fumo Scinkri Pascià comunica telefonicamente con 27 forti in turco in tedesco allô! Ibrahim! Rudolff allô allô! attori ruoli echi suggeritori scenari di fumo foreste applausi odore di fieno fango sterco non sento più i miei piedi gelati odore di salnitro odore di marcio Timpani flauti clarini dovunque basso alto uccelli cinguettare beatitudine ombrie respiro brezza verde mandre Orchestra i pazzi bastonano i professori d'orchestra questi bastonatissimi suonare suonare Grandi fragori non cancellare precisare rifagliandoli rumori più piccoli minutissimi rollii di echi nel teatro ampiezza 300 chilometri quadrati Fiumi Maritza Tunjia sdraiati Monti Rodopi ritti alture palchi loggione 20000 shrapnels sbracciarsi esplodere fazzoletti bianchissimi pieni d'oro* **Tum-tumb** *20000 granate protese strappare con schianti capigliature nerissime* **zang-tumb-zang-tumb-tuuumb** *l'orchestra dei rumori di guerra gonfiarsi sotto una nota di silenzio tenuta nell'alto cielo pallone sferico dorato che sorveglia i tiri •.*

Noi vogliamo intonare e regolare armonicamente e ritmicamente questi svariatissimi rumori. Intonare i rumori non vuol dire togliere ad essi tutti i movimenti e le vibrazioni irregolari di tempo e d'intensità, ma bensì dare un grado o tono alla più forte e predominante di queste vibrazioni. Il rumore infatti si differenzia dal suono solo in quanto le vibrazioni che lo producono sono confuse ed irregolari, sia nel tempo che nella intensità. **Ogni rumore ha un tono, talora anche un accordo che predomina nell'insieme delle sue vibrazioni irregolari.** Ora, da questo caratteristico tono predominante deriva la possibilità pratica di intonarlo, di dare cioè ad un dato rumore non un solo tono, ma una certa varietà di toni, senza perdere la sua caratteristica, voglio dire il timbro che lo distingue. Così alcuni rumori ottenuti con un movimento rotativo possono offrire un'intera scala cromatica ascendente o discendente, se si aumenta o diminuisce la velocità del movimento.

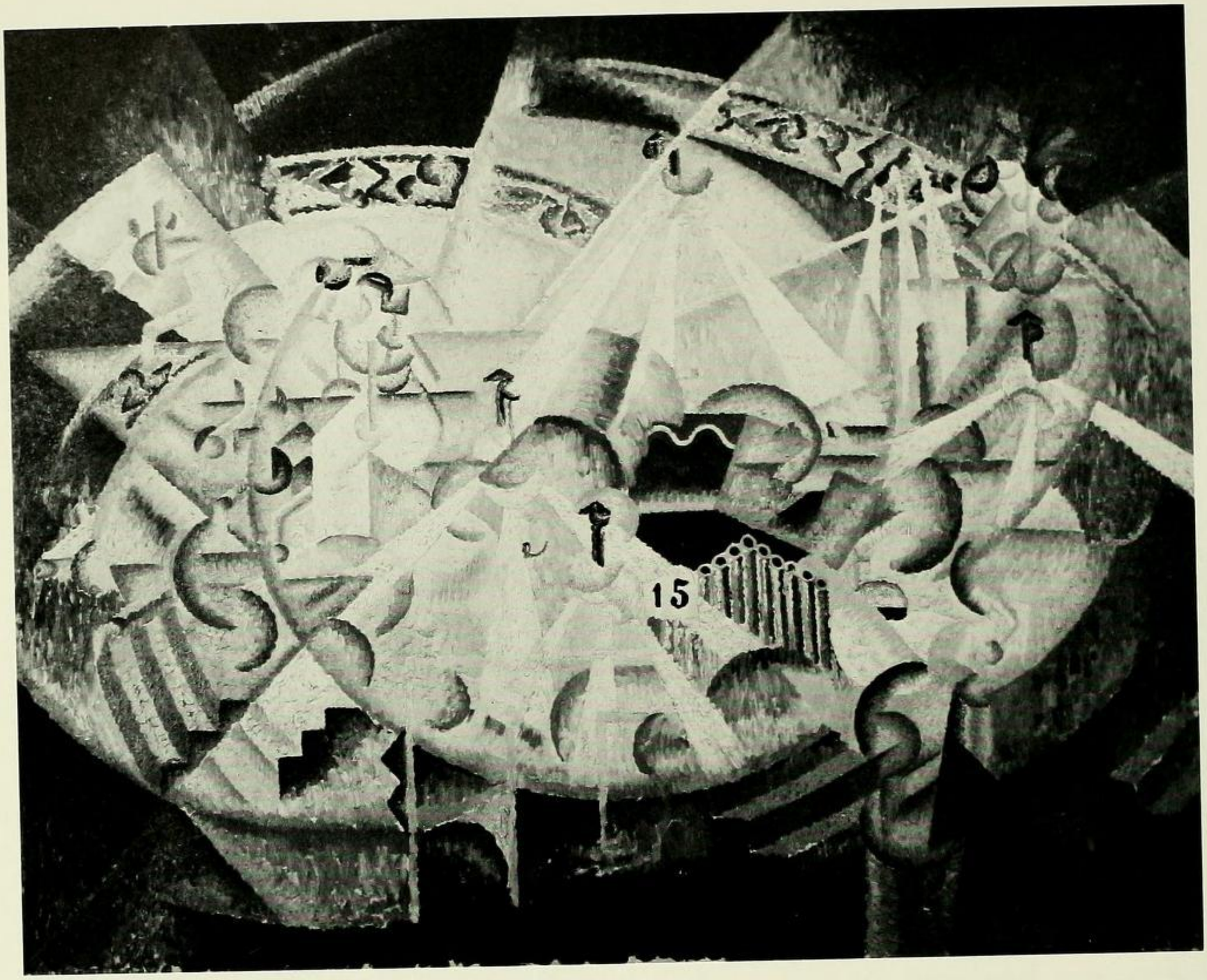
Ogni manifestazione della nostra vita è accompagnata dal rumore. Il rumore è quindi famigliare al nostro orecchio, ed ha il potere di richiamarci immediatamente alla vita stessa. Mentre il suono, estraneo alla vita, sempre musicale, cosa a sé, elemento occasionale non necessario, è divenuto ormai per il nostro orecchio quello che all'occhio è un viso troppo noto, il rumore invece, giungendoci confuso e irregolare dalla confusione irregolare della vita, non si rivela mai interamente a noi e ci serba innumerevoli sorprese. Siamo certi dunque che scegliendo, coordinando e dominando tutti i rumori, noi arricchiremo gli uomini di una nuova voluttà insospettata. Benchè la caratteristica del rumore sia di richiamarci brutalmente alla vita, **l'arte dei rumori non deve limitarsi ad una riproduzione imitativa.** Essa attingerà la sua maggiore facoltà di emozione nel godimento acustico in sè stesso, che l'ispirazione dell'artista saprà trarre dai rumori combinati.

Ecco le 6 *famiglie di rumori* dell'orchestra futurista che attueremo presto, meccanicamente:

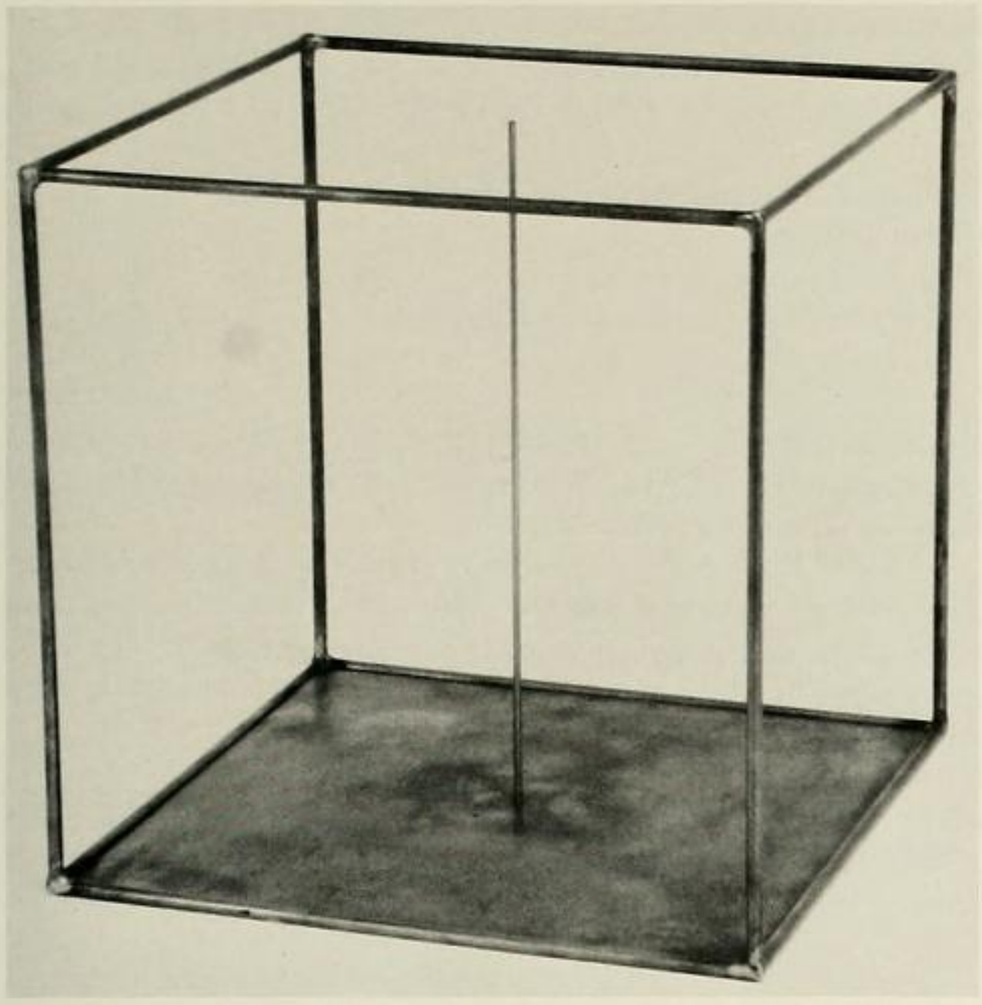
1	2	3	4	5	6
Rombi	Fischi	Bisbigli	Stridori	Rumori otte-	Voci di ani-

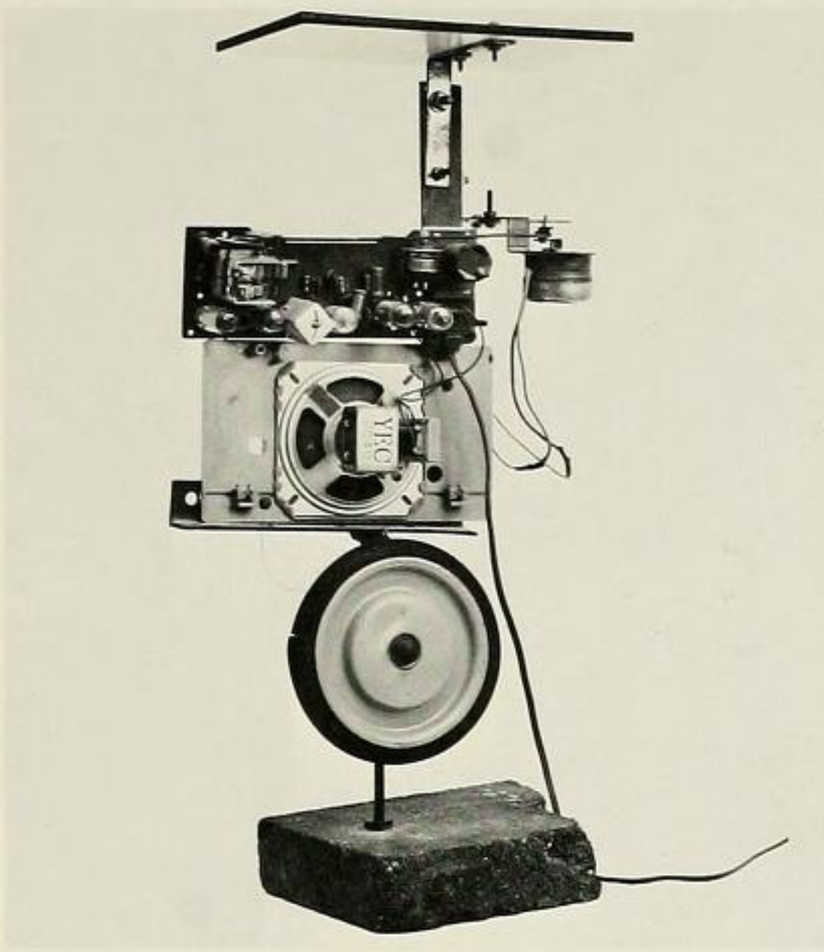


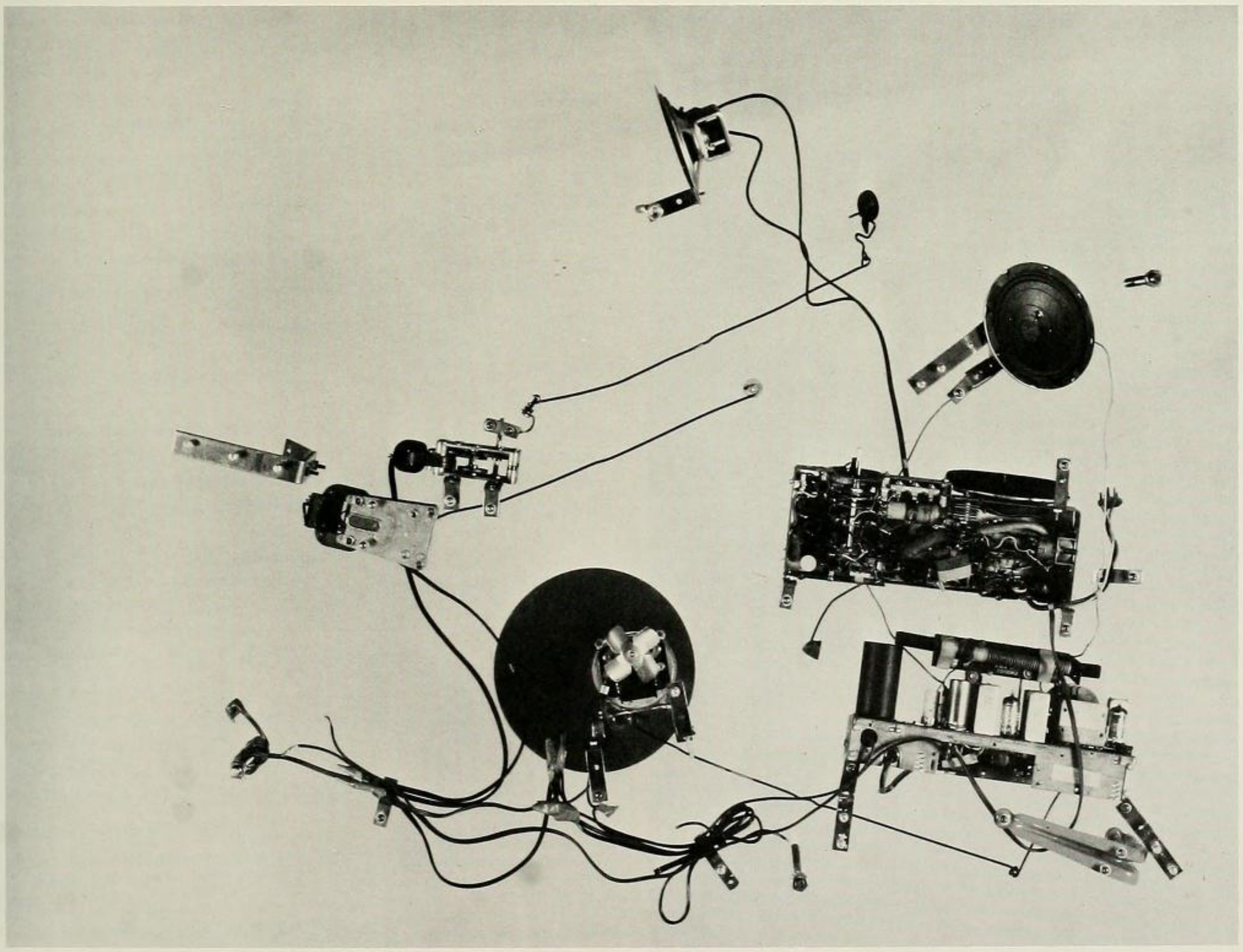
Above: Luigi Russolo *The Art of Noises—Futurist Manifesto* 11 March 1913, photo: Will Brown
Below: Kurt Schwitters *Die Blume Anna: Die neue Anna Blume* 1918–22, photo: Will Brown



Gino Severini *Festival at Montmartre* 1913







Above left: Tal Streeter *The Bride Remembered* 1965, photo: Earl Ripling
Above right: Jean Tinguely *Radio Piece* 1963, photo: Will Brown
Below: Jean Tinguely *Radio Drawing* 1963, photo: Earl Ripling

GINO SEVERINI
Italian, born 1883 Cortona
died 1966 Paris

Festival at Montmartre (Fête à Montmartre) 1913
oil on canvas
35 x 45¾ inches
lent by Richard S. Zeisler Collection

TAL STREETER
American, born 1934 Oklahoma City, Oklahoma
lives in Millbrook, New York

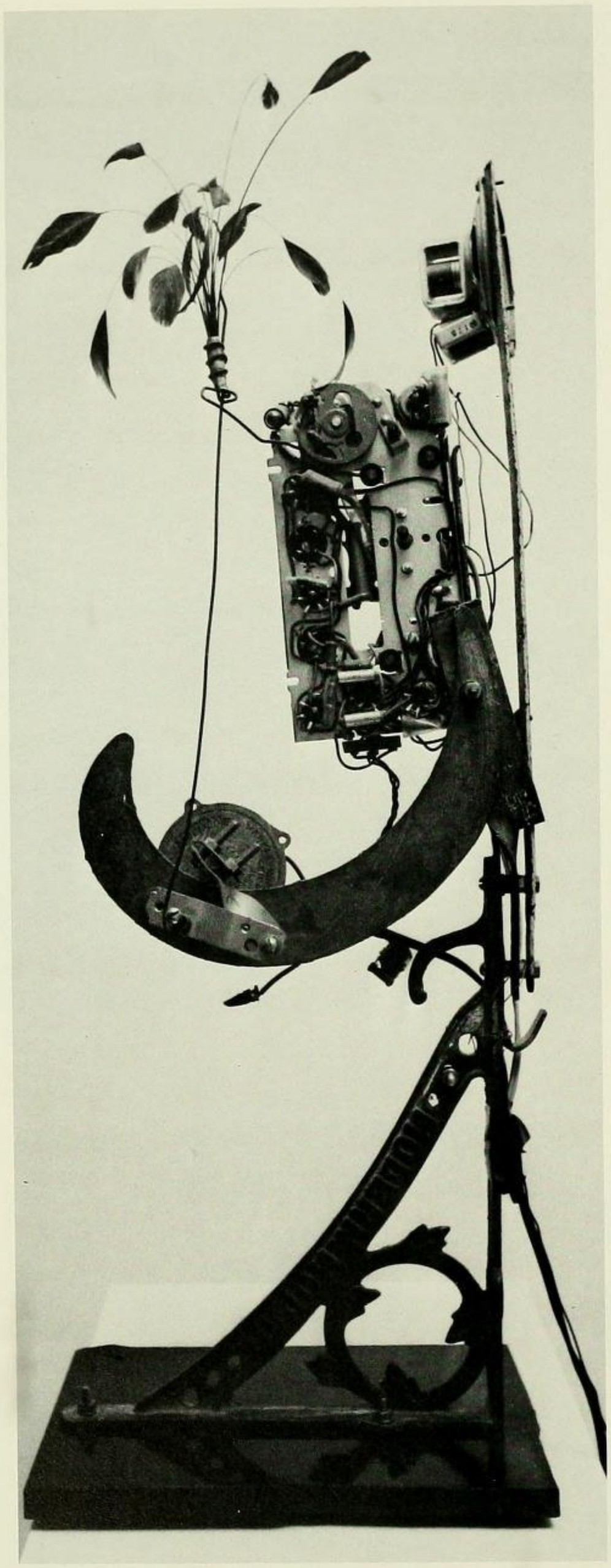
The Bride Remembered 1965
steel, sonic sensing and sound components, and audiotape
steel object: 6 x 6 x 6 inches
sound components: 8 x 17 x 17 inches
1965 composition: Margaret Fairlee and Robert Moog
1981 composition: John Mastracchio
lent by the artist

JEAN TINGUELY
Swiss, born 1925 Fribourg
lives in Neyruz, Switzerland

Radio Drawing 1963
two electric motors, electric wire, plastic flywheel, two radios, and clear sheet-plastic support
36 x 48 x 10½ inches
lent by Museum of Fine Arts, Houston
gift of Alexander Iolas

Radio Piece 1963
electric motor, flywheel, radio parts, speaker, formica, and cinderblock support
23 x 12 x 17½ inches
lent by Billy Klüver

Tokyo Gal 1967
electric motor, electric cord, flywheel, radio parts, and feather
29 x 10½ x 5½ inches
lent by Mr. and Mrs. David W. Bermant



Jean Tinguely *Tokyo Gal* 1967, photo: Earl Ripling

WINDOW GALLERY
INSTRUMENTS AS SCULPTURE
& SCULPTURE AS INSTRUMENTS

YAACOV AGAM
Israeli, born 1928 Rishon Letzion
lives in Paris

Touchable Sounding Picture (Tableau tactile sonore) 1963
painted wood and metal discs on springs
37¾ x 60¼ inches
lent by Mr. and Mrs. Herbert Lust

FRANÇOIS BASCHET
French, born 1920 Paris
lives in Paris

Sounding Structure (Structure sonore) 1969
stainless steel
15½ x 11 x 10 inches
collection of Neuberger Museum
State University of New York at Purchase
gift of Mr. and Mrs. George Rickey

Rickeyphone (Structure sonore) 1973
stainless steel and glass
20 x 18¼ x 12 inches
collection of Neuberger Museum
State University of New York at Purchase
gift of Mr. and Mrs. George Rickey

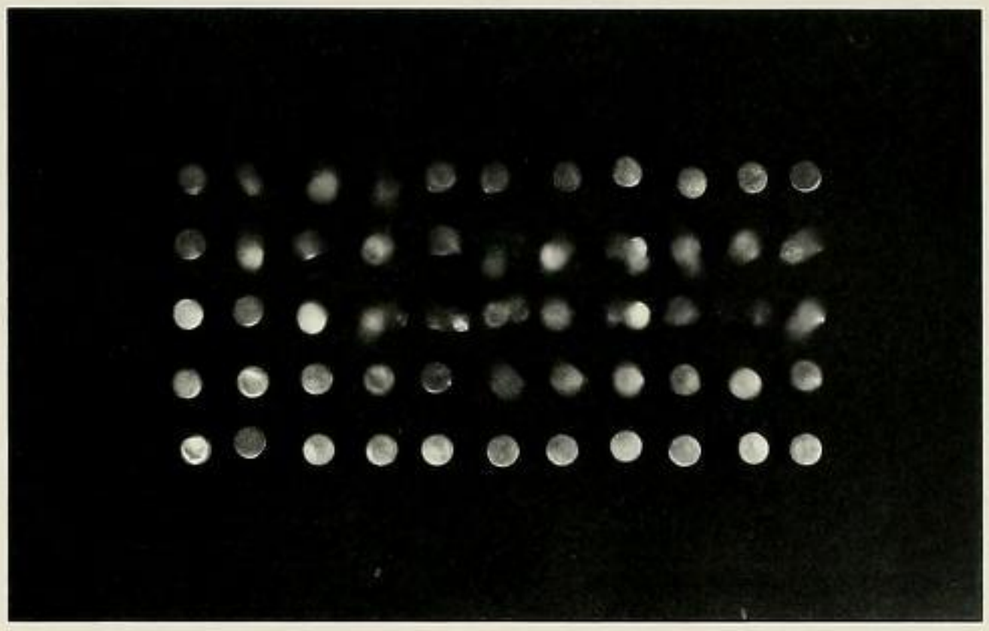
Glass Horn 1978
stainless steel, glass, marble, and water
88 x 42 x 28 inches
lent by Staempfli Gallery

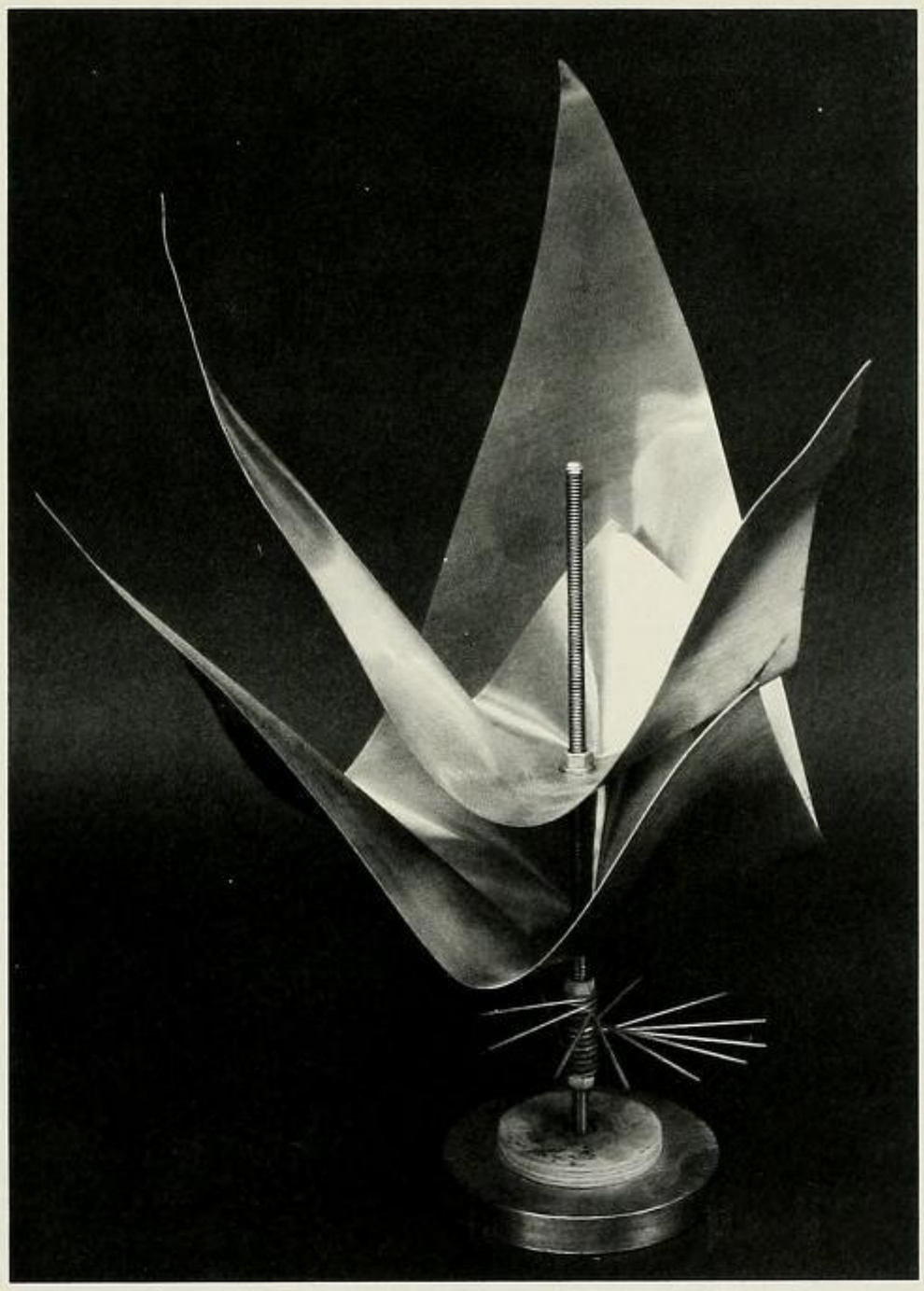
HARRY BERTOIA
American, born 1915 San Lorenzo, Italy
died 1978 Bally, Pennsylvania

Wind Chimes from the *Cathedral Series* 1967
thirty-two vertical elements of beryllium copper mounted
on a base of naval brass
57 x 10 x 10 inches
lent by Mr. and Mrs. David W. Bermant

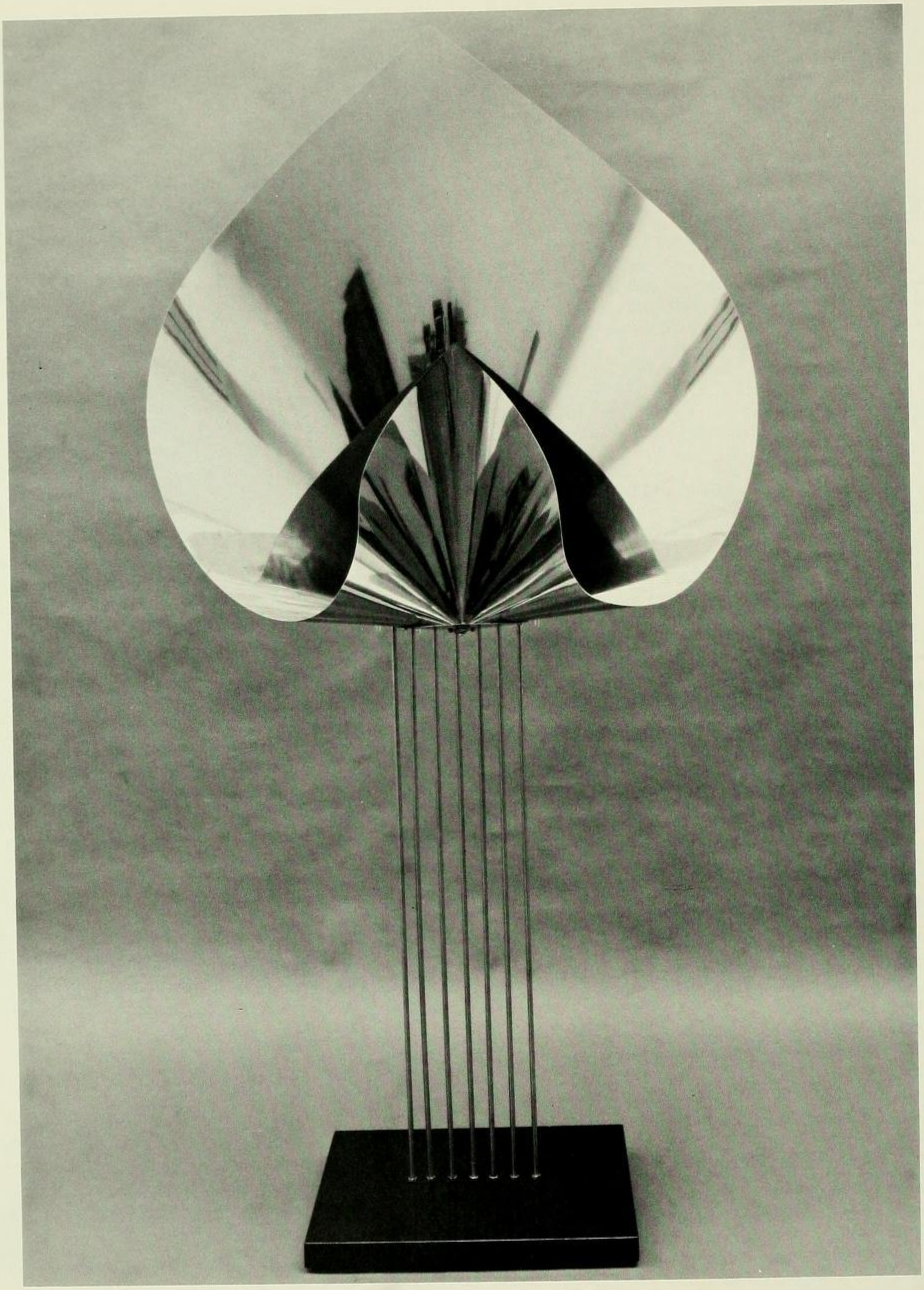
Soundings 1978
twenty-one vertical elements of beryllium copper
mounted on a base of naval brass
96 x 16 x 16 inches
lent by Benjamin Mangel Gallery

Sounding Sculpture 1978
forty-nine vertical elements of beryllium copper mounted
on a marble base
39½ x 12 x 12 inches
number 7 of an edition of 50
lent by Staempfli Gallery





Above: Yaacov Agam *Touchable Sounding Picture* 1963, photo: Earl Ripling
Below: François Baschet *Sounding Structure* 1969, photo: Earl Ripling



François Baschet *Glass Horn* 1978, photo: Earl Ripling

EARLE BROWN
American, born 1926 Lunenburg, Massachusetts
lives outside New York

Calder Piece 1978
duplicate score of 1966 original for four percussionists and mobile by Alexander Calder
first performed in 1967 by Diego Masson's orchestra at the Théâtre de l'Atelier, Paris
pencil on paper
9 pages, each 14 x 25 inches
lent by the artist

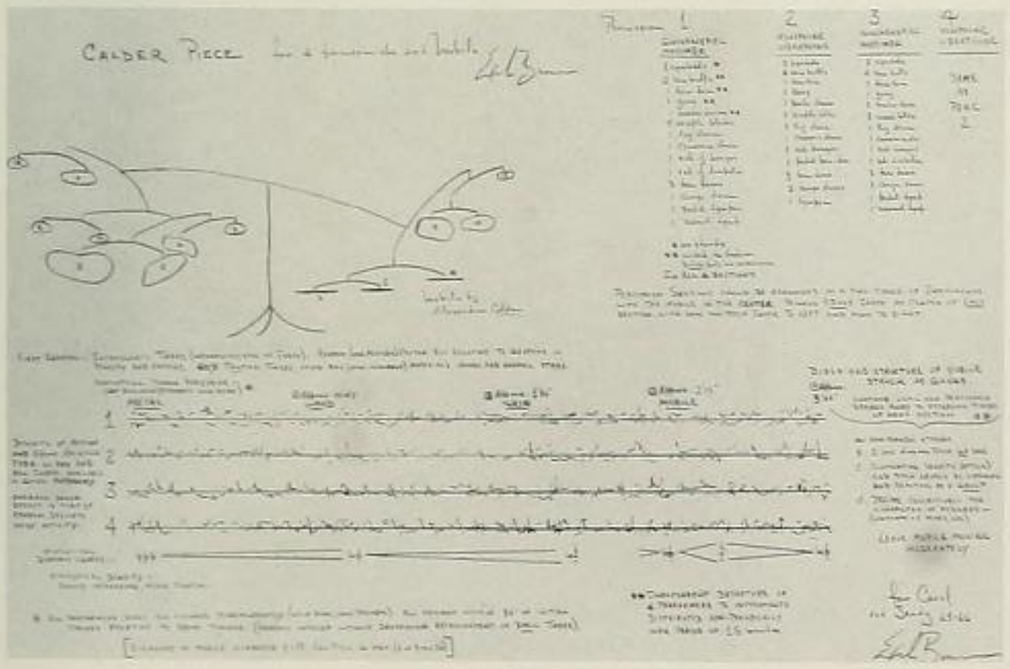
Calder Piece 1978
audiotape of first United States performance, Cal Arts Contemporary Music Festival, 9 March 1980
presented by California Institute of the Arts, Valencia, University of Nevada, Las Vegas
John Bergamo, Robert Fernandez, M. B. Gordy, Arthur Jarvinen, percussionists
lent by School of Music
California Institute of the Arts

ALEXANDER CALDER
American, born 1898 Lawnton, Pennsylvania
died 1976 New York

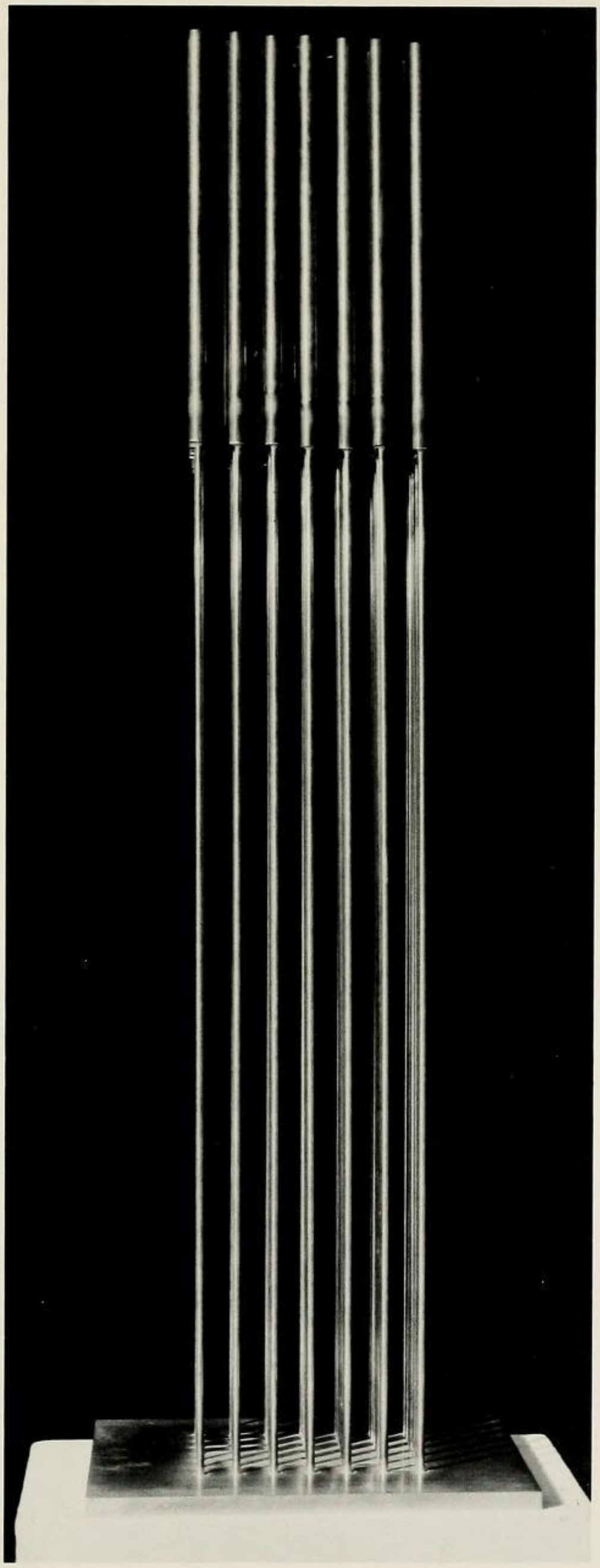
Chef d'orchestre 1966
sheet metal, metal rod, and paint
created for the composer Earle Brown
84 x 147 inches
lent by Earle Brown

HOWARD JONES
American, born 1922 Ilion, New York
lives in St. Louis, Missouri

Sonic VII 1967–68
aluminium and electronic sound devices
48 x 48 x 3½ inches
lent by Princeton University, The Art Museum
gift of the Forbes Magazine Collection



Earle Brown *Calder Piece,* first page of score, 1978, photo: Will Brown



Harry Bertoia *Sounding Sculpture* 1978

REINHOLD PEIPER MARXHAUSEN
American, born 1922 Vergas, Minnesota
lives in Seward, Nebraska

Hearing Aid I 1980
welded stainless steel with nails and wooden handle
7½ x 4½ x 5½ inches
lent by the artist

Hearing Aid II 1981
brass doorknob with nails
2½ x 2½ x 2½ inches
lent by the artist

Hearing Aid III 1981
welded stainless steel with nails and wooden handle
6 x 2 x 2 inches
lent by the artist

Hearing Aid IV 1981
welded stainless steel disc with wires
6 x 6 x 2 inches
lent by the artist

Hearing Aid V 1981
welded stainless steel
6 x 4 x 4 inches
lent by the artist

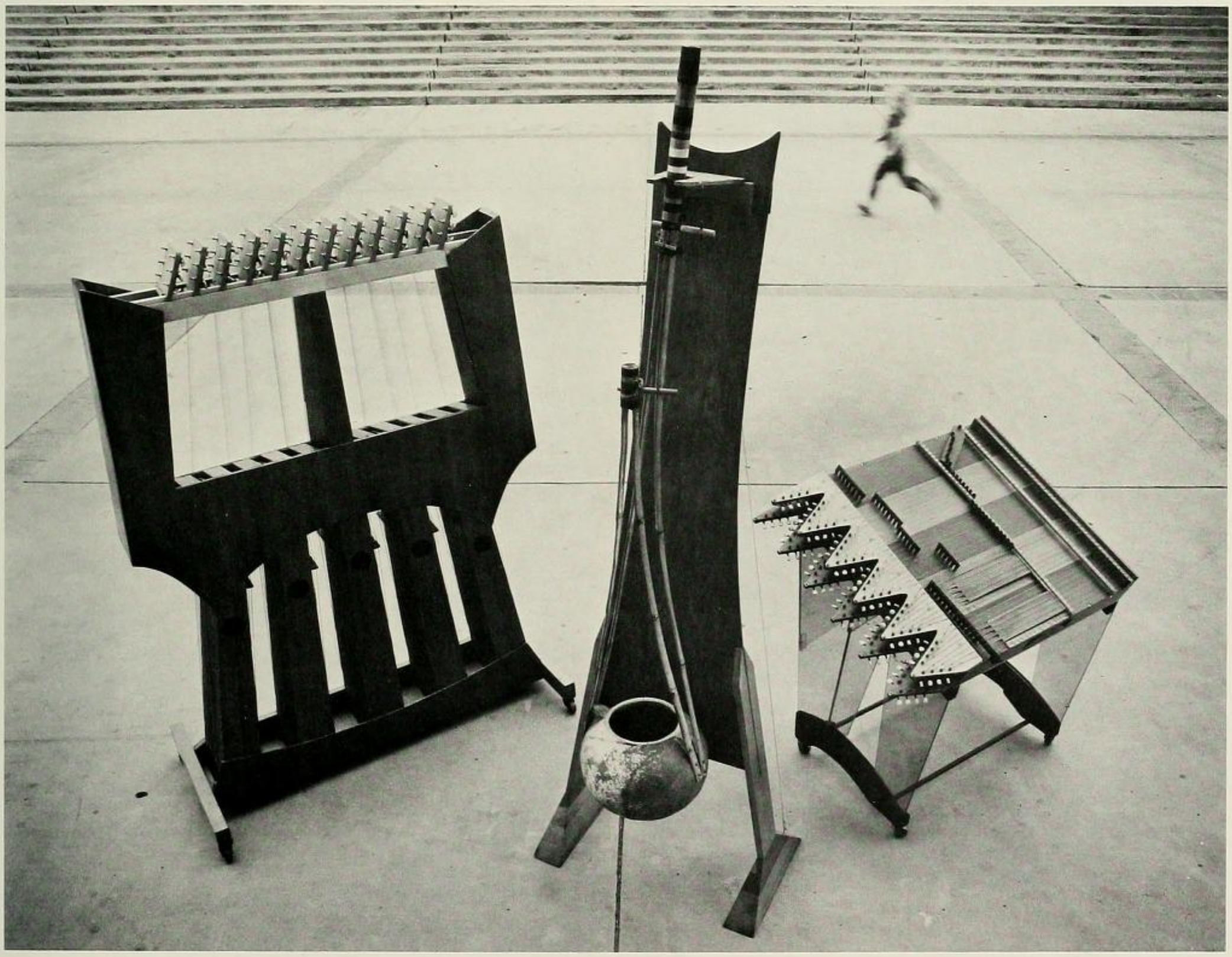
Hearing Aid VI 1981
welded stainless steel disc
6 x 6 x 2 inches
lent by the artist

Hearing Aid VII 1981
stainless steel with wires
1 x 1 x 15½ inches
lent by the artist

NAM JUNE PAIK
Korean, born 1933 Seoul
lives in New York and Dusseldorf

Participation TV 1969
color-television set, two microphones, and amplifiers
22⅞ x 30⅞ x 27 inches
lent by the artist

Reinhold Peiper Marxhausen *Hearing Aid VI* 1981, *Hearing Aid I* 1980, *Hearing Aid VII* 1981, *Hearing Aid II* 1981, *Hearing Aid III* 1981, *Hearing Aid V* 1981, photo: Earl Ripling



Above: Nam June Paik *Participation TV* 1969, photo: Earl Ripling
Below: Harry Partch (left to right) *Kithara I* 1938 rebuilt 1959; *Ektara* 1966–67; *Harmonic Cannon I* 1945 reconceived and rebuilt 1959, photo: Friend & Denny

HARRY PARTCH
American, born 1901 Oakland, California
died 1974 Petaluma, California

Kithara I 1938, rebuilt 1941, 1943, 1945, 1959
redwood with mandolin parts
72 x 42 x 12 inches
lent by The Harry Partch Foundation

Harmonic Cannon I 1945, reconceived and rebuilt 1959
redwood with guitar parts
36 x 36 x 36 inches
lent by The Harry Partch Foundation

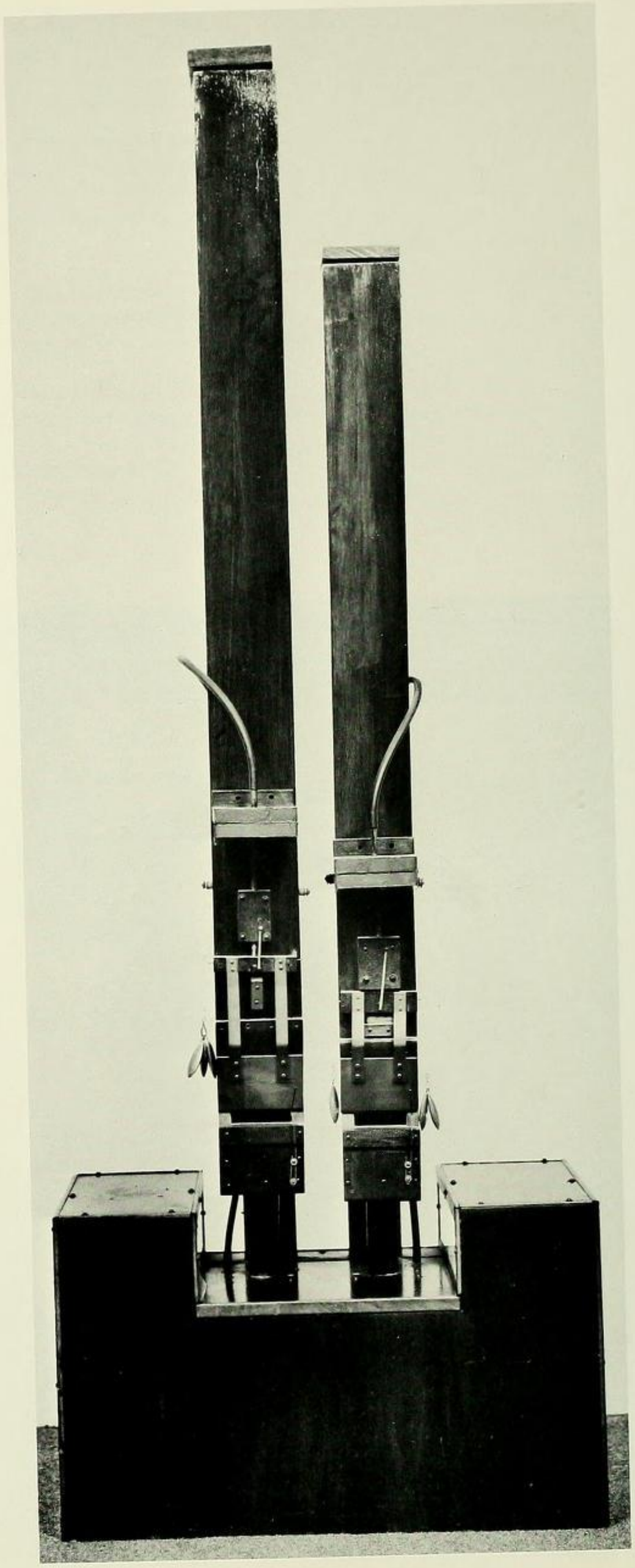
Ektara 1966–67
bamboo and gourd
84 x 30 x 34 inches
lent by The Harry Partch Foundation

NICHOLAS SCHÖFFER
Hungarian, born 1912 Kalocsa
lives in Paris

Micro temps 12 1962–67
motorized aluminum discs, lights, and wood
24½ x 35 x 23½ inches
lent by Mr. and Mrs. David W. Bermant

STEPHAN VON HUENE
American, born 1932 Los Angeles
lives in Hamburg

Totem Tone III 1970
hardwood, stain, leather, and pneumatic system
91 x 33 x 20 inches
lent by Sam Francis



Stephan von Huene *Totem Tone III* 1970, photo: Susan Einstein

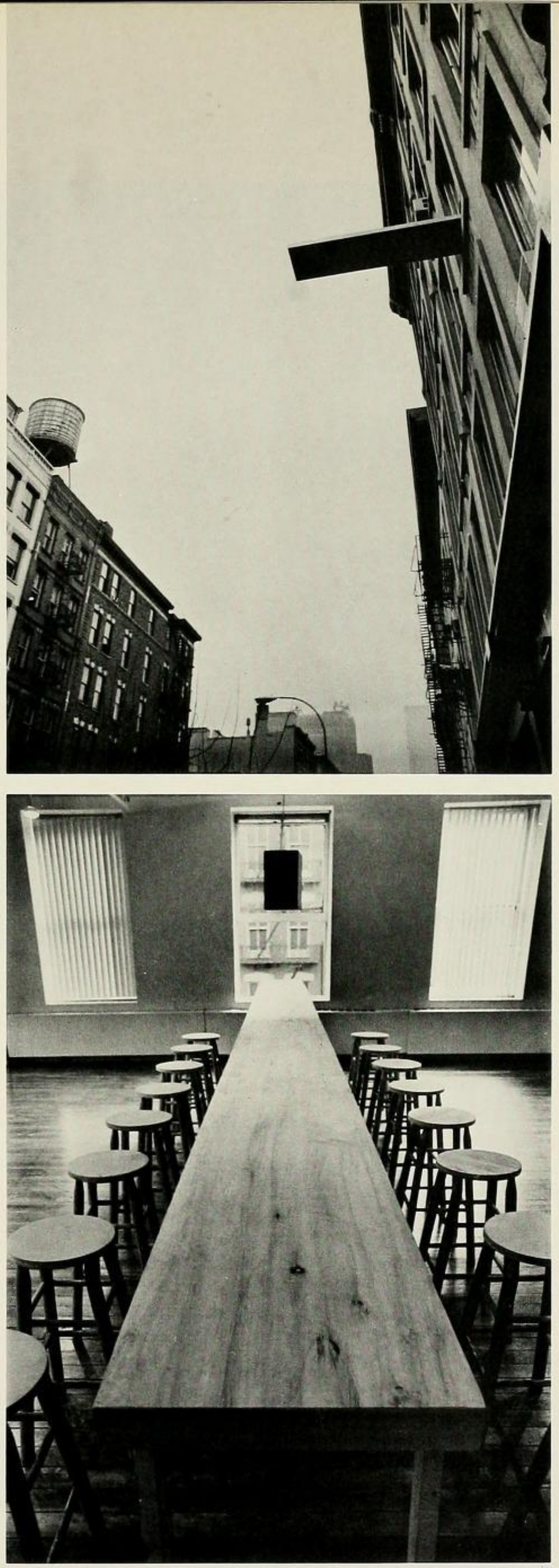
SOUTH GALLERY
SOUND INSTALLATIONS
DOCUMENTATION OF SOUND PROJECTS

VITO ACCONCI
American, born 1940 The Bronx, New York
lives in New York

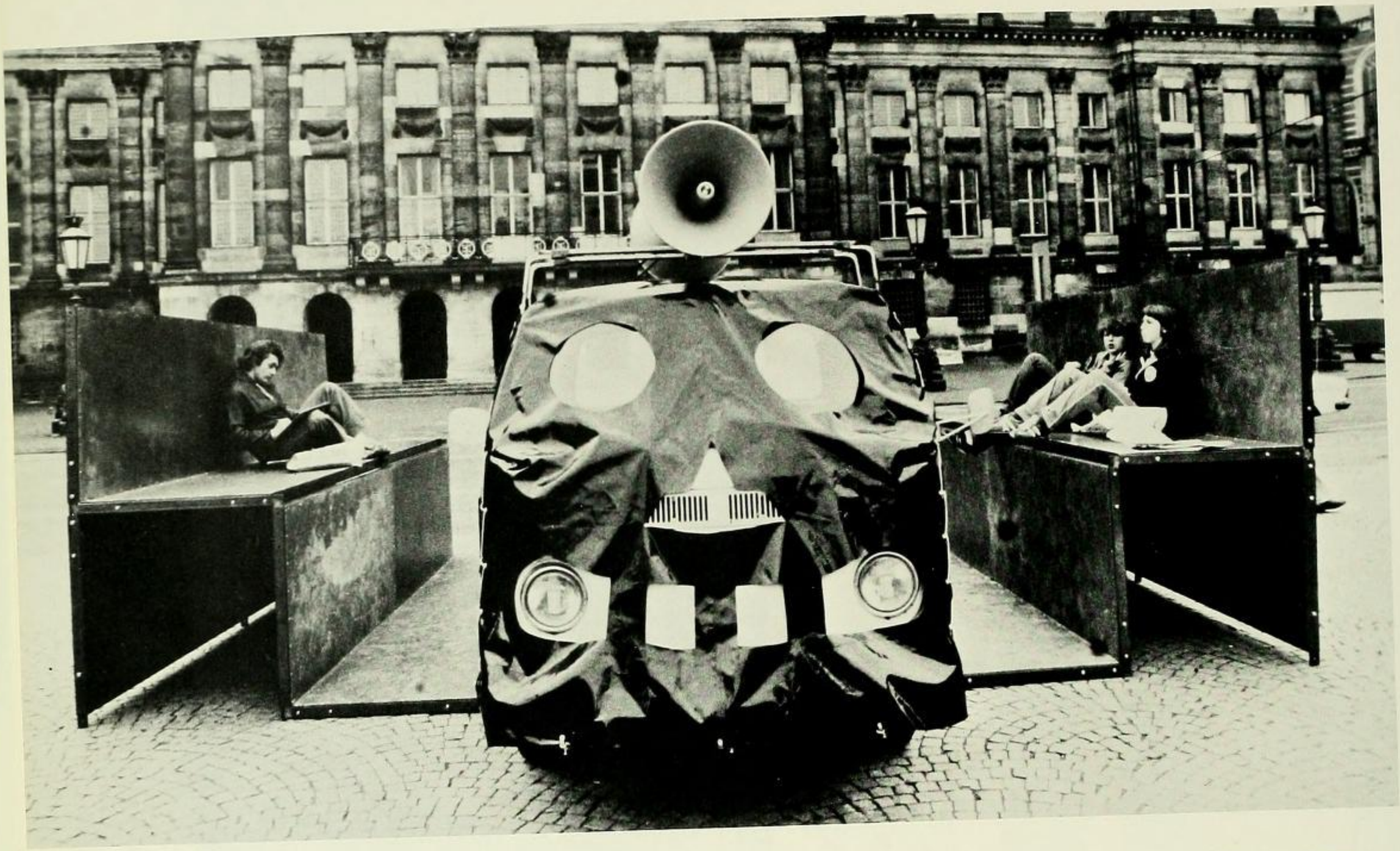
Where Are We Now (Who Are We Anyway?) 1976
documentation of 1976 installation at
Sonnabend Gallery, New York
four photographs, each 16 x 20 inches, audiotape
transcript, and audiotape
lent by Max Protetch Gallery

Other Voices for a Second Sight 1974
documentation of 1974 installation at
The Museum of Modern Art, New York
three photographs, each 16 x 20 inches, audiotape
transcript, and audiotape
lent by Max Protetch Gallery

The People Mobile 1979
documentation of 1979 mobile project in
Amsterdam, Middleburg, Rotterdam, Eindhoven, and
Groningen, The Netherlands
three photographs, each 16 x 20 inches, two audiotape
transcripts, and audiotape
lent by Max Protetch Gallery



Vito Acconci *Where Are We Now (Who Are We Anyway?)* 1976



LAURIE ANDERSON
American, born 1947 Chicago
lives in New York

Untitled 1977
reconstruction of 1977 installation at
Holly Solomon Gallery, New York
ten works on paper, ten records, and a jukebox
size variable: 12 x 16 x 14 feet, overall
reconstruction by permission of the artist
records, corresponding to works on paper: lent by the artist
works on paper: lent by Holly and Horace Solomon,
except where noted otherwise
jukebox: lent by Aero-Vend, Inc.
the ten works on paper include:

Art and Illusion 1977
photograph with text written in pencil on paper
30 x 22½ inches
lent by Lunn Gallery

Black Holes 1977
photograph with text written in pencil on paper
30 x 22½ inches
lent anonymously

Is Anybody Home? 1977
photograph with text written in pencil on paper
30 x 22½ inches

It's Not the Bullet: A Reggae Tune for Chris Burden 1977
photograph of a photo-collage with text written in pencil
on paper
30 x 22½ inches

From "Photography and Good Design" 1977
photograph with text written in pencil on paper
30 x 22½ inches

Speak Softly: A Film in 24/24 Time 1977
photograph of photo-collage with text written in pencil
on paper
30 x 22½ inches

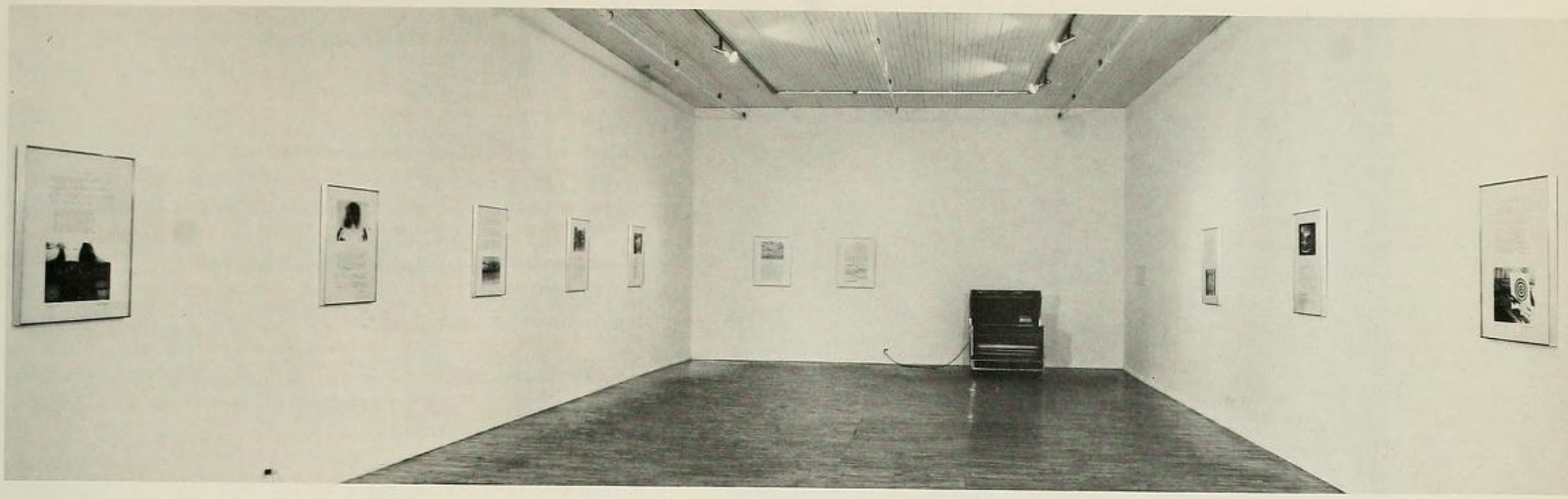
Stereo Song for Steven Weed 1977
photograph with text written in pencil on paper
30 x 22½ inches

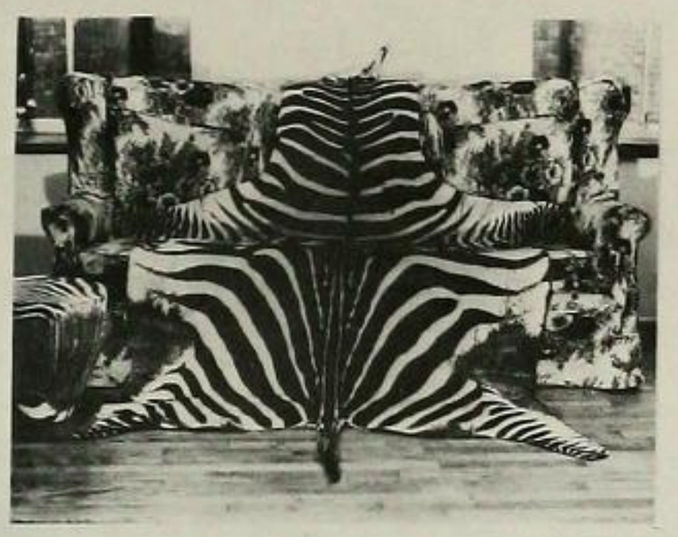
Time to Go: A Film Song in 24/24 Time 1977
photograph of photo-collage with text written in pencil
on paper
30 x 22½ inches
lent anonymously

Trophies 1977
photograph with text written in pencil on paper
30 x 22½ inches

Video Double Rock 1977
photograph with text written in pencil on paper
30 x 22½ inches

Vito Acconci *The People Mobile* 1979





TROPHIES

ONCE I NEEDED SOME FURNITURE FOR MY NEW PLACE AND MY MOTHER SUGGESTED I READ A FEW THINGS. A WEEK LATER I PICKED UP EIGHT LARGE PACKAGES AT THE GREYHOUND TERMINAL. INSIDE WERE FOUR LARGE AND TWO SMALL ZEBRA SKIN BONGO DRUMS, TWO ZEBRA SKIN STOOLS, A ZEBRA SKIN PURSE, A ZEBRA SKIN HEADBAND, AND A ZEBRA SKIN. I DISTRIBUTED THEM AROUND THE LOFT BUT WITH ALL THOSE BLACK AND WHITE STRIPES I BEGAN TO FEEL LIKE A PRISONER IN MY OWN PLACE.

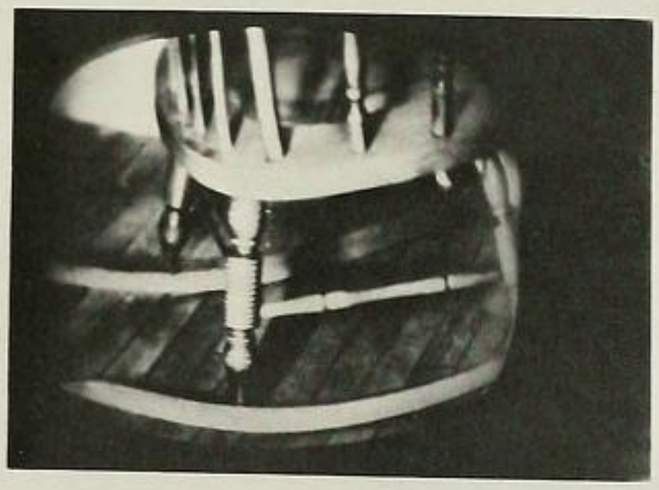
FINALLY I BEGAN TO UNDERSTAND HER FASCINATION WITH ZEBRAS. SHE RAISES HORSES AND DALMATIONS AND I GUESS THE ZEBRA IS A KIND OF COMPROMISE. I NEVER REALIZED THE EXTENT OF HER FEELING FOR THESE ANIMALS UNTIL ONE DAY IN NOVEMBER.

SHE AND MY FATHER AND I WERE RIDING ACROSS THE CORNFIELDS. SUDDENLY MY FATHER'S MARE BEGAN TO COUGH, HER EYES FILLED WITH BLOOD, HER KNEES CRUMPLED AND SHE ROLLED OVER AND DIED. MY FATHER'S EYES WERE WIDE, INTENT, AS IF HE WERE ABOUT TO TAKE A HEDGE. HE PRIED HIS LEG OUT FROM UNDER THE MARE. ONE OF HIS BOOTS HAD COME OFF AND I REMEMBER THE WAY IT LOOKED- A SHINY BROWN TUBE WITH STEAM POURING OUT. AS HE BALANCED HIMSELF ON ONE FOOT, OCCASIONALLY TOUCHING HIS STOCKINGED FOOT LIGHTLY ON THE FROZEN GROUND FOR BALANCE, MY MOTHER SAID "...HEMORRHAGE... THE COLON..." AND "... IF YOU WERE REALLY A SPORT YOU'D GO HOME AND GET ANOTHER MOUNT."

LATER THAT NIGHT SHE AND I DROVE BACK TO FIND THE MARE. FINALLY WE FOUND HER IN A SNOW DRIFT, BLOATED ALMOST BEYOND RECOGNITION. SHE LOOKED LIKE A BEACHED WHALE WASHED UP ON A BRIGHT WHITE BEACH. MY MOTHER TOOK OUT SOME SCISSORS, BENT OVER THE MARE, AND CUT OFF HER TAIL. "FOR A FLY WHISK," SHE SAID. THE SNOW WAS SO THICK ON ALL THE TREES NEARBY THAT THE BRANCHES WERE CREAKING.

January '77

Laurie Anderson

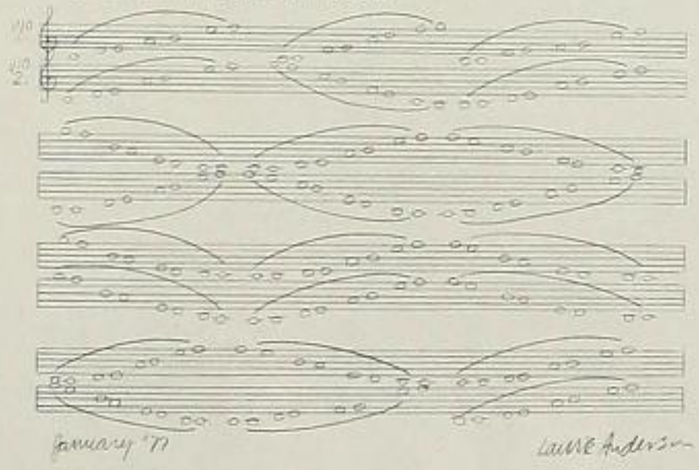


VIDEO DOUBLE ROCK

I USUALLY WATCH TV IN A ROCKING CHAIR, AND I'VE NOTICED THAT AS THE CHAIR MOVES BACK AND FORTH, THE IMAGE BENDS AT THE EDGES, DISAPPEARING AROUND THE CURVED TOP AND BOTTOM OF THE SCREEN.

I FOUND THAT A GOOD SOLUTION IS TO PUT THE TV SET IN ANOTHER ROCKING CHAIR AND, IF YOU CAN GET THEM ROCKING IN SYNC, THE IMAGE STABILIZES.

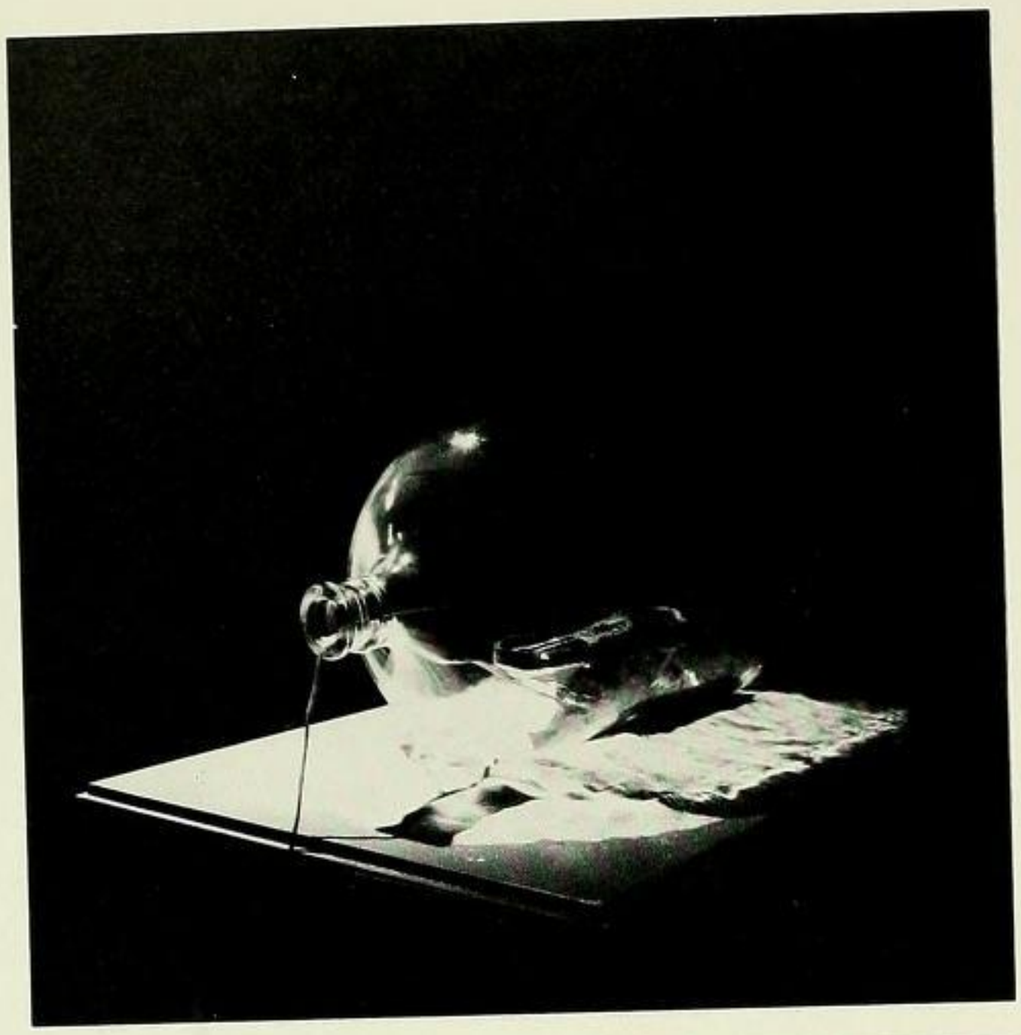
VIDEO DOUBLE ROCK IS SCORED FOR TWO VIOLINS WHICH GO IN AND OUT OF PHASE. CURVES COMPENSATE FOR CURVES.

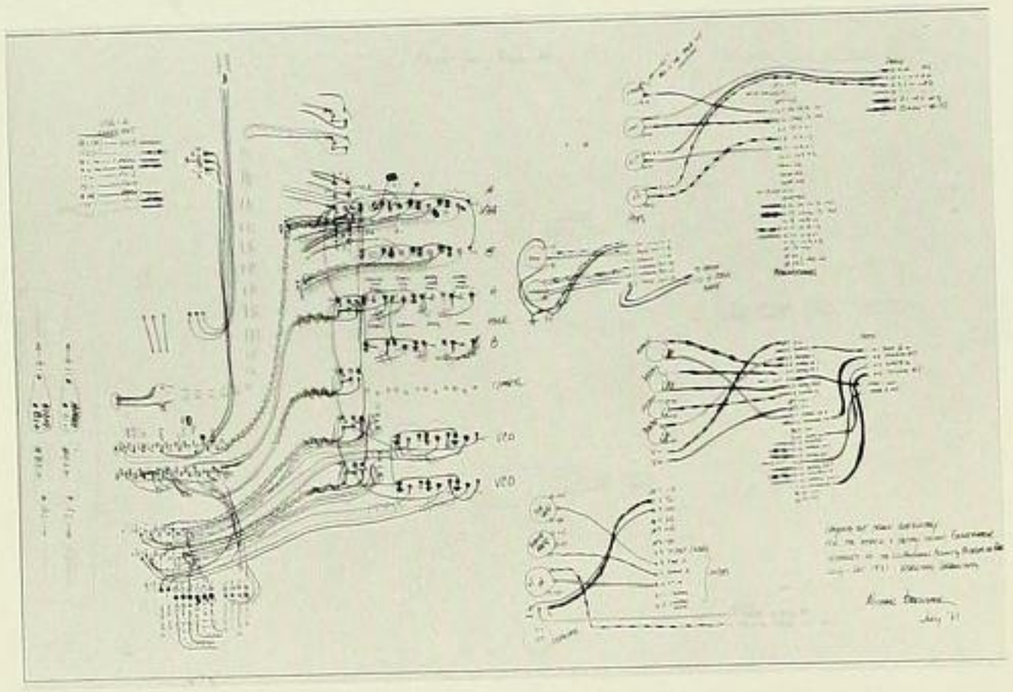


January '77

Laurie Anderson

Above: Laurie Anderson *Untitled* 1977, installation: Holly Solomon Gallery, photo: Harry Shunk
Below left: Laurie Anderson *Trophies* 1977, photo: Harry Shunk
Below right: Laurie Anderson *Video Double Rock* 1977, photo: Harry Shunk





CONNIE BECKLEY
American, born 1951 Reading, Pennsylvania
lives in New York

The Note 1979
installation with glass bottle, speaker, spotlight, stereo cassette player, two-channel sound track of female voice reading love letter, and various recordings of "Ebb Tide"
14 x 10 x 14 feet, overall
reconstruction by permission of the artist
lent by the artist

MICHAEL BREWSTER
American, born 1946 Eugene, Oregon
lives in Venice, California

Working Drawing for Laying-Out Circuitry 1981
graphite, ink, and colored pencil on drafting vellum with mylar overlay
24 x 36 inches
lent by Cirrus Gallery

LEIF BRUSH
American, born 1932 Bridgeport, Illinois
lives in Duluth, Minnesota

Ground Swell Laser: Edge Playing from the series *Teleconstruct's Sources/200 Natural Phenomena*/SPACE WORKS FOR SATELLITE 1976
documentation of a permanent installation in Duluth, Minnesota
haloid print
28¼ x 39½ inches
lent by the artist

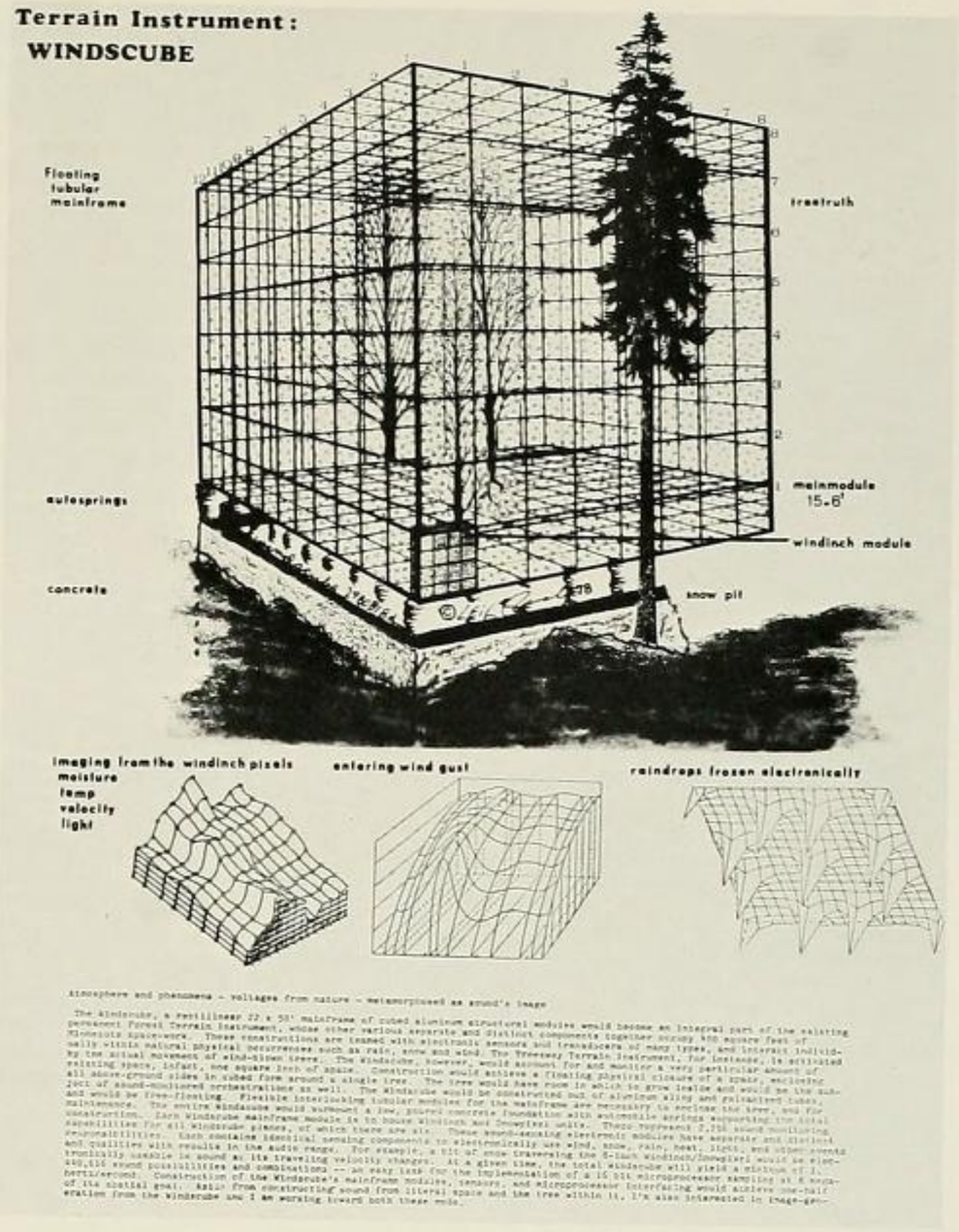
Treeharps Networking from the series *Teleconstruct's Sources/200 Natural Phenomena*/SPACE WORKS FOR SATELLITE 1977
documentation of a permanent installation in Duluth, Minnesota
haloid print
37½ x 24¾ inches
lent by the artist

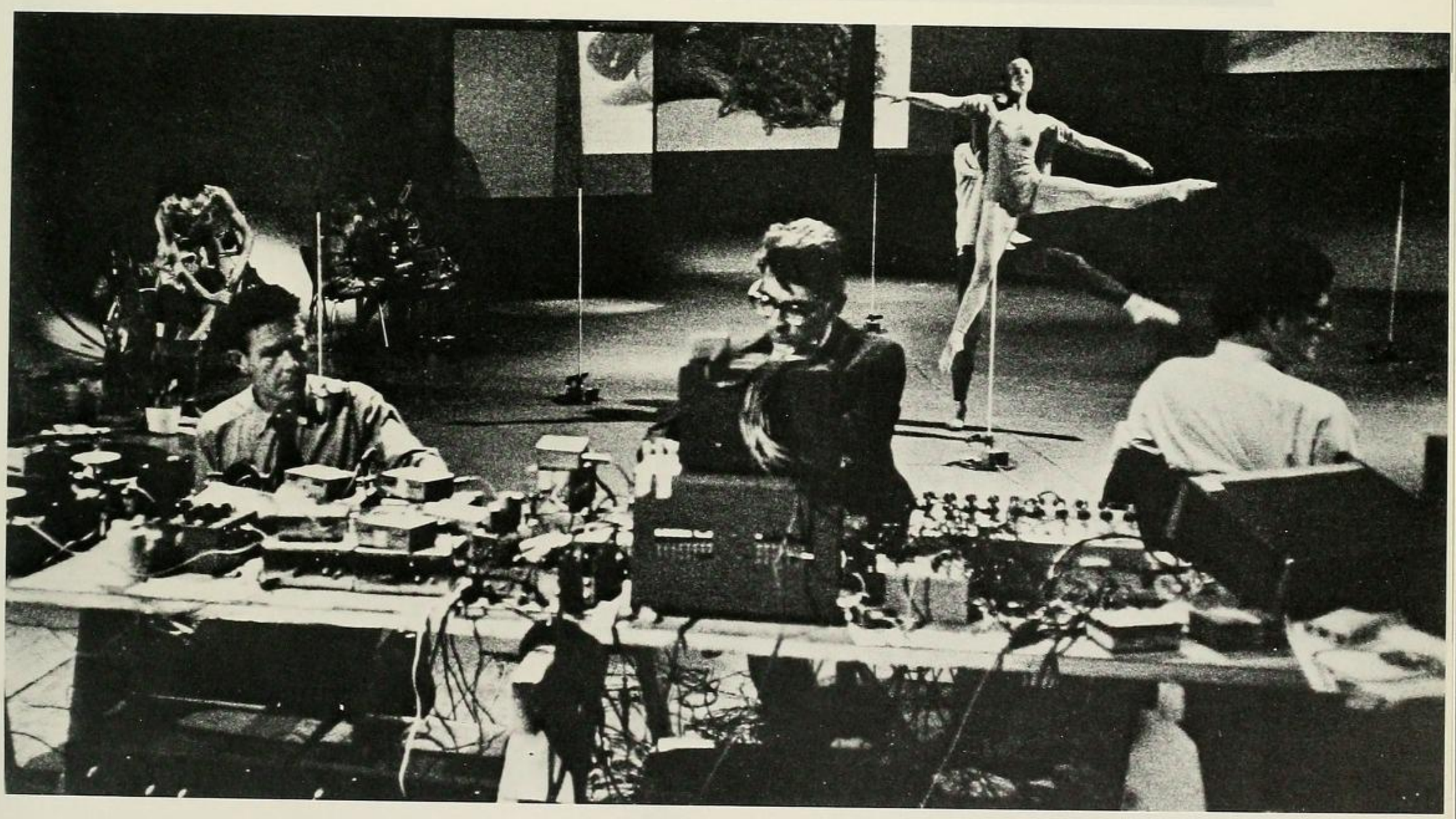
Windscube from the series *Teleconstruct's Sources/200 Natural Phenomena*/SPACE WORKS FOR SATELLITE 1978
documentation of a permanent installation in Duluth, Minnesota
haloid print
60 x 39½ inches
lent by the artist

Above: Connie Beckley *The Note* 1979
Below: Michael Brewster *Working Drawing for Laying-Out Circuitry* 1981, photo: Will Brown

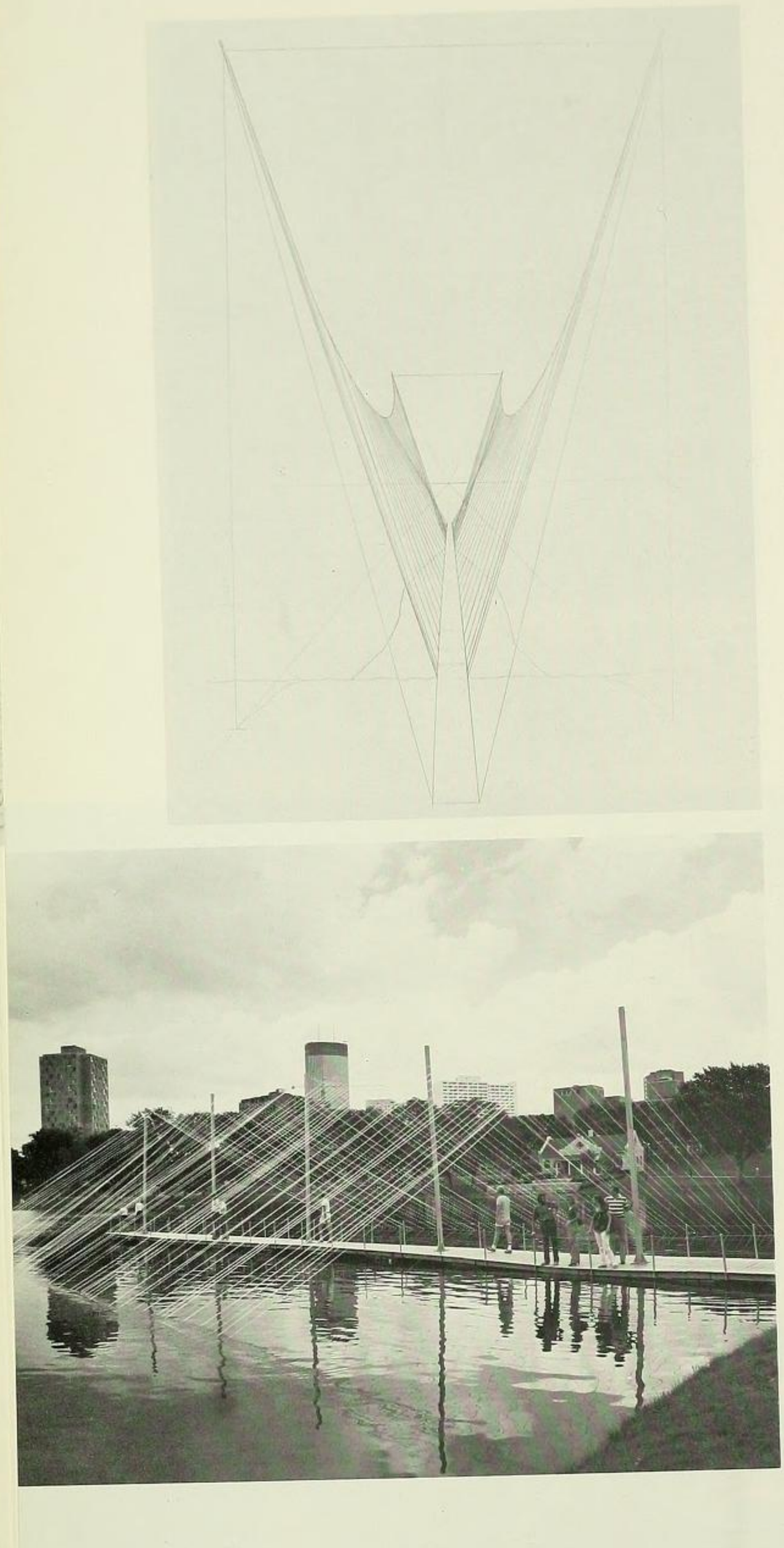
JOHN CAGE
American, born 1912 Los Angeles
lives in New York

33⅓ 1969
a participatory event first presented in 1969 at
Mewantemooseicday, University of California at Davis,
with twelve turntables, twelve stereo-amplifiers, twelve
pair of speakers, and 300 randomly choosen records
which Cage purchased in Sacramento
installation with eight turntables, eight stereo-amplifiers,
eight pair of speakers, and a variable number of records
size variable, 28 x 30 x 14 feet, overall
reconstruction by permission of the artist
courtesy of Performing Artservices, Inc.





Above: Leif Brush *Windscube* from the series *Teleconstruct's Sources/200 Natural Phenomena/SPACE WORKS FOR SATELLITE* 1978
Below: John Cage *Variations V* 1966, choreography: Merce Cunningham; music: John Cage; film sequences: Stan van der Beek;
foreground (left to right): John Cage, David Tudor, Gordon Mumma; background (left to right): Carolyn Brown, Merce Cunningham,
Barbara Dilley, photo: Hervé Gloaguen, courtesy Cunningham Dance Foundation



DOUGLAS HOLLIS
American, born 1948 Ann Arbor, Michigan
lives in Berkeley, California

drawing for *Singing Bridge* 1981
blueprint
37½ x 24 inches
lent by the artist

Wind Ensemble 1981
wire, rope, tennis-racket line and metal tubing
variable dimensions
outdoor installation by the artist
State University of New York at Purchase

HAROLD LEHR
American, born 1945 Brookline, Massachusetts
lives in New York

Ramapo Mountain Series Summer 1974
documentation of an exploration of the visual and acoustical character of a specific geographic setting through its wildflowers, using a camera and a bio-electric probe adapted to an audio-recording device
four sets of documentation of fifteen-minute studies
lent by the artist

Mullein 3:15 PM, 28 August 1974
photo montage, 12⅝ x 18⅜ inches
graph, 5¾ x 15½ inches
cassette tape in aluminum and stainless steel case, 5½ x 4⅞ x ⅞ inches

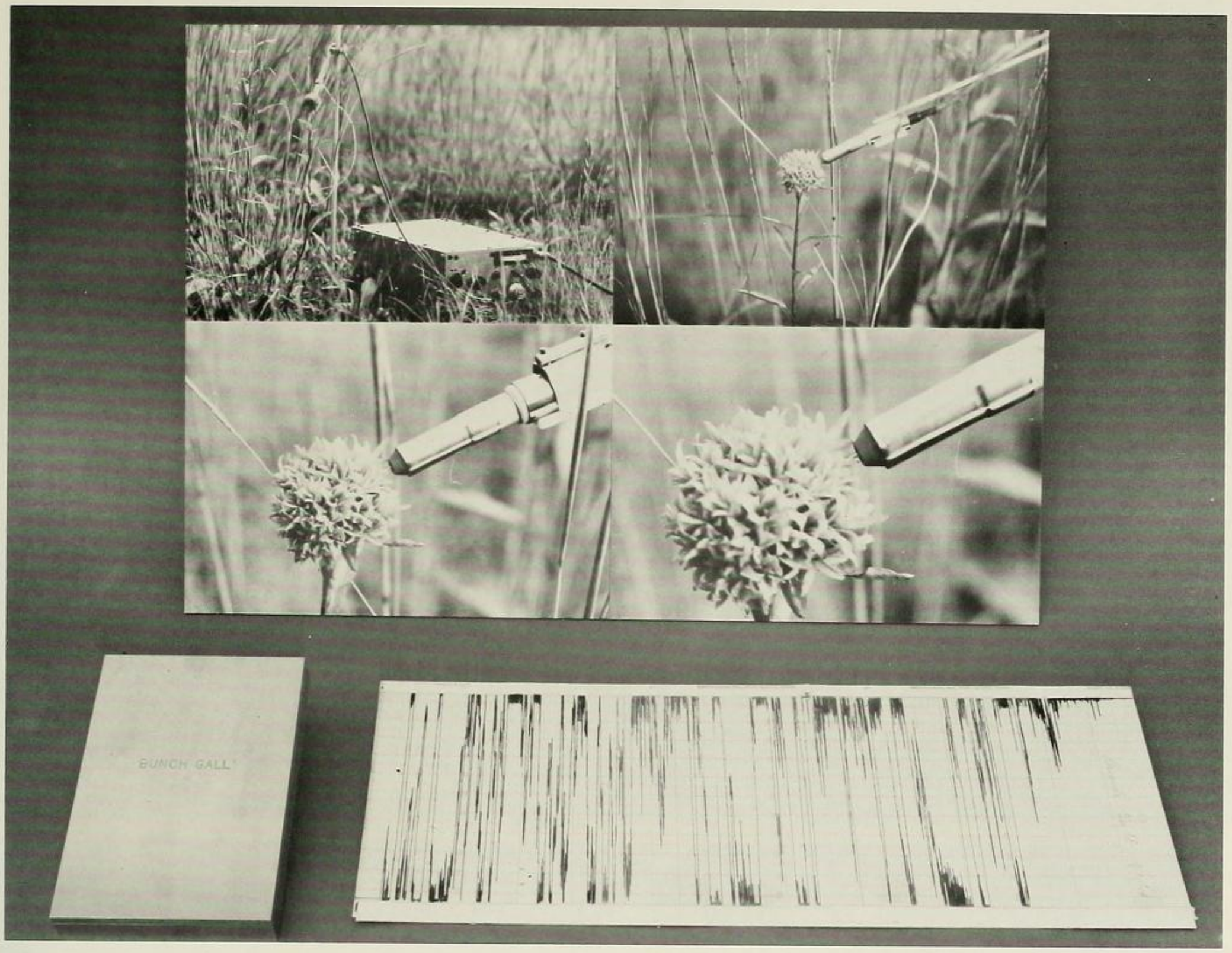
Bunch Gall 2:30 PM, 31 August 1974
photo montage, 13 x 9 inches
graph, 5¾ x 15¼ inches
cassette tape in aluminum and stainless steel case, 5½ x 4⅞ x ⅞ inches

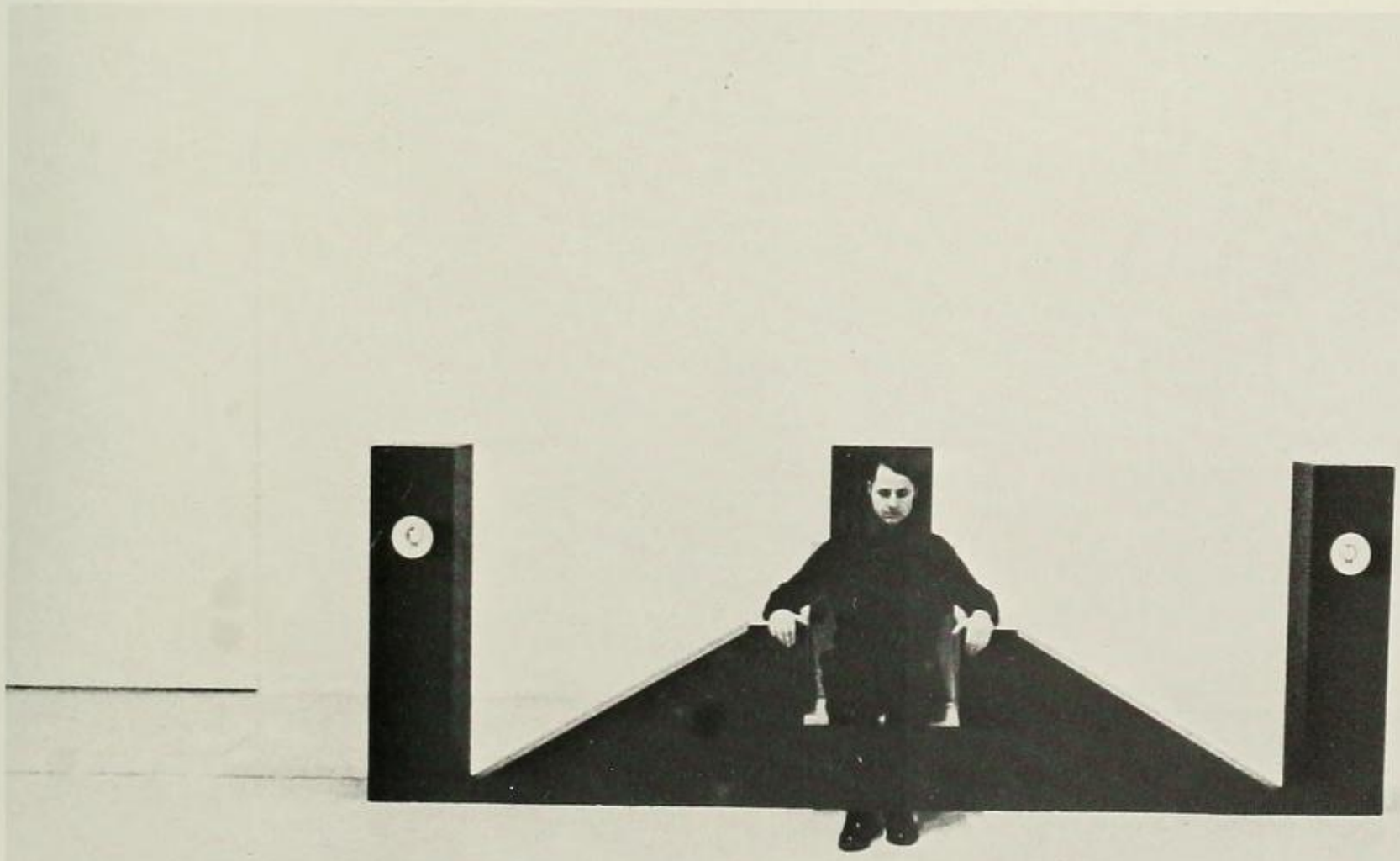
Saxifrage 3:30 PM, 31 August 1974
photo montage, 12¾ x 18⅝ inches
graph, 5¾ x 15¾ inches
cassette tape in aluminum and stainless steel case, 5½ x 4⅞ x ⅞ inches

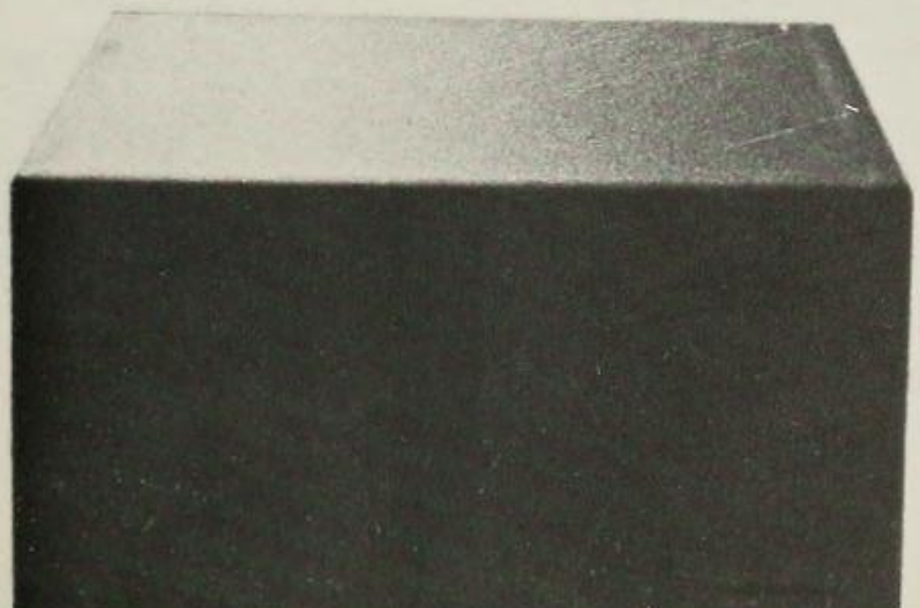
Sundrops 4:00 PM, 31 August 1974
photo montage, 12¾ x 18⅝ inches
graph, 5¾ x 11 inches
casette tape in aluminum and stainless steel case, 5½ x 4⅞ x ⅞ inches

Above: Douglas Hollis *Singing Bridge* drawing 1981, photo: Earl Ripling
Below: Douglas Hollis *Waterwalker* 1981, installation commissioned by Walker Art Center, Minneapolis, for Loring Park Lake, photo: Tom Arndt

Right above: Harold Lehr *Bunch Gall* 2:30 PM 31 August 1974, from *Ramapo Mountain Series* Summer 1974, photo: Earl Ripling
Right below: Bernhard Leitner *Cross Space* 1977


BUNCH GALL





BERNHARD LEITNER
Austrian, born 1938 Feldkirch
lives in New York

Cross Space 1977
installation with two painted plywood structures, four speakers, four-channel tape deck, and two stereo-amplifiers
size variable, 20 x 30 x 14 feet, overall
reconstruction by permission of the artist
lent by the artist

MEREDITH MONK
American, born 1942 Lima, Peru
lives in New York

Silver Lake with Dolmen Music 1980
set from the artist's opera *Recent Ruins*, first performed in 1980 at La Mama, New York
installation with six painted chairs, mylar, rocks, light, and six headphones with audiotape of *Dolmen Music*, composed and performed by Meredith Monk with Monica Solem, Andrea Goodman, Julius Eastman, Robert Een, Paul Langland, recorded at Hometown Studios, New York, and released by by ECM/Warner Brothers, August 1981
size variable, 20 x 30 x 14 feet, overall
reconstruction by permission of the artist
tape: lent by the artist

Meredith Monk *Silver Lake with Dolmen Music* 1980, photo: Nathaniel Tileston

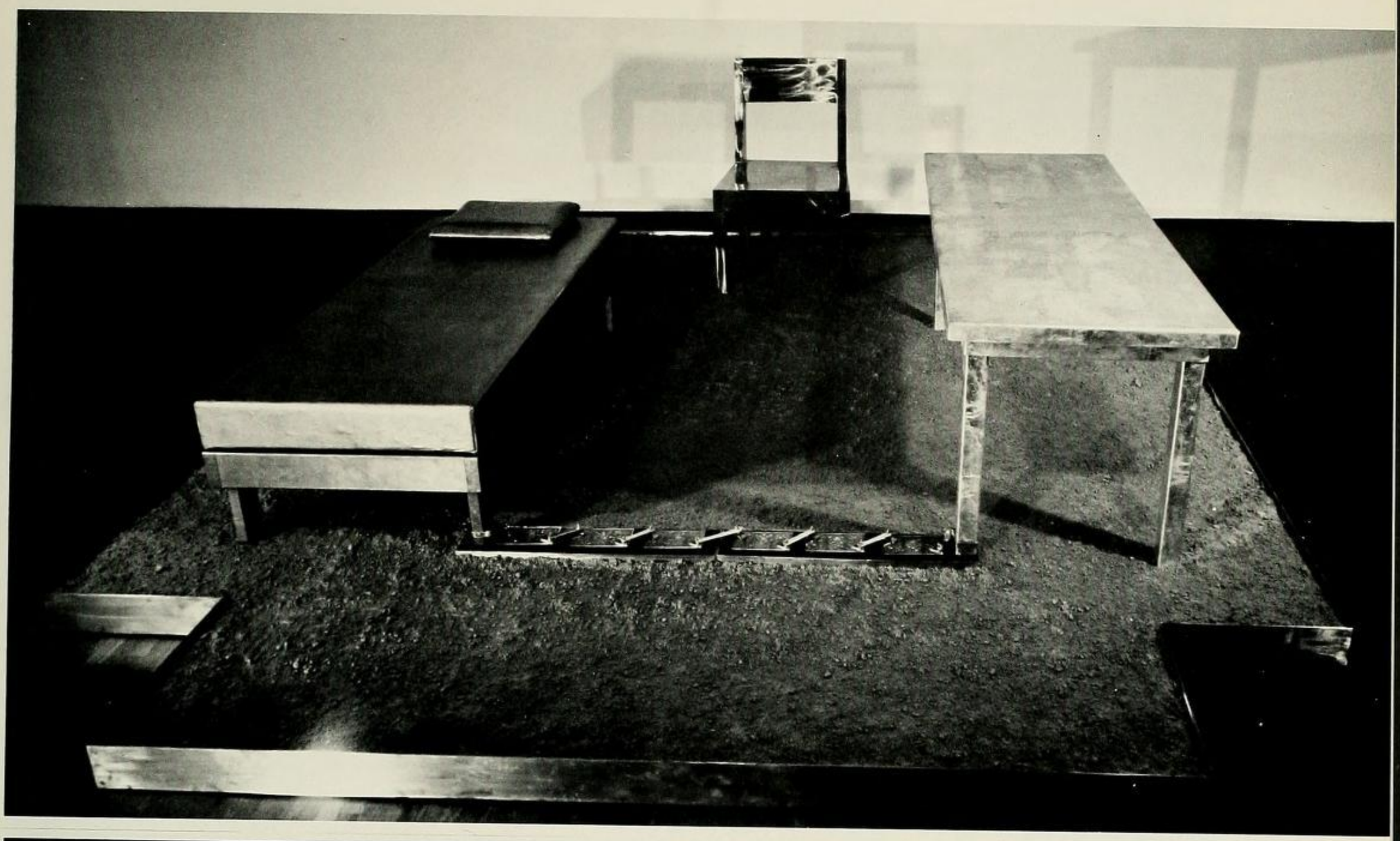
ROBERT MORRIS
American, born 1931 Kansas City, Missouri
lives in Gardiner, New York

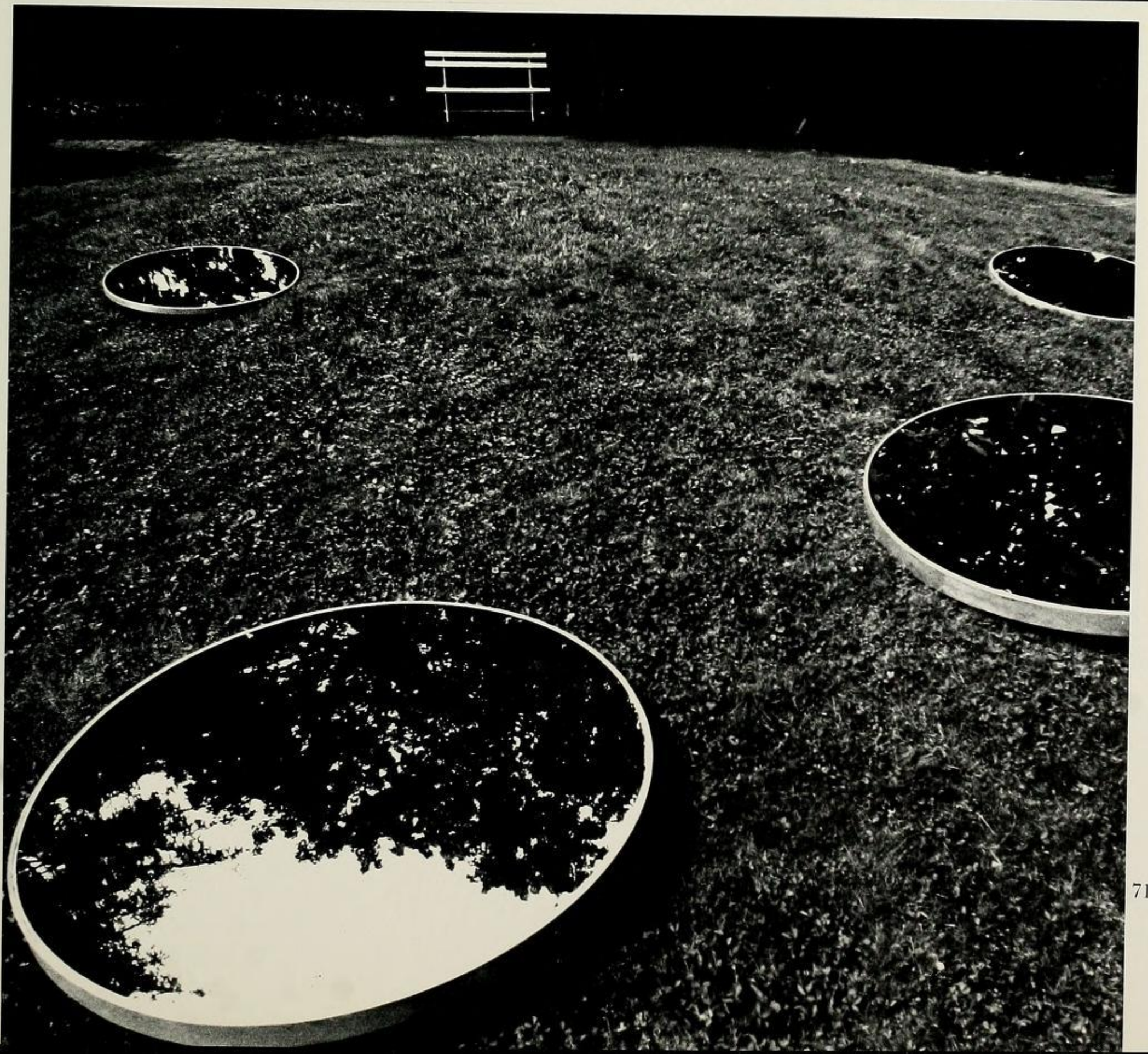
Hearing 1972
installation with copper chair, lead bed, galvanized aluminum table, sand, and audiotape
narration: José Ferrer
4½ x 12 x 12 feet, overall
lent by Leo Castelli Gallery

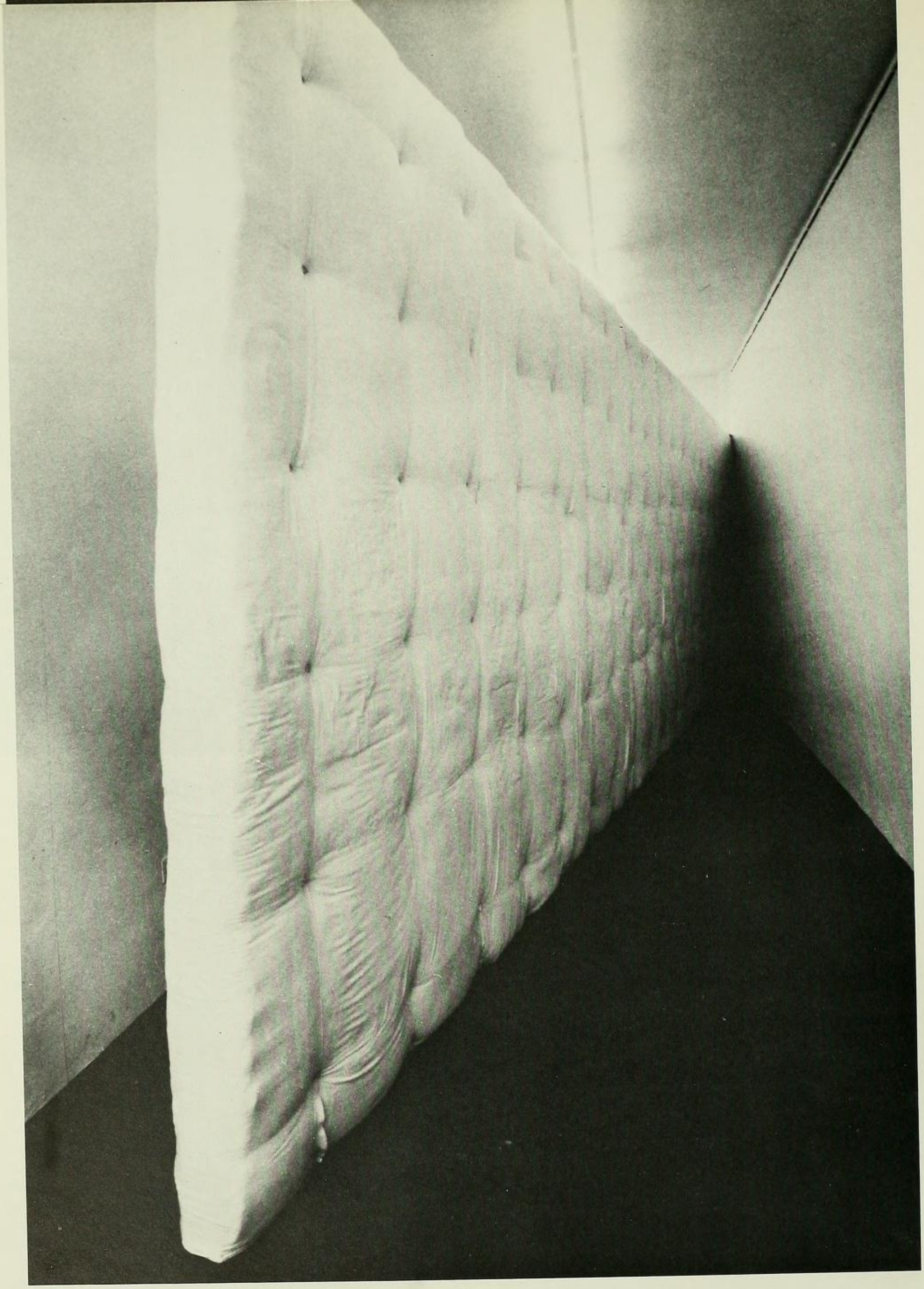
JOE MOSS
American, born 1933 Kincheloe, West Virginia
lives in Newark, Delaware

Sun and Rain 1978
aluminum and mirrored mylar
five discs, 24, 30, 36, 42, and 48 inches in diameter
outdoor installation by the artist
Great Court, State University of New York at Purchase
lent by the artist

Right above: Robert Morris *Hearing* 1972
Right below: Joe Moss *Sun and Rain* 1978, installation: George Read II House, The Historical Society of Delaware, New Castle



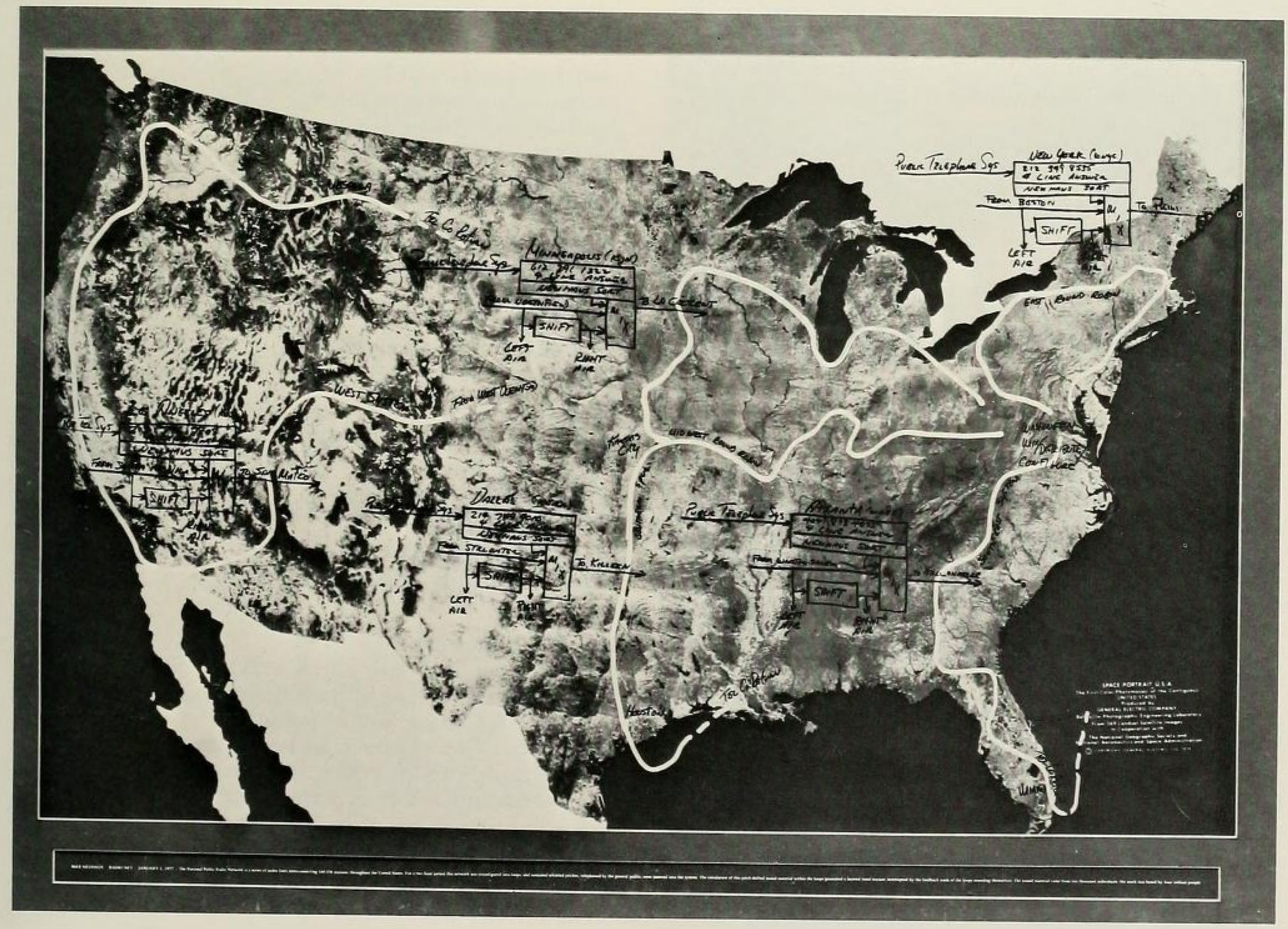




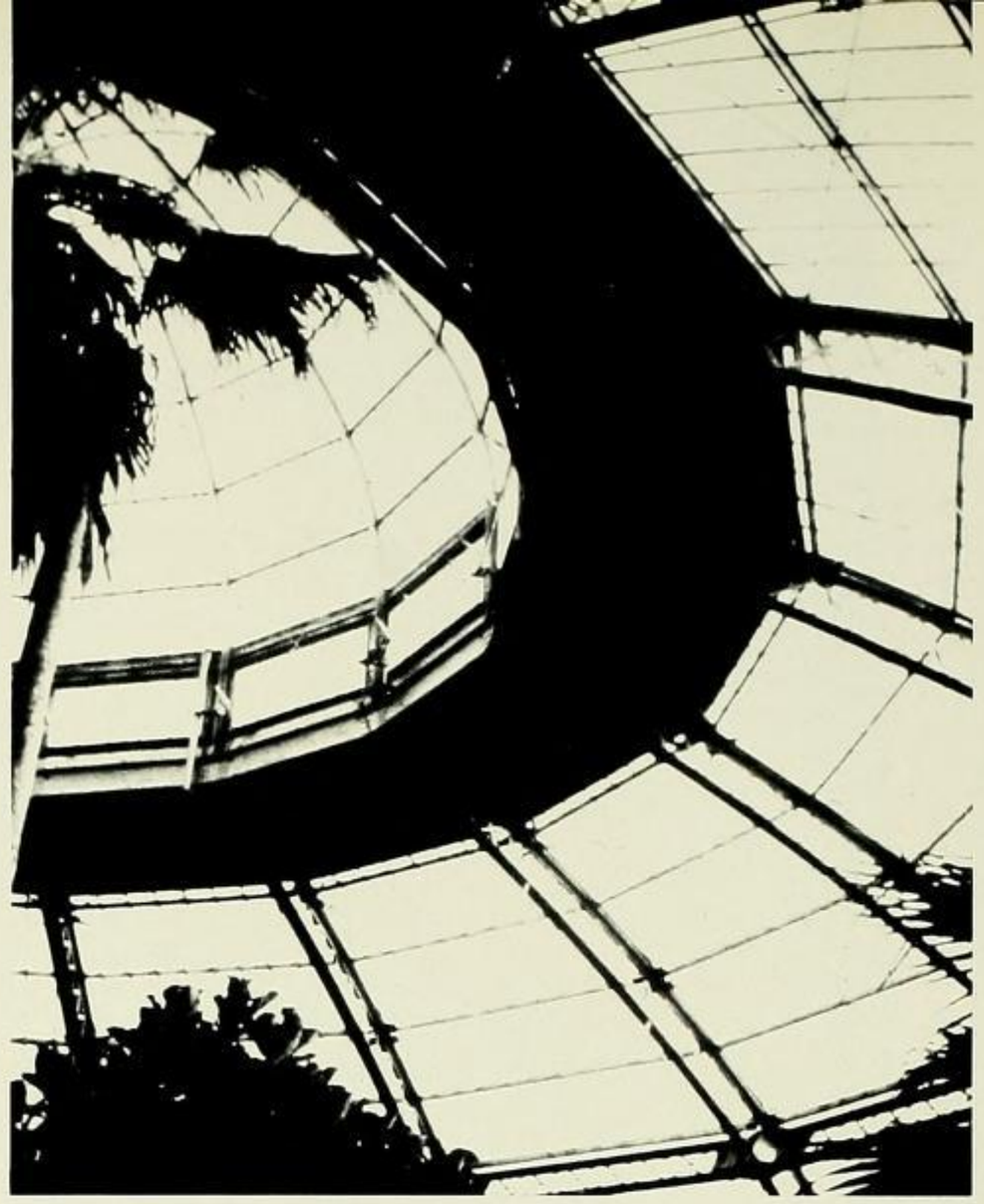
Bruce Nauman *Acoustic Wall* 1969

BRUCE NAUMAN
American, born 1941 Fort Wayne, Indiana
lives in Pecos, New Mexico

Acoustic Wall 1969
wood, wallboard and acoustical material
9 x 33 x 1 feet
reconstruction by permission of Dr. Giuseppe Panza



Max Neuhaus *Map of Sound Paths* 1977



MAX NEUHAUS
American, born 1939 Beaumont, Texas
lives in New York

Sound Installation 1973
documentation of installation, Subway Station Entrance,
Metropolitan Transportation Authority, New York
photograph, 24 x 20 inches
site diagram rendered by A. Arnold, 19 x 24 inches, 1981
lent by Mr. and Mrs. Sidney J. Frigand

Radio Net 1974–77
documentation for a project commissioned by
National Public Radio Network, Washington, D.C.
lent by the artist, except where noted otherwise

Preliminary Studies 1974
felt-tip pen on xerox image on paper
8½ x 11 inches

Preliminary Studies 1974
felt-tip pen on xerox image on paper
8½ x 11 inches

Diagram of Sound Paths 1977
pencil on paper
18 x 21½ inches

Map of Sound Paths 1977
paint and felt-tip pen on colored photograph
24¾ x 27¾ inches

Preliminary Studies 1977
felt-tip pen on xerox image on paper
8½ x 11 inches

Sound Installation 1975
documentation of installation
Artpark Lewiston, New York
photograph 20 x 24 inches
snapshot and colored tape on architect's plan
18 x 23 inches

Sound Installation 1977
documentation of installation
Documenta VI, Kassel, West Germany
photograph, 24 x 20 inches
site diagram rendered by A. Arnold, 24 x 19 inches, 1981

Sound Installation 1977
documentation of permanent installation commissioned
by Hear Incorporated, Times Square, New York
photograph, 24 x 20 inches
site diagram rendered by J. Sasso, 25 x 21 inches, 1981
lent by Mr. and Mrs. Sydney J. Frigand

Sound Installation 1978
documentation of installation
Abby Aldrich Rockefeller Sculpture Garden
The Museum of Modern Art, New York
photograph 20 x 24 inches
diagram rendered by A. Arnold, 24 x 19 inches, 1981

Sound Installation 1979
documentation of permanent installation
Museum of Contemporary Art, Chicago
photograph, 24 x 20 inches
diagram rendered by A. Arnold, 24 x 19 inches, 1981

Broadcast Works—Flow 1980
pastel and pencil on paper
18 x 24 inches

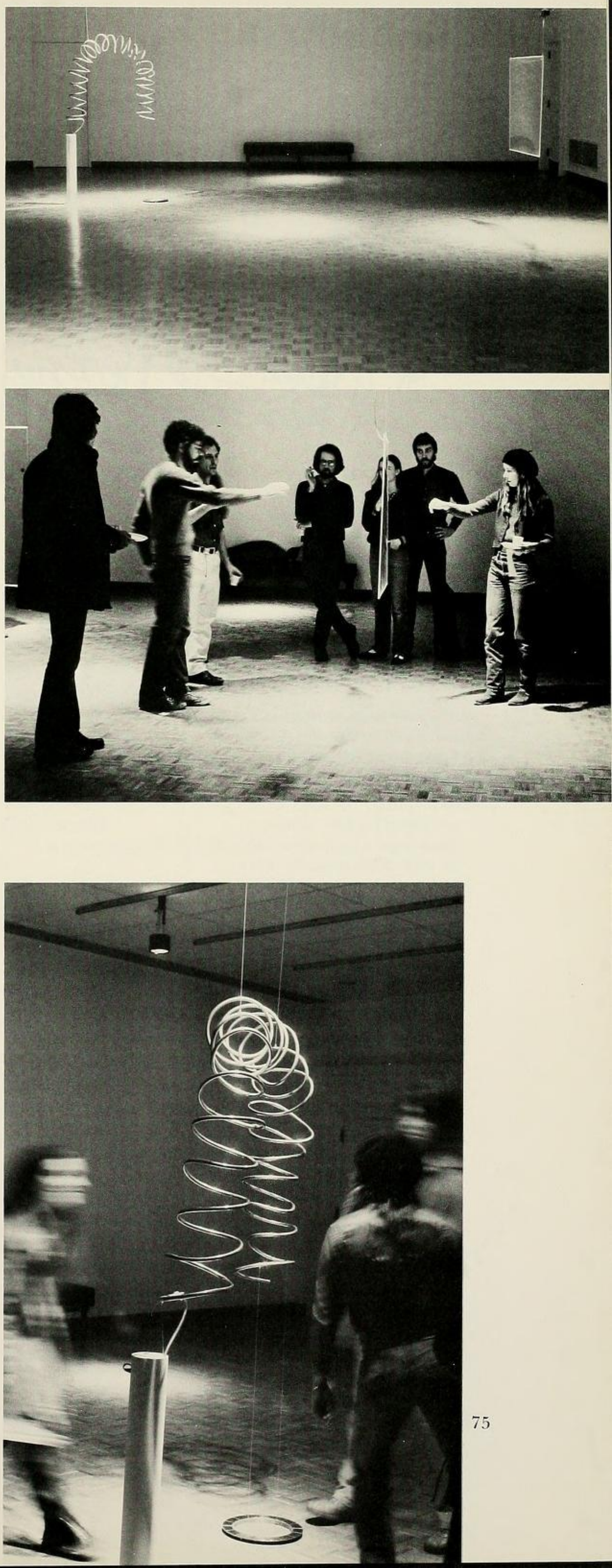
Sound Installation 1980
documentation of permanent installation commissioned
by the City of St. Paul with assistance from
Walker Art Center, Minneapolis, and
Como Park Conservatory, St. Paul, Minnesota
photograph, 24 x 20 inches
diagrams rendered by A. Arnold, 24 x 19 inches, 1981

Max Neuhaus *Sound Installation* Times Square, New York, 1977

Max Neuhaus *Sound Installation* Como Park Conservatory,
St. Paul, Minnesota, 1980

LIZ PHILLIPS
American, born 1951 Jersey City, New Jersey
lives in New York

Sunspots I & II 1979–81
sound installation with stereo amplifier, two-ohm F loudspeakers, electronic sound-synthesis system, two capacitance fields, copper tubing, brass screen, copper ribbon, plexiglas, light sensors, and solar panels.
size variable, 30 x 60 x 12 feet, overall
installation, Neuberger Museum
State University of New York at Purchase
loudspeakers: lent by Ohm Acoustics



Liz Phillips *Sunspots I* 1979, installation: Tangeman Fine Arts Gallery, University of Cincinnati, February 1981, photos: Judie Groen

NORTH GALLERY
RECORDS & TAPES

Unless noted otherwise, the records in this exhibition are in the collection of the Neuberger Museum.

Many artists appear on the following five records. In each case their participation will be noted under their own listing.

Airwaves 1977
edited by B. George, One Ten Records, New York
12-inch, two-record album, 33⅓ rpm, OX-200B

Art by Telephone 1969
arranged by Jan van der Marck
Museum of Contemporary Art, Chicago
12 inch, 33⅓ rpm

Giant Size $1.57 1963
arranged by Billy Klüver
Washington Gallery of Modern Art, Washington, D.C.
12 inch, 33⅓ rpm, PB-474
jacket design: Andy Warhol
lent by Billy Klüver

Reunion 1968
5-inch record accompanying a book documenting the performance held Tuesday, 5 March 1968 at Ryerson Theatre, Toronto, 33⅓ rpm
book and photographs: Shigeko Kubota

The Sounds of Sound Sculpture 1975
Aesthetic Research Centre of Canada, Ontario
12 inch, 33⅓ rpm, ST-1001

VITO ACCONCI
American, born 1940 The Bronx, New York
lives in New York

"Ten Packed Minutes" on *Airwaves* 1977

YAACOV AGAM
Israeli, born 1928 Rishon Letzion
lives in Paris

Trans-Formes Musicales 1962
6¾ inch, 45 rpm
Editions du Griffon, Neuchatel, Switzerland

TERRY ALLEN
American, born 1943 Wichita, Kansas
lives in Fresno, California

"Truckload of Art" on *Lubbock (on everything)* 1979
Fate Records, Chicago
12-inch, two-record album, 33⅓ rpm

LAURIE ANDERSON
American, born 1947 Chicago
lives in New York

"Is Anybody Home?" 1976 on *Airwaves* 1977

KAREL APPEL
Dutch, born 1921 Amsterdam
lives in Auxerre, France

Barbaric Music (Musique barbare) 1963
The World's Window, Bern, Switzerland
7-inch record accompanying a catalogue, 33⅓ rpm
lent by Stedelijk Museum

RICHARD ARTSCHWAGER
American, born 1923 Washington, D.C.
lives in New York and Charlottesville, New York

Art by Telephone 1969

JOHN BALDESSARI
American, born 1931 National City, California
lives in Santa Monica, California

Art by Telephone 1969

FRANÇOIS BASCHET
French, born 1920 Paris
lives in Paris

BERNARD BASCHET
French, born 1917 Paris
lives in Paris

"Glass Trombone" 1958, "Harp" 1965, "Untitled #7" 1966, "Untitled #21" 1967, "Piano with Two Ears" 1963 on *The Sounds of Sound Sculpture* 1975

IAIN BAXTER
Canadian, born 1936 Middleborough, England
lives in North Vancouver, British Columbia

Art by Telephone 1969

CONNIE BECKLEY
American, born 1951 Reading, Pennsylvania
lives in New York

"Triad Triangle" on *Airwaves* 1977

HARRY BERTOIA
American, born 1915 San Lorenzo, Italy
died 1978 Bally, Pennsylvania

"Sounding Sculptures" 1965 to 1972
on *The Sounds of Sound Sculpture* 1975
Sonambient 1979
Bertoia; Barto, Pennsylvania
12 inch, 33⅓ rpm, LPS-10570

JOSEPH BEUYS
German, born 1921 Kleve
lives in Düsseldorf

Yes Yes Yes No No No (Ja Ja Ja Nee Nee Nee) ca. 1970
Gabriele Mazzotta Editore, Milan
12 inch, 33⅓ rpm, edition of 500

GEORGE BRECHT
American, born 1924 Blomkest, Mississippi
lives in Colgne-Sulz, West Germany

Giant Size $1.57 1963

Art by Telephone 1969

JIM BURTON
American, born 1940 Laramie, Wyoming
lives outside Putney, Vermont

"High Country Helium" 1976 on *Airwaves* 1977

JOHN CAGE
American, born 1912 Los Angeles
lives in New York

"27'10.554": for a Percussionist" 1976
on *John Cage: 27'10.554"/Marcel Duchamp* 1977
Finnadar Records
Atlantic Recording Corporation, New York
12 inch, 33⅓ rpm, SR-9017
performer: Donald Knaak

Reunion 1968

JAN DIBBITS
Dutch, born 1941 Weert
lives in Amsterdam

Afsluitdijk 1969
Museum Haus Lange, Krefeld, West Germany
5⅞-inch record accompanying a map and nine photographs, 33⅓ rpm
lent by Stedelijk Museum

Art by Telephone 1969

JIM DINE
American, born 1935 Cincinnati, Ohio
lives in New York and Putney, Vermont

Giant Size $1.57 1963

JEAN DUBUFFET
French, born 1901 Le Havre
lives in Paris and Vence, France

Musical Experiences 1973
Finnadar Records
Atlantic Recording Corporation, New York
12 inch, 33⅓ rpm, SR9002

MARCEL DUCHAMP
French, born 1887 Blainville
died 1968 Neuilly, France

"The Bride Stripped Bare by Her Bachelors, Even. Erratum Musical" 1913
on *John Cage/Marcel Duchamp: The Bride Stripped Bare*
Finnadar Records
Atlantic Recording Corporation, New York
12 inch, 33⅓ rpm, SR-9017
performer: Donald Knaak

Reunion 1968

BILL FONTANA
American, born 1947 Cleveland, Ohio
lives in San Francisco

Australian Eclipse: 1976 1976
commissioned by Australian Broadcasting Commission
stereo magnetic tape
lent by the artist

TERRY FOX
American, born 1943 Seattle, Washington
lives in New York

"The Labyrinth Scored for the Purrs of 11 Different Cats" 1976 on *Airwaves* 1977

JOHN GIORNO
American, born 1936 New York
lives in New York

Art by Telephone 1969

JACK GOLDSTEIN
Canadian, born 1945 Montreal
lives in New York

The Burning Forest 1976
published by the artist, New York
7 inch, red-and-white vinyl, 45 rpm, JG-45-7617
lent by Metro Pictures

The Dying Wind 1976
published by the artist, New York
7 inch, clear vinyl, 45 rpm, JG-45-7618
lent by Metro Pictures

A Faster Run 1976
published by the artist, New York
7 inch, orange vinyl, 45 rpm, JG-45-7612
lent by Metro Pictures

A German Shepherd 1976
published by the artist, New York
7 inch, red vinyl, 45 rpm, AM-45-7610
number 42 in an edition of 100
lent by Metro Pictures

The Lost Ocean Liner 1976
published by the artist, New York
7 inch, black vinyl, 45 rpm, JG-45-7616
lent by Metro Pictures

A Swim against the Tide 1976
published by the artist, New York
7 inch, blue vinyl, 45 rpm, JG-45-7611
lent by Metro Pictures

Three Felled Trees 1976
published by the artist, New York
7 inch, green vinyl, 45 rpm, JG-45-7615
lent by Metro Pictures

The Tornado 1976
published by the artist, New York
7 inch, purple vinyl, 45 rpm, JG-45-7613
lent by Metro Pictures

Two Wrestling Cats 1976
published by the artist, New York
7 inch, yellow vinyl, 45 rpm, JG-45-7614
lent by Metro Pictures

HANS HAACKE
German, born 1936 Cologne
lives in New York

Art by Telephone 1969

RICHARD HAMILTON
British, born 1922 London
lives outside London

Art by Telephone 1969

RICHARD HAMILTON
British, born 1922 London
lives outside London

DIETER ROTH
German, born 1930 Hannover
lives in Stuttgart

Barks from Cadaqués (Caciones de Cadequés) 1976
Edition Hansjörg Mayer, Stuttgart
7-inch, two-record album, 45 rpm, edition of 500

RAOUL HAUSMANN
German, born 1886 Vienna
died 1971 Limoges, France

"Phonetic Poems (Poèmes phonetiques)" 1918–46
on *Ou* (volume 26–27) 1966
edited by Henry Chopin, *Ou*, Paris
7-inch record with the magazine, 45 rpm, 225-41-10
number 313 in an edition of 500
lent by Dick Higgins

JULIA HEYWARD
American, born 1949 Raeford, North Carolina
lives in New York

"Mongolian Face Slap Part I," "Big Coup," and "Nose Flute" on *Airwaves* 1977

DICK HIGGINS
American, born 1938 Cambridge, England
lives in Barrytown, New York, and West Grover, Vermont

Art by Telephone 1969

RICHARD HUELSENBECK
American, born 1892 Frankenau, Germany
died 1974 Locarno, Switzerland

four poems from *Fantastic Prayers (Phantastische Gebete)* 1916 in *Aspen Magazine* November 1967
edited by Brian O'Doherty, *Aspen Magazine,* New York
8-inch record boxed with the magazine, 12 inch, 33⅓ rpm
lent by Backworks

DAVID JACOBS
American, born 1932 Niagara Falls, New York
lives in Seacliff, New York

"Hanging Pieces" 1970–71
on *The Sounds of Sound Sculpture* 1975

JASPER JOHNS
American, born 1930 Augusta, Georgia
lives in Stony Point, New York

Giant Size $1.57 1963

ED KIENHOLTZ
American, born 1927 Fairfield, Washington
lives in Hope, Idaho, and Berlin

Art by Telephone 1969

YVES KLEIN
French, born 1928 Nice
died 1962 Paris

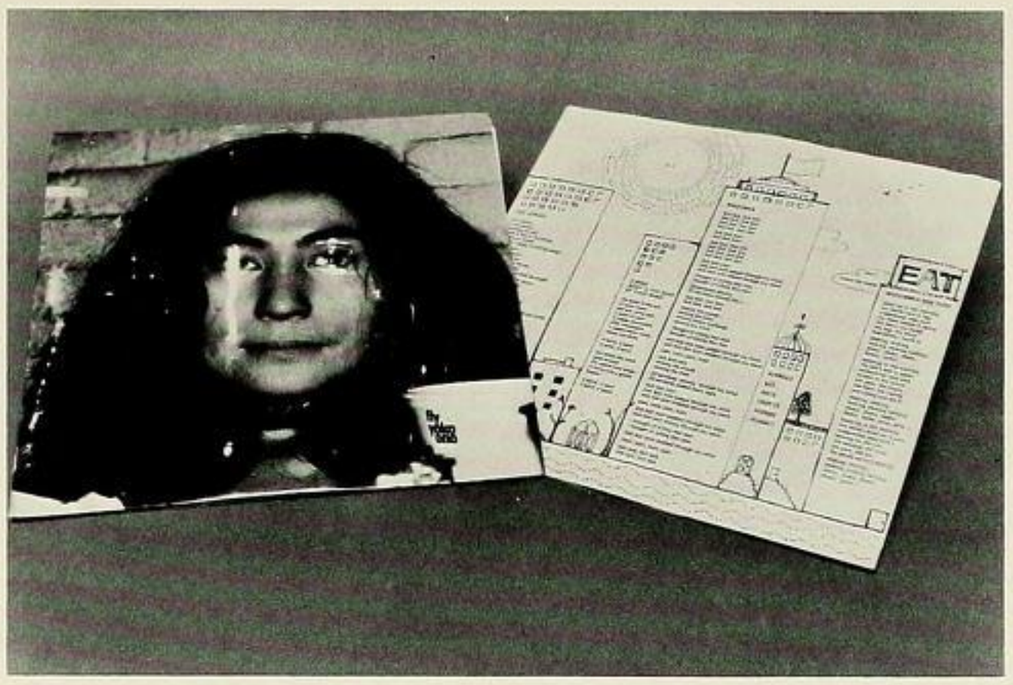
"Concert of Vacuum" 1959
on *Prince of Space (Tanz der Leere)*
Sight & Sound Production, London and Dusseldorf
12 inch, 33⅓ rpm, T74975/LP0063-323
director: Charles Wilp
performers: Outer Space Philharmonic Orchestra

MILAN KNÍŽÁK
Czech, born 1940 Pilsen
lives in Prague

Destroyed Music 1963–79
burned stereo-record with masking tape
12 inch, 33⅓ rpm, unique
lent by Jon Hendricks

Destroyed Music 1963–79
12 inch, 33⅓ rpm, unique
lent by Backworks

Destroyed Music 1963–79
four different stereo-records, quartered and reassembled
scratched stereo-record
12 inch, 33⅓ rpm, unique
lent by Backworks



JOSEPH KOSUTH
American, born 1945 Toledo, Ohio
lives in New York

Art by Telephone 1969

LES LEVINE
American, born 1935 Dublin
lives in New York

Art by Telephone 1969

SOL LEWITT
American, born 1928 Hartford, Connecticut
lives in New York

Art by Telephone 1969

ROY LICHTENSTEIN
American, born 1923 New York
lives in Southampton, New York

Giant Size $1.57 1963

FILIPPO TOMMASO MARINETTI
Italian, born 1876 Alexandria, Egypt
died 1944 Belagio, Italy

"The Bombing of Adrianopolis: Futurist Words in Liberty (Il bombardamento di Adreanopoli: Parole in liberta futuriste)" broadcast 1935; "Simultaneous Lovers: Futurist Romance, parts I and II (Amanti simultanei: Romanzo futurista, parte I e II)" broadcast 1938
on *Futurism (Il Futurismo)* 1978
EMI Italiana, Milan
12 inch, 33⅓ rpm, 3/C065-17982/M

Yoko Ono *Fly* 1971

REINHOLD PEIPER MARXHAUSEN
American, born 1922 Vergas, Minnesota
lives in Seward, Nebraska

"Throne Dome: 1975
on *The Sounds of Sound Sculpture* 1975

BRUCE NAUMAN
American, born 1941 Fort Wayne, Indiana
lives in Pecos, New Mexico

Art by Telephone 1969

CLAES OLDENBURG
American, born 1929 Stockholm
lives in New York

Giant Size $1.57 1963

Art by Telephone 1969

YOKO ONO
American, born 1933 Tokyo
lives in New York

Fly 1971
produced by John Lennon & Yoko Ono Music/Apple Records, New York
12-inch, two-record album with inserted drawing and text by Yoko Ono, 33⅓ rpm, SUBB-3380
performers: Plastic Ono Band
jacket design: George Maciunas

DENNIS OPPENHEIM
American, born 1938 Mason City, Washington
lives in New York

"Broken Record Blues" 1976 on *Airwaves* 1977

HARRY PARTCH
American, born 1901 Oakland, California
died 1974 Petaluma, California

"The Bewitched (Scene 10 and Epilogue)" 1955
on *From the Music of Harry Partch* 1979
Composers Recordings, Inc. New York
12 inch, 33⅓ rpm, CRI-SRD-193
performers: Freda Pierce, William Olson, and the University of Illinois School of Music
conductor: John Garvey

ROBERT RAUSCHENBERG
American, born 1925 Port Arthur, Texas
lives in New York and Captiva, Florida

Giant Size $1.57 1963

JAMES ROSENQUIST
American, born 1933 Grand Forks, North Dakota
lives in New York

Giant Size $1.57 1963

ANTONIO RUSSOLO
Italian, born 1885 Portogruaro
died 1947 Cerro di Laveno, Italy

"Coral: Futurist Music (Corale: Musica futurista)" ca. 1920; "Serenade: Futurist Music (Serenata: Musica futurista)" ca. 1920
on *Futurism (Il Futurismo)* 1978
EMI Italiana, Milan
12 inch, 33⅓ rpm, 3C065-17989/M
instrument: *The Noise Machine* of Luigi Russolo

NICHOLAS SCHÖFFER
Hungarian, born 1912 Kalocsa
lives in Paris

Spatial Dynamism I and II (Spatiodynamise I et II) 1954
Editions du Griffon, Neuchatel, Switzerland
9 inch, 45 rpm, BIEM-PEP-3511
music: Pierre Henry

KURT SCHWITTERS
German, born 1887 Hannover
died 1948 Kendal, England

Largo and Scherzo from *Archetypal Sounds (Ursonate)* 1921 – 32
Broadcast by Sud Deutsche Radiofund, 5 May 1932
privately recorded by SARC, Paris, from a 78 rpm record in the possession of the artist César Domela
7 inch, 45 rpm, edition of approximately 4
lent by Ad Petersen

ROBERT SMITHSON
American, born 1938 Passaic, New York
died 1973 Amarillo, Texas

Art by Telephone 1969

KEITH SONNIER
American, born 1941 Mamou, Louisiana
lives in New York

Air to Air 1975
Gemini, G.E.L., Los Angeles
12 inch, 33⅓ rpm, edition of 1000

PETER STRUYCKEN
Dutch, born 1939 The Hague
lives in Gorinchem, The Netherlands

Image and Sound Programme 1970–71
Stedelijk Museum, Amsterdam
7-inch, vinyl insert in an exhibition catalogue, 33⅓ rpm

JEAN TINGUELY
Swiss, born 1925 Fribourg
lives in Neyruz, Switzerland

Sounds of Sculpture 1963
Minami Gallery, Tokyo
7-inch record accompanying exhibition catalogue, 45 rpm
edition of 1000
sound composition: Toshi Ichiyanagi
sound source: Jean Tinguely
technical assistance: Shigenosuke Okuyama
lent by Ad Petersen

STAN VAN DER BEEK
American, born 1927 New York
lives in Baltimore

Art by Telephone 1969

BEN VAUTIER
French, born 1935 Naples, Italy
lives in Nice, France

Record of Total Music: Music and Absence of Music (Disque de musique total: Musique aussi absence de musique) 1963
Centre d'Art Total, Nice, France
7 inch, 45 rpm
label and jacket design: the artist
lent by Backworks

STEPHAN VON HUENE
American, born 1932 Los Angeles
lives in Hamburg

"Washboard Band" 1969, "Totem Tone #3" 1970,
"Rosebud Annunciator" 1969
on *The Sounds of Sound Sculpture* 1975

WOLF VOSTELL
German, born 1932 Leverkusen
lives in Cologne

Art by Telephone 1969

ANDY WARHOL
American, born 1930 Pittsburgh, Pennsylvania
lives in New York

Giant Size $1.57 1963

ROBERT WATTS
American, born 1932 Burlington, Iowa
lives in Bangor, Pennsylvania

Giant Size $1.57 1963

WILLIAM WEGMAN
American, born 1942 Holyoke, Massachusetts
lives in New York

Art by Telephone 1969

JOHN WESLEY
American, born 1928 Los Angeles
lives in Paris

Giant Size $1.57 1963

ROBERT WHITMAN
American, born 1935 New York
lives in New York

Sound for 4 Cinema Pieces 1968
Museum of Contemporary Art, Chicago
7 inch, red vinyl, 33⅓ rpm, 3-094-208
lent by Billy Klüver

WILLIAM T. WILEY
American, born 1937 Bedford, Indiana
lives in Forest Hills, California

Art by Telephone 1969

Art by Telephone 1969

Jean Tinguely *Sounds of Sculpture* 1963

PROJECT GALLERY
MECHANICAL MUSICAL INSTRUMENTS

Cylinder Music Mechanism ca. 1890
Mermod Frères Manufacturing, Sainte-Croix, Switzerland
brass and wood
5½ x 17 x 6 inches
lent by Melvin Getlan

Graphophone (Style BS) ca. 1899
The Columbia Phonograph Company, New York
oak, glass, metal, and wax
16 x 21 x 12 inches
lent by Melvin Getlan

Regina Upright Disc Machine (Model 17A) 1902
Regina Music Box Company, New York
cherry wood, metal, and glass
21 x 22 x 12 inches
lent by Melvin Getlan

Regina Hexaphone ca. 1919
The Regina Company, New York
oak, glass, metal, and six wax phonograph tubes
49 x 27 x 18 inches
lent by Melvin Getlan

RCA Theremin and Loudspeaker (Model 106) ca. 1929
Radio-Victor Corporation of America, New York
mahogany, maple, copper, and eight vacuum tubes
theremin: 46½ x 19 x 12 inches
loudspeaker: 33½ x 24 x 11 inches
lent by Beverly Maher & Joseph Peknik, Antique Musical Instruments

Wurlitzer Counter (Model 71) 1940
Wurlitzer Company, North Tonawanda, New York
plastic with veneer finish, glass, and metal
22 x 19 x 23 inches
lent by Melvin Getlan

Graphophone (Style BS) ca. 1899, photo: Will Brown

MUSEUM STUDY
SOUND & FILM

JANE AARON
American, born 1948 New York
lives in New York

Interior Design 1980
USA, color, sound, 5 minutes
distributed by the artist

KENNETH ANGER
American, born 1932 Santa Monica, California
lives in New York

Kostum Kar Kommandos 1965
USA, color, sound, 3½ minutes
distributed by Film-makers' Cooperative

BRUCE BAILLIE
American, born 1931 Aberdeen, South Dakota
lives in Berkeley, California

Castro Street 1966
USA, color and black-and-white, sound, 10 minutes
distributed by Film-makers' Cooperative

ROBERT BREER
American, born 1926 Detroit, Michigan
lives in South Nyack, New York

T.Z. 1980
USA, color, sound, 8½ minutes
distributed by The Museum of Modern Art
Circulating Film Program

RENÉ CLAIR
French, born 1898 Paris
died 1981 Paris

Entr'acte 1924
France, black-and-white, silent, 20 minutes
screenplay and art director: Francis Picabia
original music: Erik Satie
cinematography: Jimmy Berliet
cast: Marcel Achard, Georges Auric, Jean Borlin, Georges Charensol, Inge Fries, Rolf de Maré, Erik Satie, Pierre Scize, and others
distributed by The Museum of Modern Art
Circulating Film Program

The Coming of Sound 1927–28
USA, black-and-white, sound, 60 minutes
distributed by The Museum of Modern Art
Circulating Film Program
includes excerpts from:
Shaw Talks with Movietone News 1927
USA, black-and-white, sound, 6 minutes
Movietone News
The Jazz Singer 1927
USA, black-and-white, sound, 13 minutes
director: Alan Crosland
screenplay: Alfred A. Cohn based on a play by Samson Raphaelson
music: Irving Berlin, Al Jolson, Gus Kahn, Sam Lewis, and others
cinematography: Hal Mohr
cast: Eugenie Besserer, Al Jolson, May McAvoy, Warner Oland
Warner Bros. Pictures, Inc.
Lights of New York 1928
USA, black-and-white, sound, 33 minutes
director: Bryan Foy
cast: Helene Costello and Cullen Landis
Warner Bros. Pictures, Inc.
Steamboat Willie 1928
USA, black-and-white, sound, 8 minutes
Walt Disney Productions, Inc.

BRUCE CONNER
American, born 1933 McPherson, Kansas
lives in San Francisco

Permian Strata 1969
USA, black-and-white, sound, 4 minutes
distributed by Serious Business Company

FRANCIS FORD COPPOLA
American, born 1939 Detroit, Michigan
lives in Los Angeles

The Conversation 1974
USA, color, sound, 113 minutes
screenplay: Francis Ford Coppola
music: David Shire
cinematography: Bill Butler
editing: Walter Murch and Richard Chew
cast: John Cazale, Robert Duvall, Frederick Forrest, Allen Garfield, Gene Hackman, Cindy Williams, and others
Paramount Pictures
distributed by Zoetrope Studio

THOMAS ALVA EDISON
American, born 1847 Milan, Ohio
died 1931 West Orange, New Jersey

Nursery Favorites 1913
USA, black-and-white, sound, 9 minutes
distributed by Kit Parker Films

OSKAR FISCHINGER
German, born 1900 Glenhausen
died 1967 Los Angeles

Motion Painting No. 1 1949
USA, color, sound, 10 minutes
distributed by The Museum of Modern Art
Circulating Film Program

MAX FLEISCHER
Austrian, born 1883 Vienna
died 1973 Hollywood, California

Finding His Voice 1929
USA, black-and-white, sound, 11 minutes

I'm Forever Blowing Bubbles 1930
USA, black-and-white, sound, 7 minutes

Let's Sing-a-Long with Popeye 1934
USA, black-and-white, sound, 3 minutes
distributed by Kit Parker Films

HOLLIS FRAMPTON
American, born 1936 Wooster, Ohio
lives in Eaton, New York

Hapax Legomena III: (Critical Mass) 1971
USA, black-and-white, sound, 25½ minutes
distributed by Film-makers' Cooperative

DAVID GERSTEIN
American, born 1951 Cleveland, Ohio
lives in San Francisco

Alternations of Perspective 1977
USA, color, sound, 22 minutes
distributed by Canyon Cinema Cooperative

LARRY GOTTHEIM
American, born 1936 New York
lives in Binghamton, New York

Harmonica 1970–71
USA, color, sound, 10½ minutes
distributed by Film-makers' Cooperative

PETER KUBELKA
Austrian, born 1934, Taufkirchen
lives in Vienna

Arnulf Rainer 1958–60
Austria, black-and-white, sound, 6½ minutes
distributed by Film-makers' Cooperative

GEORGE LANDOW
American, born 1944 New Haven, Connecticut
lives in Chicago

Institutional Quality 1969
USA, color, sound, 5 minutes
distributed by Film-makers' Cooperative

FRITZ LANG
Austrian, born 1890 Vienna
died 1976, Los Angeles

Das Testament von Dr Mabuse (The Testament of Dr. Mabuse) 1933
German, black-and-white, sound, 122 minutes
screenplay: Thea von Harbou
cinematography: Fritz Arno Wagner
art directors: Karl Vollbrecht and Emil Hassler
cast: R. Klein-Rogge, Otto Wernicke, Gustave Diesl, Karl Meixner
distributed by Films Incorporated

JANIS CRYSTAL LIPZIN
American, born 1945 Colorado Springs, Colorado
lives in San Francisco

L.A. Carwash 1975
USA, color, sound, 9 minutes
distributed by Canyon Cinema Cooperative

NORMAN MCLAREN
Canadian, born 1914 Stirling, Scotland
lives in North Vancouver, British Columbia

Dots 1939–41
Canada, color, sound, 3 minutes
distributed by International Film Bureau Inc.

Loops 1939–41
Canada, color, sound, 3 minutes
distributed by Creative Film Society

MEREDITH MONK
American, born 1941 Lima, Peru
lives in New York

Ellis Island (excerpt from a film in progress) 1980
USA, black-and-white, sound, 8 minutes
producer: Robert Rosen
directors: Meredith Monk and Robert Rosen
cinematography: Jerry Panzer
distributed by The House Foundation

BRUCE NAUMAN
American, born 1941 Fort Wayne, Indiana
lives in Pecos, New Mexico

Playing a Note on the Violin while I Walk around My Studio 1967–68
USA, black-and-white, sound, 11 minutes
distributed by Castelli/Sonnabend Tapes and Films Inc.

PAUL SHARITS
American, born 1943 Denver, Colorado
lives in Buffalo, New York

Color Sound Frames 1974
USA, color, sound, 21½ minutes
distributed by Film-makers' Cooperative

SINGIN' IN THE RAIN 1952
USA, color, sound, 103 minutes
producer: Arthur Freed
directors: Gene Kelly and Stanley Donen
screenplay: Adolph Green and Betty Comden
music: Nacio Herb Brown
lyrics: Arthur Freed
cinematography: Harold Rosson
editing: Adrienne Fazan
art director: Cedric Gibbons and Randall Duell
cast: Cyd Charisse, Jean Hagen, Gene Kelly, Millard Mitchell, Donald O'Conner, Debbie Reynolds, and others
Metro-Goldwyn-Mayer
distributed by Films Incorporated

MICHAEL SNOW
Canadian, born 1929 Toronto
lives in Toronto

Breakfast (Tabletop Dolly) 1972 and 1976
Canada, color, sound, 15 minutes
distributed by Film-makers' Cooperative

CHICK STRAND
American, born 1931 San Francisco
lives in Tujunga, California

Mujer de Milfuegos (Woman with a Thousand Fires) 1976
USA, color, sound, 15 minutes
distributed by Canyon Cinema Cooperative

JACQUES TATI
French, born 1908 Le Pecq
lives outside Paris

Playtime 1967
France, color, sound, 108 minutes
screenplay: Jacques Tati
cast: Jacques Tati
distributed by Select Films

DZIGA VERTOV
Russian, born 1896 Bialystok, Poland
died 1954 Moscow

Enthuziazm (Enthusiasm/Symphony of the Donbas) 1930
USSR, black-and-white, sound, 90 minutes
music: N. Timofeyev
cinematography: Zeitlin
editing: Svilova
sound: P. Strom
Ukrainfilm
distributed by The Museum of Modern Art
Circulating Film Program

LAWRENCE WEINER
American, born 1940 New York
lives in New York and Amsterdam

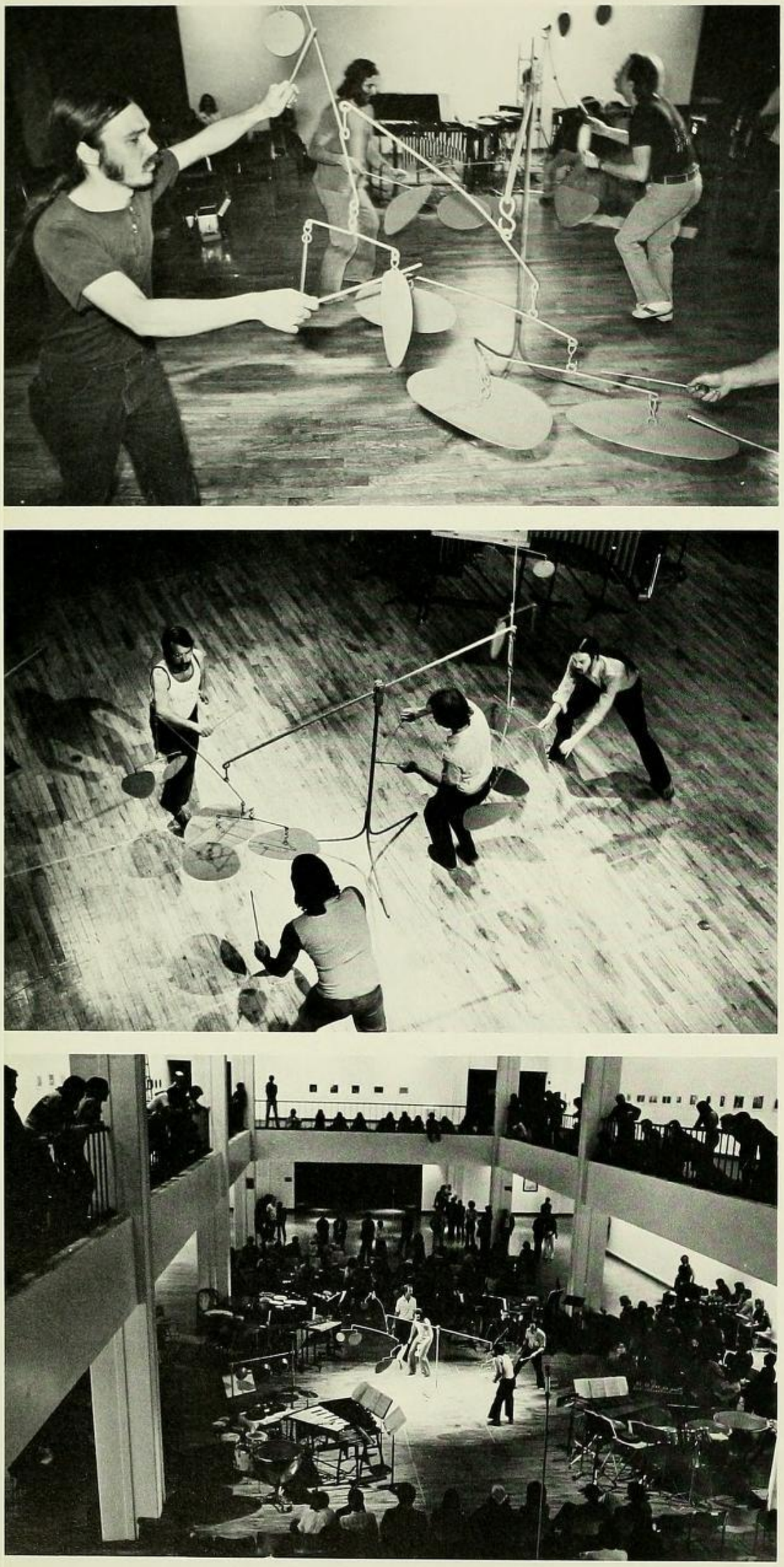
It Is/Done To 1974
USA, color, sound, 20 minutes
distributed by Castelli/Sonnabend Tapes and Films Inc.

PAUL WINKLER
Australian, born 1939 Hamburg, Germany
lives in Sydney, Australia

Bark Rind 1977
Australia, color, sound, 30 minutes
distributed by The Museum of Modern Art
Circulating Film Program

BASIL WRIGHT
British, born 1907 London
lives outside Sydney, Australia

Song of Ceylon 1934
England, black-and-white, sound, 40 minutes
Producer: John Grierson for the
Ceylon Tea Propaganda Board
screenplay: Basil Wright
music: Walter Leigh
cinematography: Basil Wright
sound: Alberto Calconti
commentary: Lionel Wendt's adaptation of
Robert Knox's account of Ceylon in 1860
distributed by The Museum of Modern Art
Circulating Film Program



Alexander Calder *Chef d'orchestre* 1966 and Earle Brown *Calder Piece* 1966, first U.S. performance CalArts Contemporary Music Festival, 9 March 1980, photo: Dennis Gilbert

THEATER GALLERY PERFORMANCES

EARLE BROWN
American, born 1926 Tunenburg, Massachusetts
lives outside New York

Calder Piece 1963–66
A composition for four percussionists, a mobile, and various percussion instruments commissioned by Deigo Masson for the Paris Percussion Quartet and first performed in 1967 as *Chef d'orchestre/Calder Piece,* Théâtre de l'Atelier, Paris. Alexander Calder created the mobile entitled *Chef d'orchestre* especially for the composer; it is both a conductor and an instrument.
performance by the Purchase Percussion Ensemble
directed by Raymond DesRoches

performance 14–15 November

THE GLASS ORCHESTRA

The members of *The Glass Orchestra,* which was formed in 1973 in Toronto, design, construct, and perform on instruments made of glass, including mirimbas; alto, tenor, and base bottles; flutes; loudspeakers, and numerous small percussion instruments.
members of the group include:

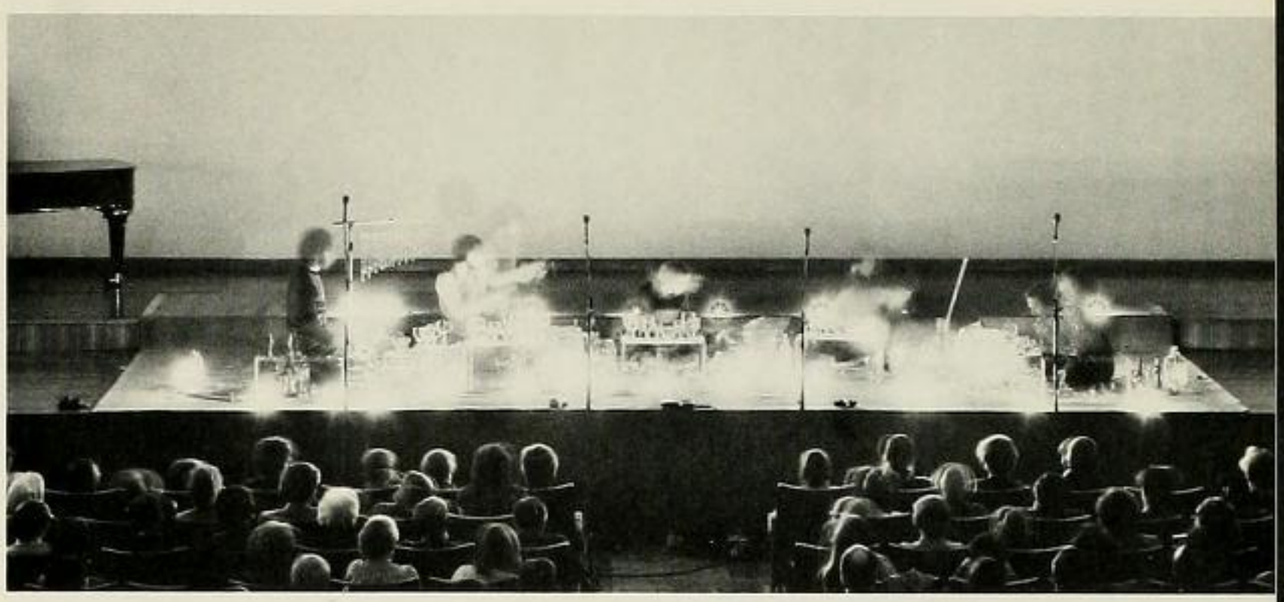
Eric Cadesky
Canadian, born 1956 Toronto
lives in Toronto

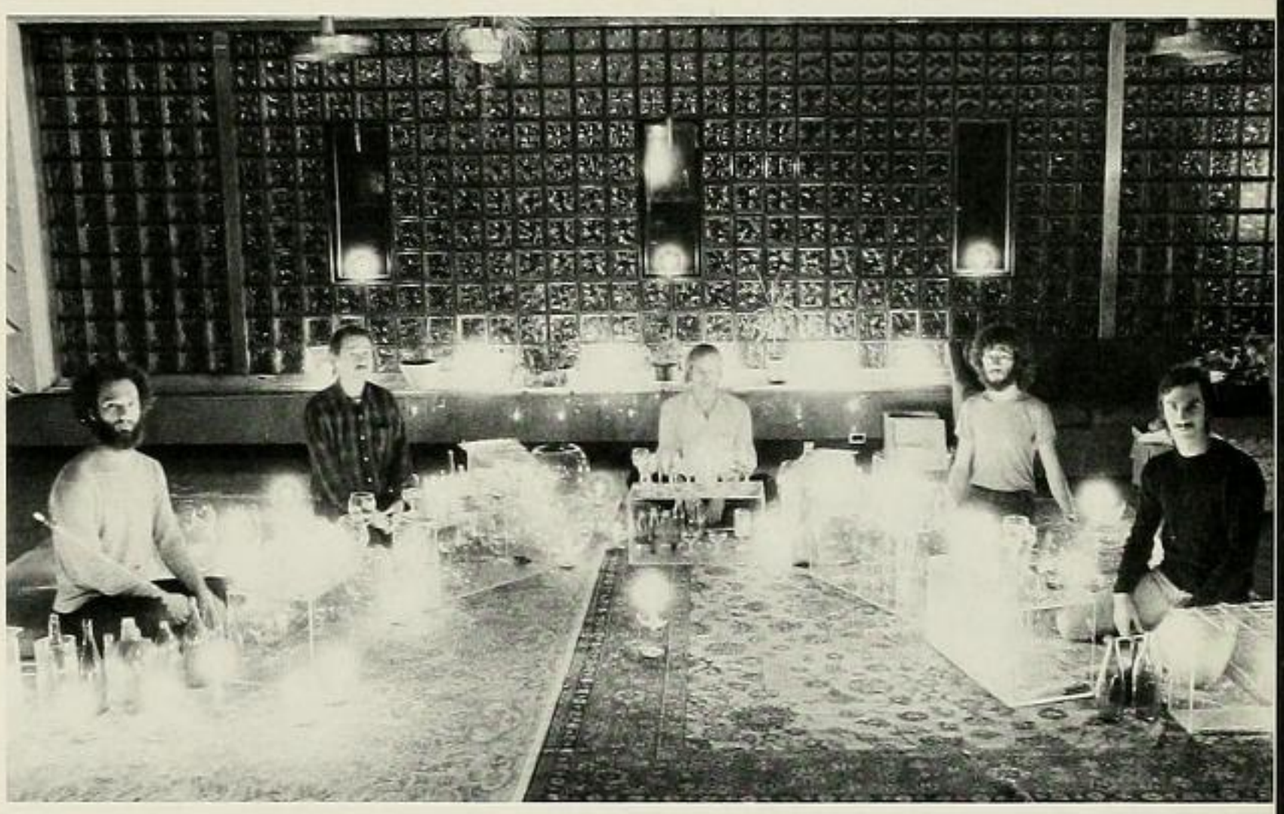
Miguel Frasconi
American, born 1956 New York
lives in Toronto

Marvin Green
Canadian, born 1956 Toronto
lives in Toronto

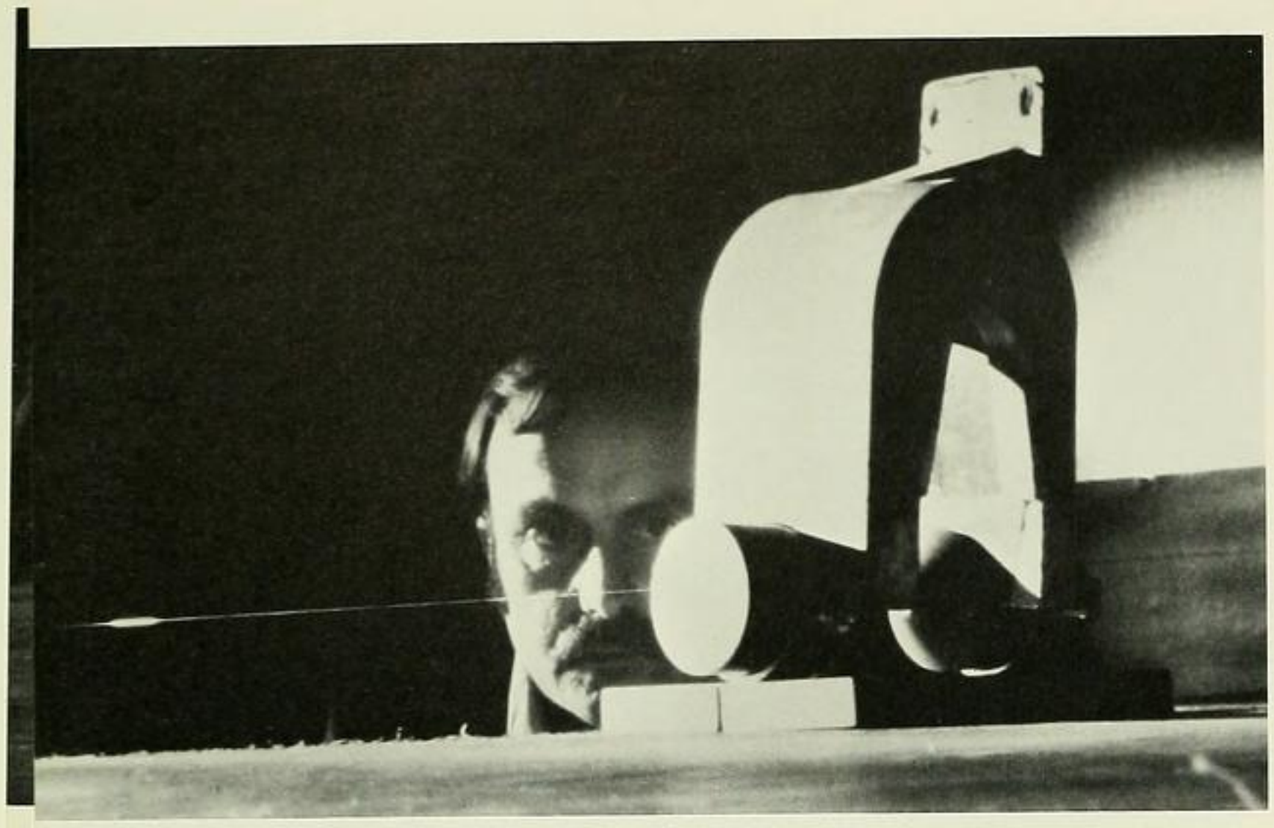
Paul Hodge
Canadian, born 1955 Toronto
lives in Toronto

residency 6– 18 December





Above: The Glass Orchestra in performance for the Hessicher Radio Network, Frankfurt, West Germany, February 1980, photo: Vid Ingelevics
Center: The Glass Orchestra in their Toronto studio
Below: The Glass Orchestra in performance at the University of Guelph, Ontario, November 1980, photo: Vid Ingelevics



ALVIN LUCIER
American, born 1931 Nashua, New Hampshire
lives in Middletown, Connecticut

Music on a Long Thin Wire 1977
A continuous musical installation for a non-proscenium space commissioned by and first performed at the Crane School of Music
State University of New York at Potsdam.
metal wire attached to two tables with clamps, wood or metal resonant bridges, a large magnet sine-wave oscillator, amplifiers, microphones, and loudspeakers
Mr. Lucier is represented by Performing Artservices, Inc.

installation 18– 29 November

PETER PHILLIPS
American, born 1930 San Francisco
lives in Brooklyn, New York

In 1973 composer Peter Phillips developed IMPACT (Individualized Music Perception and Comprehension Training), a program for children that features an active "learning-by-doing" method and a patented plan of instruction. Children in the IMPACT program build their own instruments, compose and perform their own music, form ensembles, and present concerts.

residency 20 October– 8 November

ERIK SATIE
French, born 1866 Honfleur
died 1925 Paris

Vexations 1893
A piano composition to be repeated 840 times in a twenty-hour solo performance by

Richard Cameron
American, born 1943 Cleveland, Ohio
lives in Carmel, New York

performance 26 October at 2 PM– 27 October at 12 NOON

Above: Alvin Lucier *Music on a Long Thin Wire* 1980, photo: Lon Holmberg
Center: Peter Phillips with a handmade instrument1981
Below: Richard Cameron playing Erik Satie's *Vexations*

DAVID TUDOR AND COMPOSERS INSIDE ELECTRONICS
Rainforest IV 1973

Composers Inside Electronics is a group of changing membership dedicated to the composition and performance of electronic and electro-acoustical music using circuitry designed and constructed by the members of the group. The members performing *Rainforest IV* in SOUNDINGS are:

Nicolas Collins
American, born 1954 New York
lives in New York

John Driscoll
American, born 1947 Philadelphia
lives in Brooklyn, New York

Philip Edelstein
American, born 1950 New York
lives in Stratford, Connecticut

Ralph Jones
American, born 1951 Philadelphia
lives in San Francisco

Martin Kalve
American, born 1951 Plattsburgh, New York
lives on Staten Island, New York

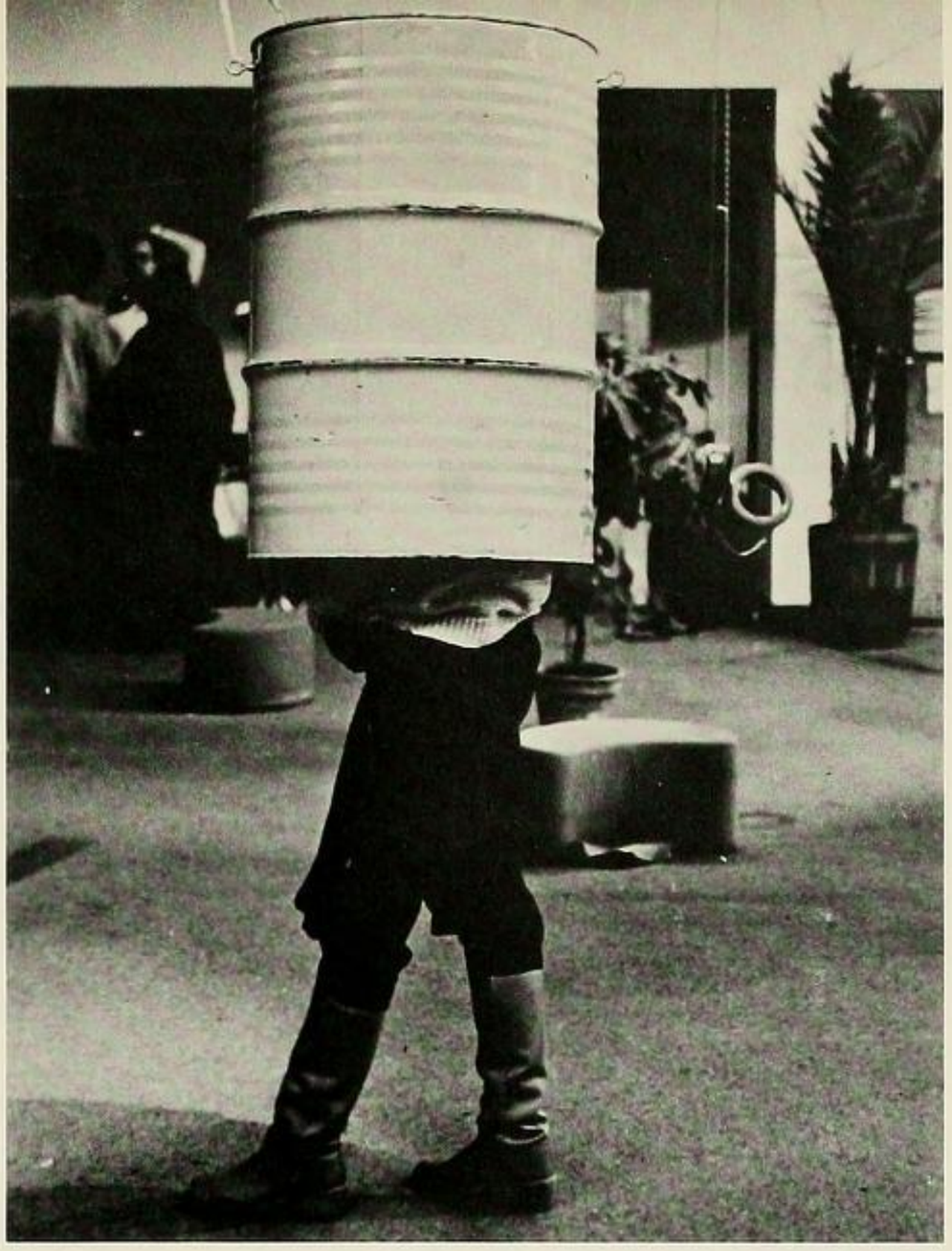
David Tudor
American, born 1926 Philadelphia
lives in Stony Point, New York

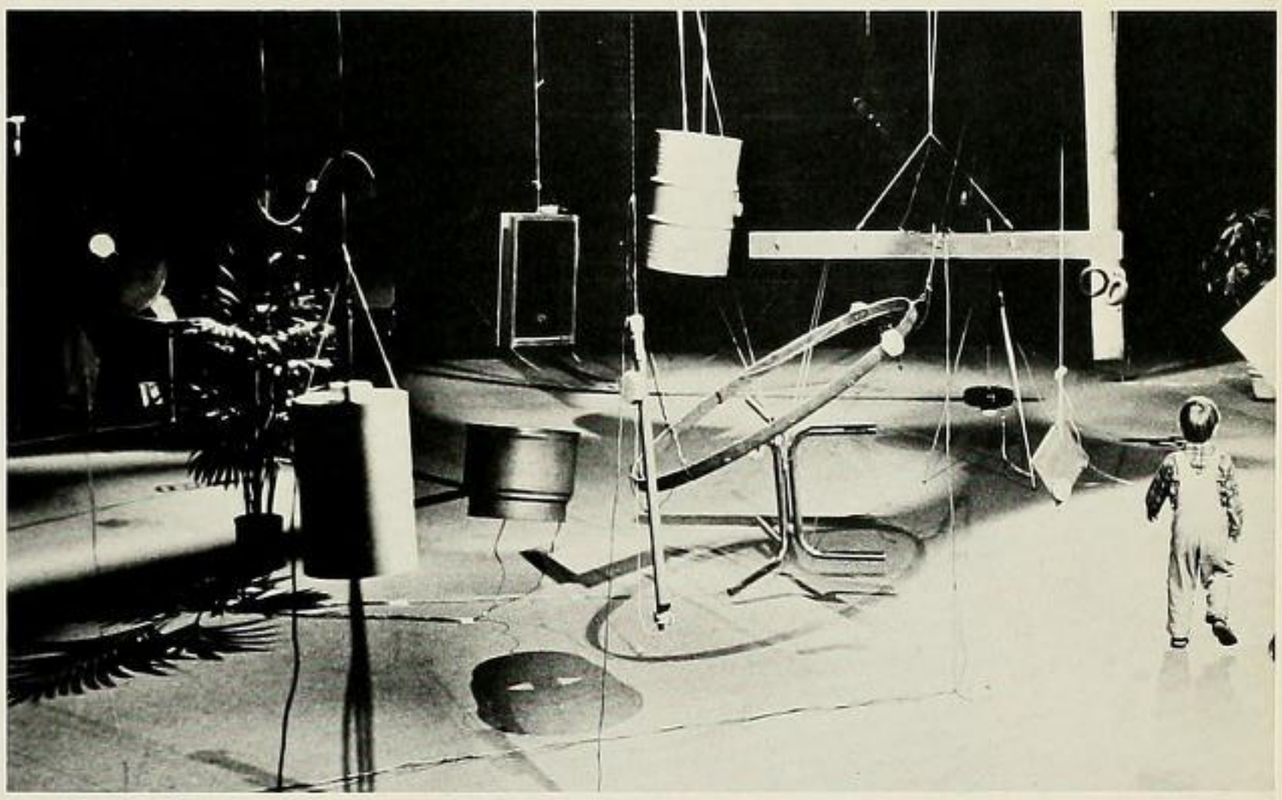
The original version of *Rainforest,* composed by David Tudor, was commissioned by the Merce Cunningham Dance Company in 1968 for a dance work of the same name. It was first performed at the State University College at Buffalo, New York, on 9 March 1968 as part of the second Buffalo Festival of the Arts Today.

Its present form, begun in 1973, is a collaborative environmental work, combining in space the live sounds derived from the resonant characteristics of physical materials which take the form of suspended sculptures and found-objects. The audience may move freely through the environment and come and go as they please.

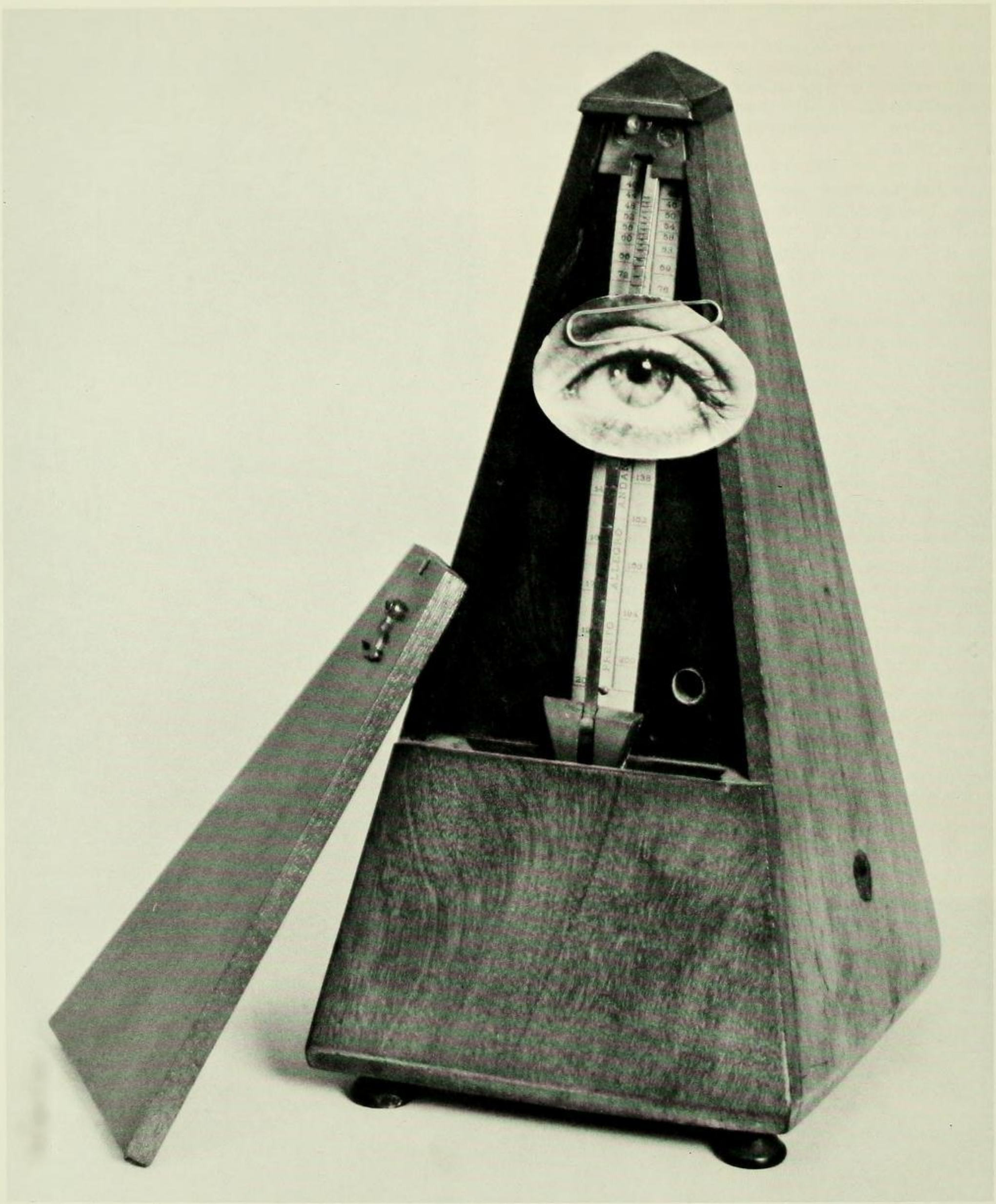
Composers Inside Electronics is represented by Performing Artservices, Inc.

residency 20 September—4 October





Above and Center: David Tudor's *Rainforest IV,* performance at L'Espace Pierre Cardin, Paris, November 1976, photo: Ralph Jones
Below: David Tudor during performance of *Rainforest IV,* The Kitchen, New York, September 1978, photo: Stan Ries



Man Ray *Indestructible Object* 1958, replica of *Object to Be Destroyed* 1923, photo Quiriconi-Tropea

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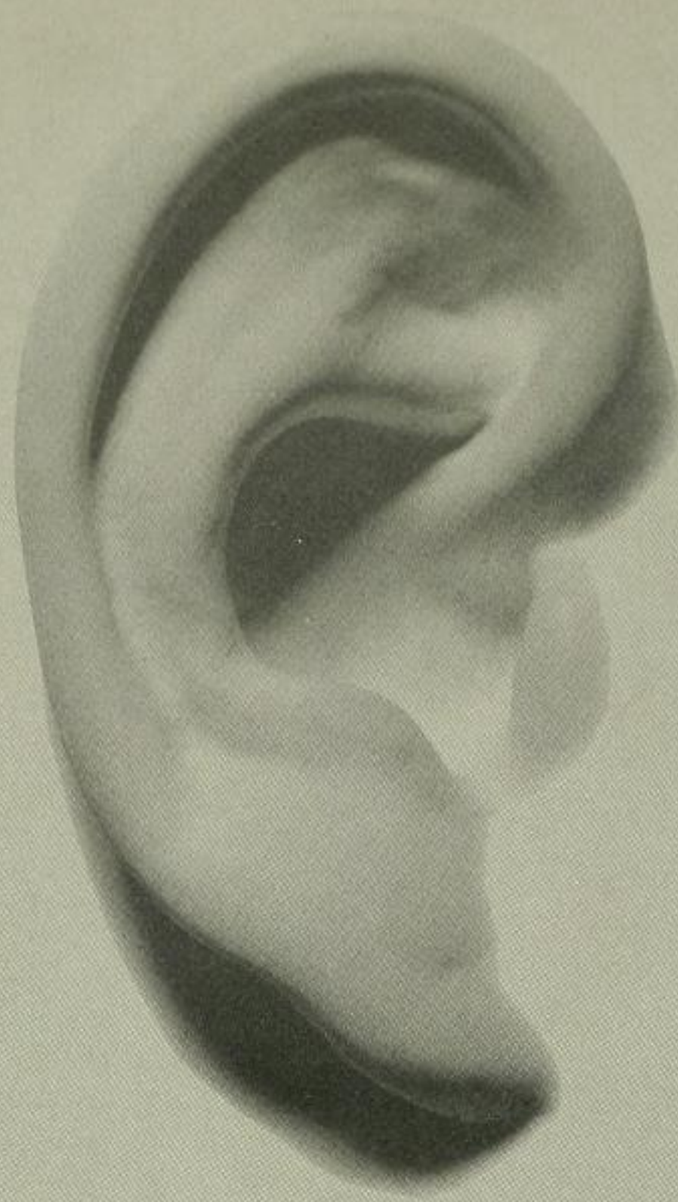
Edition: 3000

Type: Optima heads
Baskerville body copy

Paper: Warren 80# lustro offset enamel dull, text
Warren 100# lustro offset enamel dull, cover
Curtis 80# Tweedweave text, endpapers

Editing, Design, and Production: W2

Printing: The Falcon Press



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