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Soundsites: Max Neuhaus, Site-Specificity, and the Materiality of Sound as Place

A Dissertation Presented

by

Charles Allan Eppley

To

The Graduate School

in Partial Fulfillment of the

Requirements

for the Degree of

Doctor of Philosophy

in

Art History and Criticism

Stony Brook University

May 2017

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Abstract of the Dissertation

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The dissertation examines the sound-based artworks, or *sound works*, of the experimental musician and installation artist Max Neuhaus (1939-2009). This analysis accounts for the diverse roles of sound as an artistic medium in postwar American music, performance, and environmental art, 1958-1980. The dissertation provides a detailed overview of the *musical* performances, *anti-musical* compositions, and *post-musical* installations of Neuhaus and others to situate sound against dominant historical and theoretical accounts of *site-specific* and *environmental art*. The dissertation begins with an analysis of Neuhaus's tutelage and departure from *new music* composers John Cage and Karlheinz Stockhausen, 1958-1968, and assesses the diverse artistic, social, and institutional developments of the artist's innovative practice of *sound installation*. The dissertation orients *sound installation*, and its origin in percussion performance, as a convergence of postwar avant-garde art and music. In particular, this research describes how *sound installation* anticipated the spatial, temporal and phenomenological conditions of 1970s *site-specific* art. The dissertation also examines Neuhaus's use of printed matter and electronic media, including electronic circuits, phonography, telephone networks, and radio broadcasting, as a nascent model for *networked aesthetics*. This framework illustrates how the concepts of *site* and *place* are conditioned by distributed media environments. Finally, the dissertation proposes a new model of *unfixed site-specificity* to account for the fluidity of sound in complex material and virtual forms, redefining boundaries of music, sculpture, and public art. In this sonic frame, the act of listening is revealed as an essential paradigm for understanding the concepts of site, materiality, and place in postwar American art.

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Acknowledgments

I would like to thank many people for their support of my academic research and writing, and general well-being, during production of this dissertation.

Foremost, Elizabeth Arps has been most influential in the development and support of my ideas in this project and so in life. My work would not be possible without her kind thoughts, support, open mind, keen eyes, and open ears. Our dog Walter is particularly recognized for enduring countless late night writing sessions. My parents, Barbara and Gary Eppley, are likewise deserving of special praise for their unending support.

My professional and personal advisors at Stony Brook, Andrew V. Uroskie and Zabet Patterson, have also been continually supportive of my academic growth. In this regard, I must also thank my other dissertation committee members, Michele Bogart and Christoph Cox. Their expertise has certainly contributed to my success. Many friends, old and new, have entertained my thoughts, comments, and questions since this project began: Kelly Rae Aldridge, Sonia de Laforcade, Travis English, Jennie Goldstein, Matthew Mullane, Sophie Landres, Laine Nooney, Alena Sauzade, David Smucker, Evan Tachovsky, and Andrew Wasserman. Likewise, I would like to thank my professors at Hiram College who first encouraged my converging interests in music and art history: Tina Dreisbach, Christopher Ryan, and Lisa Safford. I am gracious to the following people for their assistance and support in this project by providing research assistance, guidance, professional opportunities, historical information, or simply time: Andrew Capetta, Seth Cluett, Philip Corner, Dasha Dekleva, Sam Hart, Alanna Heiss, Hannah Higgins, Branden W. Joseph, Alison Knowles, Ron Kuivila, Corey Matthews, Tom McCutcheon, Meredith Mowder, Megan Murph, Barbara London, Phill Niblock, Liz Phillips, Lauren Rosati, and Daria Semegen.

Finally, the strong support of Silvia Neuhaus and the Estate of Max Neuhaus is here specially recognized.

Thank you for listening.

Prelude to Noise

Max Neuhaus – Soundworks

I'm not interested in making music exclusively for musicians or musically initiated audiences. I am interested in making music for people.¹ [Max Neuhaus]

Listen to everything all the time and remind yourself when you are not listening.² [Pauline Oliveros]

Times Square: Situating postwar sound and art

Public monuments typically have a strong visual and physical presence. Whether abstract or representational, they are also usually also built around specific ideas or concepts that relate to a public body with which they communicate (or for which they are symbolic).³ Few monuments have no specific purpose. Less are entirely invisible, or made of sound. Max Neuhaus's (1939-2009) sound installation *Times Square* (1977-1992; 2002-Present) meets these criteria. *Times Square* has no identifying markings and is made entirely of sound, an ephemeral material difficult to observe. There is no clear visual referent or obvious physical presence. Art critic Arthur Danto called the work a "monument whose substance guarantees its invisibility."⁴ Similarly, Neuhaus called it an "invisible [and] unmarked block of sound," adding that "its [bell-like] sonority [is] an impossibility within its context."⁵ The work, unmarked and continuous for four decades, requires that we redefine the scope and limits of music, sculpture, and public art, particularly in relation to its rejection of dominant models of composition and spectatorship. Neuhaus built *Times Square* in 1977 – the first of several versions amidst four decades of artistic, institutional, and financial failure. The work, disassembled in 1992 and rebuilt in 2002, is currently composed of a dense column of electronic tones that continuously rise from below a nondescript triangular patch of subway ventilation grating. The exact site is located at Broadway between 45th and 46th Streets in the borough of Manhattan in New York City (i.e., in the middle of Times Square, a world-famous cultural and economic site). Emanating from below the grates, out of view from the listener, the work catches the ears of those who walk across its surface. *Times Square* transforms our experience of space, as well as place, through an unconscious act of subjective listening.

¹ Max Neuhaus, *Program Notes* (Toronto: York University, 1974): 5.

² Pauline Oliveros, "Deep Listening: Bridge to Collaboration" in *Sounding the Margins Collected Writings, 1992-2009*. (Kingston, NY: Deep Listening Publications, 2010): 26-31.

³ See Michele H. Bogart, *The Politics of Urban Beauty* (Chicago: The University of Chicago Press, 2006).

⁴ Arthur Danto, "Max Neuhaus: Sound Works." *The Nation* 252, no. 8 (March 4, 1991): 281-84.

⁵ Max Neuhaus, *Times Square Inscription Drawing*, 1992. Colored pencil on paper. Collection of Dia Art Foundation.

Neuhaus, a classically-trained percussionist who worked with Edgard Varese, Karlheinz Stockhausen and John Cage, rejected traditional *art music* in 1968.⁶ The virtuoso percussionist turned to Happenings, Fluxus, and environmental art practices to develop *anti-musical*, and later *post-musical*, sonic practices based on the construction of immersive environments rather than discrete musical performances or art objects. The development of *sound installation* as a form of environmental art, rather than avant-garde music or sound sculpture, allowed Neuhaus to experiment with placing sound in physical space rather than musical time. Neuhaus contrasted the preexisting, stilted, and noisy soundscape of Times Square (the neighborhood) with the continuous and calming electronic drones of *Times Square* (the artwork). The artificial sound is amplified and intensified within its empty chamber, and is perceived as a vertical column of sound above the street. The atonal frequencies are tuned to the natural resonant frequencies of the chamber, rather than pre-determined musical harmony, in order to vibrate the physical materials of the space. *Times Square* establishes a unique, if unconscious, sense of musicality, materiality, site, and community, by synthesizing its sound and environment.

Entirely unmarked, *Times Square* is easy to miss. However, the piece gained notoriety as *that weird sound* in Times Square district. Sometimes it served as a location marker: "Like most New Yorkers," said a Menil Collection spokesperson in 2009, "I thought for a long time it was the beautiful sound of the subway groaning and moaning... it became a wonderful place to meet on the way to dinner or the theater - standing in that Times Square traffic Island."⁷ Others claimed ownership of the strange sound with no apparent source, as an anonymous woman once told Neuhaus during a film production on the site in 1980. The woman approached the artist to ask if it was he who created piece, admitting that she had no idea it was an artwork and that she thought of it as her own private sound.⁸ *Times Square* has become an odd public anti-monument whose source was not only hidden but appeared totally absent, as if the sound in Times Square was simply always there. In fact, the piece has been a perennial source of conflict: it is legally torn between cultural representation by Dia, which in 2002 acquired the piece into its permanent collection, and the logistical and bureaucratic control of New York City agencies, including the Metropolitan Transit Authority (MTA) and the Department of Transportation (DOT), which both retain control over its physical site. *Times Square* exists between art and music, public and private, form and formless, material and immaterial, and known and unknown.⁹ *Times Square* illustrates the complex relationship of an artwork to its site, and highlights the important, if unheard, role of listening in postwar American art, 1958-1980.

Times Square, the artist's quintessential work, is a dense column of droning sound that continuously rumbles: there is neither beginning nor end to the work, which simply exists and is listened to either consciously or unconsciously. The work now symbolizes the parameters and techniques of *sound installation* as a method and genre of *sound art* (a rather fraught category). Neuhaus claims to have invented *sound installation* and its methods and concepts in the 1960s. Spatialized sound artworks, or what he called *sound works*, such as *Fan Music* (1967) and *Drive-*

⁶ I use the phrase *art music* as circumscribed by the fields of musicology and music history, referring to music composed for no specific religious, social, or political function (e.g., classical music). The concept is similar, in the visual arts, to *art pour l'art*.

⁷ Vance Muse quoted in Douglass Britt, "Texas Native Who Revolutionized Sound Art Dies," *Houston Chronicle* (February 3, 2009).

⁸ See Sanborn, John and Kit Fitzgerald, dir., *re:Soundings: Investigations into the Nature of Modern Music*. Purchase, NY: Neuberger Museum, 1983. Video.

⁹ For more on the history of *Times Square*, see: *Max Neuhaus: Times Square : Time Piece: Beacon* (Beacon, NY: Dia Art Foundation, 2009).

In Music (1967) epitomize the practice in its nascent stages, and approach sound as an artistic medium separate from music: a *formal material* to compose, dissect or otherwise manipulate, and a *durational material* with which to construct encounters with space and environment. *Times Square* proposed that music could be composed and experienced an open form, an unstructured sonic environment that is continuous in time, rather than a performed composition that comes to an end. Because such a piece has no beginning or end, the listeners control their own experience of the work (i.e., they create form and meaning through the decisions made in encountering the work through listening). *Times Square* attains a social function and is, in addition to being the material of the piece, tied to the emergent listening cultures of the postwar era. The work reflects music's ability to engender social meaning, in addition to its innovative formal structure that in turn challenges the category of music itself. Neuhaus emphasized this point when he said in 1974 amidst building the piece: "I am not interested in making music exclusively for musicians or musically initiated audiences. I am interested in making music for people."¹⁰ The interactions of sound to people had long been a crux of Neuhaus's art.

Neuhaus is celebrated for his use of sound as an artistic material, beyond music, but there is a foreboding problem of a *non-presence* of sound: sound is not a material that we can see, or touch, and listening is a category that is difficult to objectively quantify. Sound is an elusive, immaterial material, one that is despite our best efforts constantly beyond our grasp. Accordingly, the relation of sound to site is not easy to articulate and it is no surprise that in most accounts of Neuhaus's work, a mixture of musical composition, performance, Happenings, artist multiples, interactive sculpture, illustration, and site-specific installations, there is a glaring predilection for his mid- and post-1970s spatial sound environments (such as *Times Square*). In order to make sense of Neuhaus's broader artistic practice, including his musical works, we must develop a language to discuss sound from a materialist and acoustical point of view, rather than staying bound to sonic metaphors that support established notions of fluidity, ephemerality, and immateriality in postwar art (epitomized by the performative rhetoric of *post-Cagean aesthetics*).¹¹

Neuhaus embraced the theme of sonic spatialization and asserted that his sound works, especially sound installations, "[position] sound in space" rather than time.¹² For Neuhaus, the non-linear realm of acoustic space, as opposed to linear experience of time, offered new potential to explore the materiality of sound beyond its representation as musical semiotics (i.e., musical notation).¹³ By approaching sound as material beyond the confines of music, Neuhaus engendered an immanent sound practice based on direct experience of sound in material and environmental forms. This immanence depended on an autonomous listener who engaged with the piece, in part constructing its structures and meanings, in collaboration with the artist. According to Lynne Cook, Neuhaus cultivated an active form of listening "freed from the filter of the authorial voice."¹⁴ This cultivation occurred, notably, during a period that marked a mass rejection of high modernist form in painting, sculpture, literature, and dance, and the increasing interest in artistic fluidity, interdisciplinarity, and dematerialization.¹⁵ Indeed, many of the

¹⁰ Max Neuhaus, *Program Notes* (Toronto: York University, 1974): 5.

¹¹ See Liz Kotz, "Post-Cagean Aesthetics and the "Event" Score," *October* 95 (Winter 2001): 56-57.

¹² See Neuhaus, *Program Notes*, 3.

¹³ Sound installation counteracts the rigidly sequencing of sound in musical time.

¹⁴ Lynne Cooke, "Introduction," *Max Neuhaus: Times Square, Time Piece Beacon* (New York: Dia Art Foundation, 2009): 24.

¹⁵ I use the term dematerialization as defined by Lucy Lippard. See Lucy Lippard and John Chandler, "The Dematerialization of Art," *Art International* 12, no. 2 (February 1968): 31-36.

artist's works were (and those that are extant remain) incredibly subtle, often failing to register at all. This quality reflected his claim that the process of installing sound, rather than performing sound, gave individuals "a new way to listen for themselves."¹⁶ However, the artist's relationship to listeners clearly extends beyond the boundaries and limitations of musical composition and performance. The extension is apparent as his works partake in a structuring of material, and later virtual, space.¹⁷ Nonetheless, we must understand how his works and sound installation engaged with overtly musical ideas, especially in his transition from a musician to an artist, 1966-1968. How did the ideas surrounding his training in *new music* – specifically *live electronic music* – converge with his ultimate move toward the institutions, and alternative institutions, of visual art (including public art)?

By placing the sonic realm in material space, Neuhaus offered a radical departure from a crisis in musical composition after Cage, notably by removing sound from the structures of time. Neuhaus's sonic events and situations of the mid-1960s developed into continuous sound installations around 1967, when he began to create semi-permanent sonic spaces that anticipated durational and materialist strategies of site-specific art of the 1970s, particularly *earthworks* and *land art* movements. In this dissertation, I argue that the transformation of the art *object* into an *environment* was the result of an engagement with sound.

Sound is used in the *service of music* but it is not itself a *musical medium* – nor is sound bounded by the musical domain (i.e., the artistic forms, structures, concepts and cultural values, of musical composition, performance and spectatorship).¹⁸ The materials and concepts of sound extend to art and culture broadly, circumscribing the fields of musicology, art history, acoustics, media studies, sound studies and the history of technology. This dissertation shows how a *sonic art history* is explicit – if we listen. In this project, I use Neuhaus to examine the inclusive role sound in the arts, explore sound's contingencies to post-visual art of the 1960s, and account for its influences on the formation of site-specific art of the 1970s. The extension of sound as an artistic medium and a physical material from the domain of music to visual art, a largely spurious distinction, circumscribed interdisciplinary artists like Neuhaus. Neuhaus was a virtuosic musician – a solo percussionist at a time when the genre did not exist – who abandoned the concert hall in 1968. Specifically, Neuhaus left what he called the "proscenium situation," or the historical, cultural, and even architectural, conditions of the concert hall, as an artistic and social space, that organized people into clear orders of hierarchy: composer, performer, audience.¹⁹ In fact, Dick Higgins's concept of *intermedia* was also defined by a rejection of the concert stage, as he argued in "Intermedia" (1966): "The proscenium theater is the outgrowth of seventeenth century ideals of social order."²⁰ In order to experiment with these categories and boundaries of Western music, and sound as an artistic medium, Neuhaus developed his practice in the expansive postwar avant-garde. Neuhaus transitioned out of music to explore the open spaces of the post-visual, notably performance and conceptual art (an interstitial paradigm theorized by

¹⁶ Neuhaus was indebted to Cage in this sense, as we will see in Chapter One. See Max Neuhaus, "Listen (1966-1976)," *Sound*, ed. Caleb Kelly (Cambridge, MA: The MIT Press, 2011): 191.

¹⁷ For further information regarding overt manifestations of Cage's politics, see: Branden W. Joseph, "John Cage and the Architecture of Silence," *October*, Vol. 81 (Summer 1997): 80-104.

¹⁸ I am influenced by Douglas Kahn's research into artistic sound and energy. See Douglas Kahn, *Noise, Water Meat* (Cambridge: The MIT Press, 1999); and Douglas Kahn, *Earth Sound Earth Signal* (Oakland: University of California Press, 2013).

¹⁹ Neuhaus, *Program Notes*, 5.

²⁰ See Dick Higgins, "Intermedia," *Something Else Press Newsletter*, Vol. 1, No. 1 (February, 1966).

Fluxus artist Dick Higgins as *intermedia* art). How might an analysis of Neuhaus's *sound works* construct a shared history of listening as an artistic and social practice?

This dissertation closely examines the *musical*, *anti-musical* and *post-musical* artworks of Neuhaus. The following chapters examine the musical, material, environmental, and social trajectories of his idiosyncratic move from the realm of conservatory music to visual art. I utilize Neuhaus and his artwork to highlight and define the ambiguous but pervasive presence of *sound* as a new artistic material and *the sonic* as an artistic concept within postwar art, 1958-1980. This research situates Neuhaus among other transdisciplinary artists surrounding Happenings, Fluxus, and the Judson Church. I consider the musical impact on these artistic areas and highlight the role of sound in their formations, and highlight Neuhaus specifically because his sound works were both representational of a broader emergence in sonic art, yet also undeniably unique in their embedding of sound in non-linear material space. Neuhaus's oeuvre spanned nearly sixty years and an examination of his artistic history reveals a dynamic sonic art practice that unfolded over the second half of the twentieth century, both in line and at odds with dominant histories of postwar American art.

As a protégé of Cage, Neuhaus gained influence among the New York City avant-garde in the 1960s due to his energetic realizations of Cage's *Fontana Mix* (1958) and Stockhausen's *Zyklus* (1958). During the final stages of Neuhaus's career as a professional musician, he began to construct continuous and spatially-oriented sonic environments. Works such as *Listen* (1966), *Drive-In Music* (1967), *Water Whistle* (1971) and *Times Square* (1977), created unique acoustic, electronic, or electroacoustic sounds in public space (or private spaces open to the public, such as universities and museums). Other works such as *Public Supply* (1966) and *Radio Net* (1977) redefined public space as a non-contiguous environment mediated by telephone networks and radio. These works established basic formal and conceptual parameters of *sound installation* (and, for some, the genre of *sound art*). However, Neuhaus is rarely discussed in broad histories of postwar art and music. I argue that one reason, among others, is that art history has yet to conceive a practical methodology to understand and discuss non-musical sonic art, and has instead understood sound as a metaphor rather than a material. Accordingly, the materialist sonic practices of these formative decades are generally lost, both to art history and musicology, which instead emphasizes the *intermedia* theater of Happenings, the performative concepts of Fluxus and the structural processes of musical Minimalism. There is no comprehensive analysis of Neuhaus, an artist whose work evades these categories, and few critical accounts of his impact on the broader transformations within postwar American art and music. I am interested in pursuing that which lays in between, not to reclaim lost artistic geniuses – this project in general questions the idea of genius altogether – but to inform a nuanced history of postwar artistic practice that considers the sonic affects through which performance, conceptual art, and environmental art were originally formed, despite retroactive silencing in art historical or musical discourse (and the conditions of silence in the white cube).

This dissertation accounts for the understated – and understudied – role that sound played in the material, conceptual, and aesthetic development of postwar American art, 1960-1980. However, I place additional and perhaps equal focus on the formation of *new music* as an artistic paradigm, 1947-1970. In particular, I emphasize the relation of the field of new musical activity in relation to coexisting, and often coextensive, post-painterly practices and concepts in the visual arts: Happenings, Fluxus, minimalism, performance art, dance, and environmental art, are each considered. Artists working in these fields – some discrete movements, others generalized areas of activity – operated in a high modernist wake of Abstract Expressionism. In the late

1950s, high/late modernist art emphasized formalist composition, materialist clarity, and a presumed concept of artistic genius. In contrast, I examine the synthesis of performative and intermedia art practices from a sonic perspective, one that assesses new musical and avant-garde sound practices as a dominant category in postwar art.

The project takes dual historical and historiographical points of view to study not only the connections between these practices but also our historical understanding through artist statements, popular writings and academic research. The dissertation specifically considers the musical performances and non-musical sound installations of Neuhaus against the dominant historical and theoretical accounts of new music and performance art, along with corresponding theories of materiality, conceptuality, site-specificity and electronic mediation. The dissertation documents the artist's innovative practice of sound installation following his departure from his studies of (and with) composers like Cage, Stockhausen, Henry Cowell, and Edgard Varese, 1958-1968. This analysis signals an emergent form of environment construction that anticipated the spatial, temporal tendencies of *site-specific* and process-oriented practices, such as *post-minimalism* and *earthworks*, the roots of which I examine from *experimental music*, *spatial music*, and *sound art*. The dissertation examines Neuhaus's use of electronic media, including his many experiments with phonography, telephone networks, public radio, and digital computers. These experiments illustrate how the concepts of site and place change according to material and environmental conditions, whether physical, ecological, or socio-political.

Dissertation structure

This dissertation is structured into four primary chapters. There are also two smaller sections that precede the main chapters and a series of appendices that provide biographical, artistic, bibliographical, archival and other reference information. Much of the information is here collated for the first time, such as a complete bibliography and performance history.²¹ Each primary chapter discusses different paradigms in the artistic and institutional development of Neuhaus, ca. 1957-1980. The chapters are generally chronological, but the dissertation structure does not reflect a clear linear development of artistic style. At times, the material goes backward in chronology (such as in Chapter Four) to highlight concurrent themes. The approach mirrors his own career perspective, which he categorized according to thematic *vectors* prior to death. I use the artist's *vector* guidelines whenever they are useful, but do not remain beholden to them in my analysis of his artworks. (I discuss these artistic vectors and my approach to them in the subsection *Soundworks: Methods, Vectors & Anxieties*.) Each chapter focuses on a core theme

²¹ The concept of a comprehensive bibliography is fraught. I have included all found references to Neuhaus beginning in 1957 when he entered the Manhattan School of Music. However, due to his history as a touring and performing musician, it is very likely that not all previous or extant references are here listed, given the broad level of city-to-city, state-to-state, country-to-country research needed for such a task. Likewise, the performance history is as comprehensive as possible, contributing much more to our knowledge of his performative practice as a musician and otherwise. There is currently no published book that collects this information, including those published by Neuhaus. See Neuhaus (1994). I also am indebted to the Master's thesis of the musicologist Megan Murph, who has also researched Neuhaus for several years and whose thesis began an important collation of concert programs and repertoire information sourced from the Max Neuhaus Papers at Columbia University. This archive is also one of my own primary resources. I am similarly grateful to Dasha Deklava for her research on Neuhaus. See Megan Murph, "Max Neuhaus and the Musical Avant-Garde," M.A. thesis. Music. Louisiana State University, 2013; and Dasha Dekleva, "Max Neuhaus: Sound Vectors," M.A. thesis. Art History. University of Illinois at Chicago, 2003.

within the development of Neuhaus's musical, performative, installation and networked art practices. The dissertation consciously stops around 1980 because this year indicates several shifts in the formal, social and institutional nature of his creative practice.²²

The years around 1980 mark the artist's solicitation and invitation for commissions and to conceive long-term or permanent sound installations, often generated by or proposed to state-funded municipal bodies, endowed museum and/or arts nonprofit institutions and other private persons, official entities and corporations. The formal and institutional scope of these projects, beginning with pieces such as *Underground Chamber/Subsonic Loudspeaker* (1978) at the Museum of Modern Art (MoMA), *untitled* (1979) at the Museum of Contemporary Art, Chicago (MCA) and *untitled* (1980) at the Como Park Conservatory in St. Paul, Minnesota, offer a stark difference in how the artist approached sound installation as a genre, how pieces were conceived, developed, and installed, and also the economic status of the works as assets in museum and/or city collections of contemporary or public art. The early 1980s also reflected a shift in the physical location of his sound installations, along with their patronage, following the artist's permanent move to Europe between 1980 and 1983.²³ Neuhaus conceived and occasionally produced pieces in the United States throughout his career, but only six were ever realized after 1980. In contrast, twenty-seven installations were realized in Europe between 1980 and 2009.²⁴ The scope of these later works in regards to the above goes beyond the particular interests of my research, which focuses instead on the early development of Neuhaus and his movement away from music and toward the visual arts, and is this not pursued with detail at present. The large body of work produce from the year 1980 onward may be the artist's most accessible work, and certainly it remains the most long-lasting. However, these pieces together represent the culmination of some twenty-five years of creative practice, spanning many cultural and artistic domains, and are doubtlessly informed by his early maneuvering between the realms of new music and sculpture. The current knowledge of Neuhaus and his sound installation practice is mostly informed by the experiences of these later projects, rather than works created before 1980. These musical performances, anti-musical situations, post-musical environments were largely undocumented.²⁵ The most prevalent pieces, created around or following 1980, have been retroactively inscribed by earlier works of similar scope and structure, including *Times Square*, but the formally and conceptually diverse works of his earliest practices prior to the mid-career shift have been understudied. In particular, the direct influence of his musical background is largely absent. Where that influence is revealed, the impact of Cage is overstated, reflecting the mythical status of the composer within art history rather than a close analysis of the relationship of the composer to Neuhaus.²⁶ Cage is a helpful entry point for non-musicians to consider sound

²² For example, the artist's use of digital sound, computers and software to composer site-specific environments rather than performative gestures and analog circuits; the courting of large-scale commissions for permanent and sanctioned installations by prominent art institutions and municipalities; and the artist's personal relocation from the United States to Europe, which offered reliable arts funding opportunities for non-musical sound

²³ The exact date of Neuhaus's move to Europe is unclear, but it is likely that he moved to Paris to work on a piece at the Musée d'Art Moderne de la Ville Paris. This location also confirmed by Max Pyziur, an assistant to Neuhaus between 1978-1980. Oral interview with Max Pyziur (July 20, 2016).

²⁴ For a largely comprehensive list of Neuhaus's works, see: <http://www.max-neuhaus.info/soundworks/>

²⁵ Neuhaus was suspicious of audio recording, believing that the sounds and environments had to be experienced in person. A recording would be useless in conveying the specific features of the space and experience, much like a photograph of a performance. See Grubbs (2015).

²⁶ Neuhaus and Cage worked together repeatedly in the early 1960s. Nevertheless, Neuhaus was more or less a proxy for Cage's composition *Fontana Mix* (1958) in addition to a few other pieces included in the percussionist's early repertoire. The influence of Cage on Neuhaus as an artist is unmistakable yet likely overstated. The influence

as a non-musical artistic medium, especially from the perspective of contemporary art, but his influence on Neuhaus was less direct than it appeared.²⁷

Each chapter is grounded on one of four corresponding themes that characterize the aesthetic and conceptual premises of the first half of his career: *musicality*, *materiality*, *site* and *community*. This primary introduction section outlines the basic subjects, premises and arguments of my research and its structure in writing. The following section, “Setting the Score: Beyond Cage,” ruminates on the history and historiography of sonic in the discipline of art history to situate the influence of Cage on postwar art. I examine Cage’s own musical background and suggest George Brecht’s interpretation of his ideas produced a performative and conceptual sound theory which de-emphasizes a materialist non-performative perspective. I offer an alternative history to adjust the ‘post-Cagean’ legacy through Dick Higgins and discuss other composers whose musical ideas defined postwar sonic art.

The first chapter, *Music – New Percussion Music and the Postwar Avant-Garde*, situates Neuhaus’s early musical studies within the context of the emergent field of *new music*. Neuhaus’s education as a percussionist at the Manhattan School of Music is examined in relation to composers such as Cage, Karlheinz Stockhausen, Edgard Varese, Morton Feldman (and others associated with the New York School). This chapter establishes the musical foundation from which Neuhaus departed and closely examines his transition from concert hall to alternative performance spaces (in downtown New York and in Europe). This chapter outlines the artist’s earliest encounters with sound as an artistic material, one still circumscribed by linear time, performance, and musical composition. I focus on his role in the creation of a new repertoire for the domain of “solo percussion music,” epitomized by Stockhausen’s *Zyklus* (1958), and outline the work’s materialist influence on Neuhaus. I then focus on Cage’s *Fontana Mix* (1958) and Neuhaus’s own interpretation of the score, originally for tape and voice, through the mechanics of electroacoustic microphone feedback. Dubbed *Fontana Mix-Feed* (1964-68), the revised work envisions a type of *noise music* that subverted the values of refined composition and virtuosity. Using the architecture of the concert hall as a site to modulate noise, Neuhaus further articulates a materialist practice focused on the conditions of its performance site, as well as the open-form variable artistic structures. The chapter then examines the artist’s concept of realization, in which a work is produced out of a set of potential conditions brought to life, rather than through a scripted and performed composition, which is repeatable. Works by Feldman and James Tenney show Neuhaus pushing against the boundaries of performance and spectatorship, deskilling his virtuosic background. The chapter ends by examining his final performances as a percussionist, including a European tour, in which his repertoire practice is slowly replaced by increasingly avant-garde methods (including replacement of traditional percussion instruments with non-musical objects and electronics).

The second chapter, *Material – ‘But is it Music?’ Fluxus, Happenings & Anti-Musical Performance*, examines the emergence of Neuhaus’s anti-musical practice and the artist’s rejection of the “proscenium situation” in 1968. Following the commercial release of his LP *Electronics & Percussion* – an archive of his musical repertoire – Neuhaus navigated the wake of

of Karlheinz Stockhausen and other New York School composers Earl Brown and Morton Feldman are equally if not more important to Neuhaus’s ideas on spatial sound and sonic environment than Cage’s ideas of chance and silence.

²⁷ One might simply compare the explicitly performative nature of Cage’s experimental music (and musical environments) with the completely anti-performative experience of Neuhaus’s sound installation.

post-Cagean aesthetics from a perspective of the visual arts.²⁸ This chapter discusses Neuhaus in the context of a widespread interest in sound by postwar artists, especially among the paradigms of Happenings, Fluxus, and Judson Church performers. I ascertain Neuhaus's engagement with sound as an artistic material beyond music and outline his connections to postwar American art, particularly the sudden emergence of *situations*, *environments*, and *installations*. I discuss the transformation of Neuhaus's sonic practice from *musical* to *anti-musical* performance and describe how works like *Listen* (1966-76), a series of indeterminate sound walks around NYC, subverted the Cagean perspective by removing the audience from the concert hall. However, I also describe how these works were still bound to a musical paradigm (such as Neuhaus performing *Zyklus* after the inaugural *Listen* walk and reintroducing a concert setting). The work *American Can* (1966-67), featured as part of Charlotte Moorman's 4th Annual Avant-Garde Festival, also subverted musical form through an anti-musical dialectics, replacing percussion instruments with an everyday commercial object (aligned with the paradigm of Fluxus multiples). I describe how these works equalized a hierarchical relationship between composer, performer, and audience through acts of deskilling (and set up inclusive models of spectatorship that undermined the "proscenium situation"). I also contextualize Neuhaus's emerging aesthetic connection to Happenings, Fluxus, and Judson Church, including works like Schneemann and Tenney's *Noise Bodies* (1965) in which the artists (sometimes joined by Neuhaus) manipulated noise-making objects attached to their bodies. I continue the chapter by discussing Neuhaus's use of natural and artificial environments, including sunlight and radio waves, to build unique spatial sound structures. Ecologically-tuned works like *Fan Music* (1967) (in which photo-sensors controlled oscillators on a SoHo rooftop) and *Drive-In Music* (1967) (in which car radios are tuned to ephemeral electromagnetic radio fields), reveal the artist expanding his aesthetic frame toward continuous auto-generative sound. The installation *House of Dust* (1968), produced with Alison Knowles, is revealed as Neuhaus's first permanent sound installation. The chapter ends by conveying the artist's total rejection of the concert hall and embrace of alternative sites, including public space.

The dual materialist and durational works of Chapter Two lay the conceptual and formal groundwork for the artist's practice of *sound installation*, which is the focus of Chapter Three: *Site – Experiments in Space, Place & Environmental Sound, 1968-1980*. This chapter examines the chronological, thematic, and technical development of Neuhaus's sound installations throughout the 1970s. However, I first summon concurrent models of spatial sound by other figures, including architect Bernhard Leitner, to lay a foundation for Neuhaus's exploration of physical acoustics. I also examine early examples of gallery *sound installations* at the Museum of Modern Art, such as those in the exhibition *Spaces* (1969), to address an emergent institutional frame for sonic art. This chapter underscores the importance of sound installation in the context of postwar environmental and conceptual art, presenting sound as a material and conceptual bridge between Happenings, Fluxus, and a new paradigm of *site-specific* art. I then discuss how Neuhaus engaged concepts of site and place in his earliest sound installations. *Water Whistle* (1971-74) was a recurring series of subaquatic compositions that explored how sound propagated under water, rather than air, and how conditions of listening were affected by one's experience of space (and vice versa). I show how *Water Whistle* developed as his primary artistic focus for half of a decade, and how the work engendered a conflict between his existing reputation as a musician and desire to be an artist (a conflict spanning both aesthetic and institutional planes). I then discuss how the sound installation *Walkthrough* (1973-77) continued

²⁸ See Liz Kotz, "Post-Cagean Aesthetics and the "Event" Score," *October* 95 (2001): 55-99.

the ecological controls of *Fan Music*, but also highlight the work, which was designed for the subway system, as his first to be (1) permanent, (2) built for a specific public architectural space, and (3) designed to fold into its soundscape. I examine how these three conditions – permanence, publicness, anonymity – became a basis for his sound installations. The chapter then details the creation of *Times Square* from both formal and institutional perspectives, describing how the installation challenged the material limits of sculpture and durational limits of music. I show how the work was, and remains to be, situated on contested public space between private and public agencies, economies, and authorities. I then follow Neuhaus’s career as he receives commissions from large art institutions, such as a temporary installation in the MoMA sculpture garden, an early encounter with an art museum that was professionally rewarding but also ideologically fraught. In this context, I summon Brian O’Doherty’s “ideology of the gallery” to examine silence as an implicit condition of the white cube that forces Neuhaus outside of the museum walls. I describe a similar institutional complication at the Museum of Contemporary Art, Chicago and the Como Park Conservatory, where two permanent sound installations were dismantled due to the aesthetic, curatorial, ideological tensions. Finally, I highlight the unique spatio-temporal conditions of sound, as a dynamic and fluid material, to argue against the immobile and *fixed* sense of space embraced by current models of site-specificity. In turn, I argue for an *unfixed* model of site-specificity that frames Neuhaus’s installations as ecological systems not bound to determinate coordinates. I also summon the cultural theory of site-specificity, as theorized by Miwon Kwon, to interpret sonic art within a changing cultural sphere, underscoring economic and social challenges of creating sound installations in contested public space.

The fourth chapter, *Community – Distribution Networks, Unfixed Media & Shared Sound Ecologies, 1966-1994*, considers the material structures of media networks built or exploited by Neuhaus throughout the 1960s and 1970s. I consider Neuhaus’s use of media in direct relation to his spatially-oriented works, revealing a hidden materiality within media networks. I first consider his early experiments with printed matter (e.g., vinyl records) and electronic media (e.g., electronic circuits) to further challenge site-specific theories that rely on fixed space. I extensively consider Neuhaus’s relation to the paradigm of artist multiples through the MassArt, Inc. company, which produced a vinyl record of Neuhaus’s *Fontana Mix-Feed* recordings, which functioned as an artist multiple. I discuss how the company produced a series of customized feedback devices, known as *Max Feed* (1966-68), in relation to the album and how this gesture sublimated Neuhaus’s previous status as a virtuosic performer: rather than relying on him to perform music as an expert, this device gave listeners the ability to produce their own music, thereby eschewing the need for a conservatory-trained musician (or the concert hall). I describe how the electronic circuit did not simply de-skill his musical practice, like concurrent anti-musical performance, but sidestepped musical processes altogether to envision an entirely post-musical paradigm (later realized by *Times Square*). I again situate his use of electronics in the context of Fluxus and Happenings to reframe the discussion in Chapter Two through the thematic lenses of mediation, reproducibility, and networked aesthetics. I consider Neuhaus’s engagement with the three-dimensional magazine, *Aspen: The Magazine in the Box*, which published another vinyl record. In this context, Neuhaus’s musical performance is fractured and distributed through a physical network that creates a delayed sense of virtual and non-contiguous community. Following this encounter with printed matter, I explore how Neuhaus created an unprecedented model of virtual space using public radio networks in the 1966 work *Public Supply* (1966-73), which synthesized live telephone calls and radio broadcasts in an interactive

feedback loop between listeners and their public radio stations. Drawing from theories of media ecology, I discuss the ability of sound to exist in many places simultaneously, converge private and public space, and flatten geographical distances. I then contextualize Neuhaus's later radio experiments, such as *Radio Net* (1977), in a broader cultural context of public radio as a non-contiguous space for community-building, particularly as a site for *new music* and audio experimentation (and related to the concept of "listener-sponsored radio").²⁹ I examine Neuhaus's ability to instrumentalize media and communications networks, both print and electronic, to construct unique virtual systems in which strangers produce and experience art collectively. Finally, I summon the sociologist Jurgen Habermas to frame these virtualized sonic networks as a new type of mediated public sphere, one that, unlike the localized and physical *Times Square*, is distributed and virtual.

Max Neuhaus and 'sound art' discourse

Neuhaus is often described as a progenitor of *sound art*. However, as a category the term *sound art* conveys as much information as *paint art* or *stone art*. As Neuhaus observed, "medium is not often the message."³⁰ The fetishization of sound as a medium is noted in the artist's oft-published observation that anything that makes or is about sound is considered 'sound art' within major museums and galleries, arguing that "[the same curators] who would all ridicule a new art form called... 'Steel Art'... composed of steel sculpture combined with steel guitar music along with anything else with steel in it, somehow have no trouble at all swallowing 'Sound Art'."³¹ Accordingly, this dissertation is not concerned with defining or delimiting limits of sound art as a genre. Instead, my research assumes that the term refers to a broad variety of sound-based artistic practices that incorporate or ruminate on sonic forms and concepts (i.e., either audible or silent), and which are naturally inter and/or transdisciplinary. Likewise, the delimitation of sound art as a genre was of little importance to Neuhaus – at many times it was a burden professionally – and this dissertation is oriented as such.³² Nonetheless, a brief overview of extant sound art literature is requisite for situating the artist's work within existing discourse. This discourse circumscribes media studies, philosophy, art history, and music history, but is overwhelmingly oriented to the study of sound art. Indeed, references to Neuhaus are scarce within more conventional texts of musicology, music history, or art history. The majority of references to Neuhaus's work, which consider it seriously rather than a passing note, refer to the interstitial areas of sound art, sound sculpture, sound installation, and new media art. Sound art as a historical and aesthetic category is arguably over a century old. (Neuhaus's contribution, as we will see, was separating sound from its linear durational musical base and orienting it instead in a non-linear material physical space.)

However, the historical and critical discourse surrounding sound art is relatively young. Before describing Neuhaus's particular career in detail, I will briefly overview existing sound art

²⁹ See Lewis Hill, "The Theory of Listener-Sponsored Radio," in *The Exacting Ear: The Story of Listener-Sponsored Radio*, ed., Eleanor McKinney (New York: Pantheon Books, 1966): 19-26.

³⁰ See Neuhaus, Max. "Sound Art?" Liner notes for Volume: *Bed of Sound*. New York: P.S. 1 Contemporary Art Center, 2000. CD.

³¹ *Ibid.*

³² For further discussion of this topic, see the writings of Seth Cluett, Brandon LaBelle, Branden W. Joseph, Christoph Cox, Seth Kim-Cohen, Paul Hegarty, and Asa Stjerna.

literature and how Neuhaus has been characterized within these writings, which include collected volumes, exhibition catalogues, and academic surveys. Indeed, some of the earliest critical books on sound art came directly from artists, galleries, and museums and offer an exhaustive, prescient view of the field's vast scope. I cannot discuss all relevant titles here – since 2010 there has been a steady increase in publication of sound art titles. Instead, I will highlight and review the most notable works as relevant to this study and to Neuhaus's career.³³

The 1982 exhibition *Soundings*, shown at the Neuberger Museum, published an extensive catalogue. The massive exhibition, curated by Suzanne Delehanty, included works from across the twentieth century and was grouped thematically. Futurist sound poetry, shown via prints and paintings, was shown with 1960s sound sculpture and 1970s sound installations. Musical scores were displayed as were audio recordings. The show was among the first, and largest, museum exhibitions solely dedicated to sound art until the 2000s. Delehanty wrote an exhibition essay that detailed the curatorial scope of the show and highlighted material, thematic, and conceptual connections between the works, outlining a basis for a sonic art history yet unheard. “At the beginning of this century, sounds began to reverberate throughout the once silent and timeless world of the plastic arts,” Delehanty claimed, arguing that “sound, gathered from the space around us by our skin and bones, as well as by our ears, is inextricably bound to ... out perception of and experience.”³⁴ Delehanty discusses sound in modernist art, including Dada, Futurism and Surrealism, as a way to challenge staid modernist forms and invite formal mobility and unexpected structures.

In discussing postwar art, especially following Cage, Delehanty highlights how sound as a medium challenged norms and values of spectatorship in installation, sculpture, and performance. The essay moves swiftly via unexpected connections, stretching across Romantic and Symbolist painting, modernist painting and sculpture, Thomas Edison and Albert Einstein, Charles Baudelaire and Hugo Ball, Marcel Duchamp and John Cage, and Erik Satie and Robert Wilson. Delehanty highlights the “correspondence between music and the plastic arts,” particularly the move toward visual abstraction, a move in part inspired by the natural abstraction of music (a condition that has been long known to composers and music historians, such as the basis of objective truth for Pythagorean harmony).³⁵ Delehanty discusses the broad influences among Kandinsky and Shoenberg, Kupka and Scriabin, Wagner and Heilmholtz. In particular, Delehanty highlights Luigi Russolo's *The Art of Noises* (1913) as a basis for a new sonic materialism in visual art, or “the plastic arts,” followed decades later by Cage. Younger artists like David Tudor, Robert Morris, and Alvin Lucier are spoken of in this regard, each having developed, in relation to Cage, concurrent and countering models of musical and non-musical sonic art. Speaking directly to the work of Neuhaus, Delehanty was brief:

[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

³³ For a comprehensive overview of sound art exhibitions, see Seth Cluett, *Loud Speaker: Towards a Component Theory of Media Sound*. Dissertation. Music. Princeton University, 2013.

³⁴ Suzanne Delehanty, “Soundings,” *Soundings* (Purchase, NY: Neuberger Museum, 1982): 7.

³⁵ *Ibid.*, 8.

identified as a work of art – Neuhaus’s environmental piece may be perceived aurally by attentive passers-by.³⁶

Neuhaus was only represented in the show via two-dimensional works that detailed sonic forms and concepts of his preexisting sound installations, which were too big, and site-specific, to be rebuilt in a gallery. (This problem, as it were, was a recurring issue for Neuhaus in his attempt to form a post-musical career in visual art.) For example, *Times Square* was shown via photographs and *Radio Net* (1977), a national public call-in radio installation, was shown via a photo-collage with textual annotation.

However, the general scope of the exhibition and its acknowledgement of sound’s unique ability to subvert spectatorship was noted: “If sound, music, and noise offered visual artists a means to represent the continuum of space-time, it extended artist’s ability to elicit new responses from the once passive onlooker.”³⁷ “The entrance of sound, both heard and unheard, into the plastic arts heralded... a new beginning [of hybrid objects],” said Delehanty, adding that “sound announced that human experience, ever changing in time and space ... had become both the subject and object of art.”³⁸ In the same catalogue, the critic Dore Ashton again noted the influence of Cage: “Younger composers [were] stimulated by Cage, [and more] closely allied with the art world than [music]. Morton Feldman... saw in his own work a ‘plastic quality’.”³⁹ Like Delehanty, Ashton saw sound as a key ingredient in the rise of *intermedia* art practice, and highlights Neuhaus as an eschatological culmination of Wagner’s century-old *gesamtkunstwerk* concept:

The percussionist Max Neuhaus 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 on 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.”

Dan Lander and Micah Lexier’s *Sound by Artists* (1990) poses another perspective. The work, a collection of artist writings and critical essays, reaffirms Delehanty’s expansive vision of sound art discourse. The book includes Delehanty’s exhibition essay in addition to writings by Cage, Christina Kubisch, Richard Kostelanetz, Alivin Lucier, Annea Lockwood, R. Murray Shafer, Christian Marclay and Douglas Kahn. Like the Soundings exhibition, *Sound by Artists* attempts to locate similarity and difference within sonic art practice. Unlike *Soundings*, this book primarily focuses on contemporary art and does not establish a larger historical survey (despite depending on such as survey). Instead of building a historical canon, this book addresses how that canon has been transformed in the postwar era, particularly the later decades of the twentieth century, 1970-1990. The book includes Neuhaus’s short artist essay “Listen,” which outlines his

³⁶ Delehanty, “Soundings,” 11.

³⁷ Ibid.

³⁸ Ibid., 12.

³⁹ Ashton, Dore, “Sensoria,” *Soundings* (Purchase, NY: Neuberger Museum, 1982): 18.

“first independent work as an artist.”⁴⁰ In an essay from 2000, “Sound Art?,” Neuhaus articulates and challenges the complexity of the term and its broad definitions in gallery and museum settings (i.e., in visual art). Neuhaus argues that the term ‘sound art’ is meaningless and conveys “anything which has or makes sound and even, in some cases, things which don’t.”⁴¹

Douglas Kahn’s *Noise, Water, Meat: A History of Sound in the Arts* (1999) remains a definitive work of sound art scholarship. The large work gives an extensive and thematic survey of sonic art practices over the twentieth century, and intentionally merges the discipline of art history with that of music history and media theory, as well as the history of technology. Kahn establishes a canon of sound art and experimental music, including avant-garde performance art, by focusing on sound in art through material and conceptual links. The book interprets sonic art with both philosophical and aesthetic arguments, and puts forth a convincing, and alternative, history of twentieth century art, music, and literature. Kahn reappraises established movements, from Dada and Futurism to modernist cinema, through a sonic lens to locate the hidden forms, structures, and concepts. Kahn connects these topics to postwar counterparts, including the role of Cage on visual art in the 1960s, and the ability of sound to have eroded modernist form. However, the book lacks a focus on social, political, or economical conditions, and primarily emphasizes artworks encountered in the gallery, museum, and concert hall.⁴²

Kahn’s canonized and interdisciplinary perspective is reinforced by the sound artists Alan Licht, Brandon LaBelle, and Seth Kim-Cohen, each of whom updated sound art discourse for the 2000s. In particular, Licht, LaBelle and Kim-Cohen concretized the thematic interplays of Kahn, who was influenced by both Deleahanty’s and *Sound by Artists* (to which he contributed an essay on the “phonographic arts” and the “regime of the visual”).⁴³ These authors attempt to rewrite art and music history by inserting sound art into the domain of each, or by creating a musical canon in art history and vice versa. These books often reframe or connect musical topics or movements, such as *minimalism*, to existing art historical discourse – a bridge-construction between existing disciplines rather than an entirely new discourse. Whereas Licht and LaBelle focus on aesthetic and formal questions, Kim-Cohen opens sonic artworks to broader philosophical and cultural realms, a representational perspective in which he theorizes a *non-cochlear* (or *non-ear*) sound art. I will discuss each briefly in chronology.

Licht’s article “Sound Art: Origins, Development, and Ambiguities,” provides a similar overview of form, medium, and style. Regarding Neuhaus, Licht reiterates the artist’s oft-quoted rejection of the term sound art:

[People] call what is essentially new music something else – “Sound Art.” ...
Aesthetic experience lies in the area of fine distinction, not the destruction of
distinctions for promotion of activities with their least common denominator, in

⁴⁰ Max Neuhaus, “Listen,” in *Sound by Artists*, eds., Dan Lander and Micah Lexier (Toronto: Blackwood Gallery, 1990): 63.

⁴¹ Max Neuhaus, “Sound Art?” Liner notes for *Volume: Bed of Sound*. New York: P.S. 1 Contemporary Art Center, 2000. CD.

⁴² Douglas Kahn’s *Earth Sound Earth Signal: Energies and Earth Magnitudes in the Arts* give a broader aesthetic scope, and expands the art historical focus of *Noise, Water, Meat*, including its emphasis on sound, to other social and technological paradigms, as well as other energies such as light and electromagnetism. See Douglas Kahn, *Earth Sound Earth Signal* (Oakland, CA: University of California Press, 2013) and Kahn, *Noise, Water Meat* (Cambridge: The MIT Press, 1999).

⁴³ Douglas Kahn, “Audio Art in the Deaf Century,” in *Sound by Artists*, eds., Dan Lander and Micah Lexier (Toronto: Blackwood Gallery, 1990): 301.

this case, sound. Much of what has been called “sound Art” has not much to do with either sound or art.⁴⁴

Elsewhere in the article, Licht describes how Neuhaus “worked with sound from environment and as environment,” in turn highlighting him as a “pioneering example of an instrumentalist who abandoned performance completely to work with sound as an ‘entity’.”⁴⁵ Despite the vitalist rhetoric of a sonic ‘entity’ (Licht takes this term from Neuhaus), the artist did not consider sound as a *living* medium. For Neuhaus, sound was a formal material from which to construct space through sound and its subjective comprehension (i.e., the vitality lays in the listener, not the sound). Furthermore, as this dissertation shows, Neuhaus’s move away from the concert hall was not exactly a “complete” abandoning of performance, but a slow profession from a *musical* to *anti-musical* and *post-musical* practice. The concept of performance was not so much abandoned as it was reframed and subverted. In his book *Sound Art: Beyond Music, Between Categories* (2007), Licht later describes *Times Square* (1977) as the artist’s “first permanent installation,” which is partly true, but downplays the importance of earlier works, including the intended-as-permanent *Walkthrough* (1973).⁴⁶ This dissertation examines the long history of sound installation, as developed by Neuhaus, to reveal how exactly he arrived at *Times Square*. Licht further highlights Neuhaus’s formative *sound walk* practice, epitomized by *Listen* (1966), as a foundation for contemporary iterations of the form, and astutely recognized the connections between early sound art of the 1960s and the emergent *environmental art* movement:

The first generation of sound artists (Annea Lockwood, Bill Fontana, La Monte Young, Maryanne Amacher, Bernhard Leitner, Max Neuhaus) emerged [at the] same time as the Earthworks and Land artists.... While Descartes may have thought that sound originates in the human ear, the invention of microphones and tape recorders proved, through the recording signal transferred to tape, that sound was most certainly an external phenomenon, as well as a universal and elemental force, like earth, light, water, or air.⁴⁷

This dissertation continues Licht’s keen observation and places Neuhaus amidst the emergence environmental art to reconsider how sound helped define related concepts of materiality and site-specificity in this period. Finally, Licht – like Neuhaus – concludes: “As a term, *sound art* is mainly of value in crediting site or object-specific works that are not intended as music per se [but refer to] sound pieces created in a non-time-based, non-programmatic way.”⁴⁸ The works of Neuhaus exemplify this definition of sound art, which is not necessarily as total separation from music, but rather a tendency for non-linear and spatial methods and concepts.

Similarly, LaBelle’s *Background Noise: Perspectives on Sound Art* (2006) poses a formal and stylistic history of sound art to establish an interdisciplinary canon, focusing on specific projects and case studies to reorient sound art as connected to concurrent movements in postwar music and art. LaBelle also views the emergence of sound art in direct relation to site-specific, performance, and installation art of the 1960s and 1970s. LaBelle says that “the works of

⁴⁴ Alan Licht, “Sound Art: Origins, Development and Ambiguities,” *Organised Sound* 14(1): 3.

⁴⁵ *Ibid.*, 5.

⁴⁶ Alan Licht, *Sound Art: Beyond Music, Between Categories* (New York: Rizzoli, 2007): 269.

⁴⁷ *Ibid.*, 124.

⁴⁸ *Ibid.*, 9.

[Neuhaus incite] an integration of the visual and sonic arts,” and argues that sound actively influenced the above practices as they developed: “It is my view that such correspondence is not by chance, for the very move away from objects toward environments, from a single object of attention and toward a multiplicity of viewpoints, from the body toward others, describes the very relational, spatial, and temporal nature of sound itself.”⁴⁹ However, LaBelle acknowledges the disparity between sound art and the disciplines of art history, music, and media studies: “It is my intent to [insert] the history and context of sound art alongside and within the history and content of site-specificity, so as to recognize how sound art is built around the very notion of context and location.”⁵⁰ As with Licht, LaBelle often finds ground by connecting performance and installation art to experimental music, focusing on the wake of Cage, who “positions music in relation to a broader set of questions to do with social experience and everyday life.”⁵¹ In particular, LaBelle describes how Cage’s “extra-musical” context “[shifted] away from music and toward sound, and more important, from the symbolic and representational (music) to the phenomenal and nonrepresentational (noise).”⁵² LaBelle credits Neuhaus with the “inauguration” of sound installation, stating that:

Sound installation brings together sound and space in a provocative and stimulating manner, often drawing upon architectural elements and construction, social events, environmental noise, and acoustical dynamics, in and out of the gallery, while drawing upon musical understanding.⁵³

This dissertation builds off of LaBelle’s ideas to frame Neuhaus as a central figure within these contexts, particularly as an artist who bridged the visual arts to experimental music, but also moved beyond those categories altogether. Regarding Neuhaus, LaBelle emphasizes the relation of sound installation to architecture: “Architecture is [dissected and redrawn] by positioning sound a work in relation to its given acoustics.”⁵⁴ Indeed, a central method for Neuhaus was the activation of acoustic, and later often architectural, space (such as *Times Square*). However, the artist simultaneously engaged with the virtual realm of radio broadcasting and developed methods and concepts of site-specificity not bound to architecture (such as in *Public Supply* and *Radio Net*). For LaBelle, the encounter with architectural space, and physical material, “[demarcates sound installation] from the legacy of experimental music and [enters] a more thorough conversation with the visual arts.”⁵⁵ However, this argument presumes a sculptural rhetoric, one that gives primacy to physical space and fixed location in a manner that makes sound installation amenable to established theories of site-specificity:

Neuhaus rigorously constructs sound experiences by working with the specifics of a given space or location... audibility becomes inconceivable outside the functioning qualities of architectures and the particulars of a given place... [Neuhaus] fixes sound to its spot.⁵⁶

⁴⁹ Brandon LaBelle, *Background Noise: Perspectives on Sound Art* (New York: Continuum, 2006): xii.

⁵⁰ Ibid.

⁵¹ Ibid., xiii.

⁵² Ibid., 9.

⁵³ Ibid., 151.

⁵⁴ Ibid., xiv.

⁵⁵ Ibid.

⁵⁶ Ibid., 154.

In this language, works like *Times Square* are understood in the language of sculpture: it has clear boundaries and is fixed in static space, despite the fact that its sound actually dissipates in all directions and is essentially formless. Unlike stone or metal (or even felt or plastic), sound is always moving; it never exists in a constant state. Nonetheless, *Times Square* is granted the status of visual art by virtue of its positioning in *fixed space*, or its locational determinacy. This dissertation challenges the concept of *fixed space* and the rhetoric of sculpture that is cast upon sound installation (and at times eagerly exploited by Neuhaus to engage with visual art spaces, such as museums and galleries). Indeed, in summarizing Neuhaus's work, LaBelle once stated that "Neuhaus inserts a constructed sound objects sensitively into an existing space," but, in fact (as the author acknowledged elsewhere) the artist generally only conceived of a sound within the very context of its location (i.e., the sound was not built prior to its insertion into space, but rather in relation to and within the specific conditions of that space). Instead, this dissertation argues for an *unfixed* concept of site-specificity that does not depend on obdurate object-hood. Nonetheless, LaBelle understands that sound installation (as developed by Neuhaus, Bernhard Leitner, and Maryanne Amacher) connects to social conditions through its use of public space. This dissertation consciously explores this proposed sociality of sound, focusing not only on the advanced architectural works like *Times Square*, but also sound installation in its nascent forms through Happenings, performance art, and mediated environments.⁵⁷

Kim-Cohen's *In the Blink of An Ear: Toward a Non-Cochlear Sonic Art* connects the canon of Kahn, LaBelle, and Licht to modern and contemporary philosophy. In particular, Kim-Cohen orients sound toward the critical and theoretical paradigms of linguistics, textuality, and the politics signification and representation. The book proposes a linguistic theory of sound that bridges phenomenology with post-structuralist cultural theory and semiotics, referring to figures such as Maurice Merleau-Ponty and Ferdinand de Saussure. Through these authors, Kim-Cohen orients sound as a vehicle for cultural knowledge. Regarding Neuhaus, Kim-Cohen highlights the sound walk Listen – like Licht – to speak of the "expansion of music" after Cage:

[Listen] is certainly an expansion of Cage's already expanded notion that all sounds can be music. Neuhaus's expansion, however, moves beyond elasticizing existent musical categories and, instead, expands the master listen of categories. Cage's 4'33" takes place in a concert hall, at a piano, with a score. Neuhaus's Listen consists of leading a group of spectators out of the concert hall and into the streets... pausing at certain fruitfully noisy locations to engage with the activity of the piece's title... Neuhaus's literal march out of the concert hall echoes figuratively in sound art's ramble away from music.⁵⁸

In this context, Neuhaus's work is primarily shaded as a symbolic gesture rather than a display of acoustical fact. As Kim-Cohen suggests, Cage's 4'33" expands the category of music to include

⁵⁷ Branden W. Joseph's study of filmmaker, musician, and sound artist Tony Conrad provides a nuanced historical scope of sonic art of the postwar era. In particular, Joseph focuses on Cage, through Conrad, and his effects on post-painterly practices in New York. In this book, Joseph does not discuss Neuhaus. However, Joseph's study displays an intuitive and constructive synthesis of art history with music history and media studies, and its comprehensive interdisciplinary methodology has been foundational to my own approach to Neuhaus and sound as an artistic medium. See Branden Joseph, *Beyond the Dream Syndicate: Tony Conrad and the Arts After Cage*. (New York: Zone Books, 2008).

⁵⁸ Kim-Cohen, 108.

outside noise, while Neuhaus's *Listen* leaps beyond the category of music outright. *Listen*'s key function is not so much a musical, or even sonic, gesture as it is a personal, social, cultural, and political act. For Kim-Cohen, the work is found not in the sounds heard by the listeners, the sonic material that comprises the piece, but rather the relational conditions that produce and sustain a symbolic order. The choice and act of listening is more important than the sounds heard and thus sonic material is only rendered meaningful through linguistic interpretation.

In contrast to Kim-Cohen, Cox points to the need for a "sonic materialism" to amend the lack of discourse around sonic artworks. Such works use "open-ended sonic forms and [site-specific] sound installations [that thwart] musicological analysis," and also evade art historical analysis which "disregards sound art [and also glosses] over the sonic strategies of Postminimalism and Conceptualism."⁵⁹ Cox proposes that a sonic materialism can "provide a model for rethinking the arts in general and for avoiding the pitfalls encountered in theories of representation and signification," which refers to, on the one hand, conventional musicological analysis that renders fluidic sound as fixed graphic symbols, and, on the other, postmodern and poststructuralist emphasis on textuality and deconstruction of language in humanities discourses, particularly within art history (and its so-called 'social turn' of the 1970s).⁶⁰

In other words, the *sonic* is rendered mute when it becomes transposed into something other than itself: language can provide a limited understanding of sound in its physical (material) and acoustic (audible) forms. Nonetheless, the textual realm of representation and signification is useful, and perhaps necessary, for interpreting the function of sound, and thus sound art, within social and political contexts. In particular, my interest in fusing Cox's sonic materialism with media ecology on occasions requires an extension, or developing outward, from material to language. In contrast, Kim-Cohen argues that the "meaning [of sound] is always contingent and temporary, dependent on the constantly shifting overlap of symbolic grids," a "non-cochlear" perspective at strong odds with what the author calls the "essentialist" view of *sonic materialism*.⁶¹ In response, Cox counter-argues that "the sonic arts are resistant to description and analysis via theories of textuality and representation," which construct an "epistemological and ontological insularity" around language; this condition is but one of many reasons why sound art has been absent in the historical and theoretical canons of both art history and musicology. I do not aim to resolve the current discourse surrounding these materialist and conceptualist perspectives, nor do I favor one over the other. I wield each equally and as needed in this dissertation: it is not my aim to construct a new theoretical paradigm for a sound art, but rather to place these perspectives into action.

In 2009, the Dia Art Foundation (Dia) published a catalogue of essays on Neuhaus to celebrate its 2002 acquisition of *Times Square* and its subsequent commission of a new on-site installation, *Time Piece: Beacon* (2005). The book was published shortly after Neuhaus's death and remains the most extensive examination of the artist (prior to this dissertation and excluding the artist's own publications). The book features articles by Cox and other scholars of art including Lynne Cooke, Branden W. Joseph, Alex Potts, and Liz Kotz. The articles examine several themes and concepts that span the artist's works, such as *location*, *moment*, *place*, *time*, and *noise*. In his preface, the Dia director Philippe Vergne says that "Neuhaus's art is not about sound, not about representation, not about time or space, but simultaneously about all of these; a

⁵⁹ Christoph Cox, "Beyond Representation and Signification: Toward Sonic Materialism," *Journal of Visual Culture* 10(2): 145-161.

⁶⁰ Ibid.

⁶¹ Kim-Cohen, 261.

different notion of time, nonlinear; a different notion of space, inhabited; a different notion of representation, beyond forms and objects.”⁶² Generally, this dissertation asserts these same views as they reflect, or are modified by, similar ideas in the artist’s output (such concepts were not statically defined by Neuhaus (and often changed meaning over his career). The book begins with an assertion that the artist “abandoned music in favor of a career in the visual arts.”⁶³ This legacy narrative, partly self-mythologized, positions sound installation as thoroughly disconnected from music. This dissertation presupposes that, in contrast, sound installation was directly related to his established musical background, and as such traces the complicated relationship of Neuhaus and his practice from his earliest endeavors as a percussionist. Indeed, Cooke quickly admits that this legacy is “mythologizing and simplistic,” and later states that he in fact “greatly benefited from his former experiences in the world of experimental music.”⁶⁴ For Cooke – and Kotz – the benefit given to Neuhaus from music is located in the Cagean tradition. In actuality, the musical benefits that undergirded Neuhaus’s subsequent sound installations were sourced only from Cage, or even limited to *experimental music*, but were from many other composers, performers, and conductors, including Henry Cowell, Morton Feldman, Edgard Varese, Paul Price, and Ralph Shapey. Cooke admits that the collection actively excludes discussion of such musical figures because of the artist’s own presence as a contributing editor: “[Neuhaus] drew strict distinctions between his use of sound in his installations and contemporary musical composition and improvisation [and accordingly] this monograph contains no interdisciplinary examination of concurrent developments in vanguard music.”⁶⁵ In contrast, this dissertation explicitly examines the interdisciplinary connections (for reasons described in the following subsection *Soundworks: methods, vectors, anxieties*).

In Cooke’s article, “Locational Listening,” the author provides an overview of Neuhaus’s artworks, establishing a through-line that connects *Listen* (1966), *American Can* (1966), *Water Whistle* (1971), *Walkthrough* (1973), and *Times Square* (1977). Cooke situates Neuhaus within concurrent artistic practices of the deindustrialization and the *detournement* of public space into a paradigm for art and community-making.⁶⁶ The essay specifically connects Neuhaus to artists like Gordon Matta-Clark and Richard Serra, whose public sculptures, effectively anonymous, challenged preconceptions of artistic form, monument, and viewership. I take from Cooke this focus on public space and the bridging of sound to social space, especially the artist’s subtle attempts to use sound works to establish new models of social interaction.

Potts’s “Moment and Place: Art in the Arena of the Everyday” examines the accessibility of Neuhaus’s artworks through the lens of “antielitism, pragmatism, and accessibility.”⁶⁷ The article examines the relation of Neuhaus to broader discourse and practices surrounding phenomenological encounters in postwar art, and emphasizes the embodied forms, and resulting irreproducibility, of many of his works. Situating Neuhaus in minimalist and post-minimalist sculpture, Potts argues for the democratizing nature of Neuhaus’s sound works, which he describes as “situated [in] the arena of the everyday at the same time [that they] activated a

⁶² Philippe Vergne, “Preface,” in *Max Neuhaus: Times Square / Time Piece: Beacon*. (Beacon, NY: Dia Art Foundation, 2009): 20.

⁶³ Lynne Cooke, “Locational Listening,” in *Max Neuhaus: Times Square / Time Piece: Beacon* (Beacon, NY: Dia Art Foundation, 2009): 23.

⁶⁴ *Ibid.*, 23-24.

⁶⁵ *Ibid.*, 25.

⁶⁶ *Ibid.*, 27.

⁶⁷ *Ibid.*, 24.

heightened sensory awareness.”⁶⁸ Kotz’s article, “Max Neuhaus: Sound Into Space,” similarly examines Neuhaus in relation to postwar art.⁶⁹ Kotz describes how the concept of spatial music, as it informed Neuhaus’s emergent sound installation practice in works like *Fan Music* (1967) and *Drive-In Music* (1967), established a direct connection to concurrent methods and concepts of *site-specificity*. Notably, Kotz highlights how art history focuses on Neuhaus’s public sculptures, which are again compared to Serra, rather than his works in radio. This dissertation adds to this perspective by dedicating the entirety of Chapter Four to Neuhaus’s encounter with the concept of *site* through processes of mediation.

Joseph’s “An Implication of an Implication” presents the “social dimension of sound” as exhibited in the artist’s work, including his decades-long investigation into emergency vehicle sirens.⁷⁰ From this social dimension, in which sounds are not only heard but interpreted, Joseph reveals a politics of listening that underscores the artist’s formal practice. Included among this is a pointed discussion of the concept of noise beyond the musical frame, such as the creation of the Environmental Protection Agency and its efforts to curb noise pollution through legal and political campaigns, which were publicly denounced by the artist. As Joseph notes, “critics have been led to discuss [Neuhaus’s work] predominately, if not solely, in aesthetic and experiential terms.”⁷¹ I likewise build from Joseph’s political focus throughout the dissertation to highlight Neuhaus’s conscious interest in not only public space, but a public body, particularly regarding the production and interpretation of noise.

Cox’s “Installing Duration: Time in the Sound Works of Max Neuhaus” challenges the artist’s own stated interest in spatialization, instead focusing on how a materialist concept of time circumscribes the artist’s practice. As Cox astutely begins his essay, “It was a fascination with time that drew [Neuhaus] into the world of music, and time that led him out of it.”⁷² Despite the artist’s repeated claim to have “taken sound out of time,” Cox argues that the artist’s casting of a “music/sound art dichotomy in terms of time/space” is a “red herring” that simply overlooked the re-conception of time through the durational strategies of the “Cagean tradition in experimental music and Postminimalism in the visual arts.”⁷³ Cox situates Neuhaus in a time duality, in which one conception of time values *quantified* and numbered sequence while another values *qualified* and unstructured flow. In the former, a concept of linear clock time, in part induced by capitalism, that striates time into mechanized, equalized, and purposeful events. This model of time was refined by the Western musical tradition in the form of meter and rhythm. In the latter, Cox describes a concept of non-linear lived time with no clear structure, sequence, or purpose. Instead, this latter paradigm reflects a “qualitative process” that rejects mechanization and courts memory. Cox suggest that Neuhaus rejected the former while retaining the latter. Cox locates the non-linear time, first, in the experimental music of Cage, but argues for its basis in the materialist philosophy of Henri Bergson. Bergson’s concept of *duration*, or non-linear qualitative

⁶⁸ Alex Potts, “Moment and Place: Art in the Arena of the Everyday,” in *Max Neuhaus: Times Square / Time Piece: Beacon* (Beacon, NY: Dia Art Foundation, 2009): 46.

⁶⁹ Liz Kotz, “Max Neuhaus: Sound into Space,” in *Max Neuhaus: Times Square / Time Piece: Beacon* (Beacon, NY: Dia Art Foundation, 2009): 93-112.

⁷⁰ Branden W. Joseph, “An Implication of an Implication,” in *Max Neuhaus: Times Square / Time Piece: Beacon* (Beacon, NY: Dia Art Foundation, 2009): 59-81.

⁷¹ *Ibid.*, 59.

⁷² Christoph Cox, “Installing Duration: Time in the Sound Works of Max Neuhaus,” in *Max Neuhaus: Times Square / Time Piece: Beacon* (Beacon, NY: Dia Art Foundation, 2009): 113.

⁷³ *Ibid.*, 114.

time, reestablishes a connection of time and space within Neuhaus's use of continuous sound.⁷⁴ As such, Cox examines the concept of *duration* as it was manifested in works like *Listen*, *Drive-In Music*, and *Times Square* (which are often described, including by the artist, as spatial works). Cox's exploration of time in Neuhaus's work has been highly influential to my interpretation of the latter's artworks, particularly in bridging the forced separation of sound installation from his musical background.

Finally, David Grubbs has recently discussed the mediated condition of sound recordings in postwar sound art and experimental music.⁷⁵ Focusing on Cage and his influence in art and music, Grubbs's *Records Ruin the Landscape: John Cage, the Sixties, and Sound Recording* articulates the anxieties of sound recording in the post-Cagean era, particularly the apathy and skepticism toward recording durational, performative, or site-specific sonic art. Audio recordings were viewed as incapable of reproducing the phenomenological reality of sonic artworks, whether musical or not – merely as a representation or an image, much like a photograph, that was unable to accurately reproduce the experiences of reality. In the context of durational music, performance art, sound installation, and other sound practices depending on material acoustics, unique social interaction, or similar phenomenological or subjective responses to sound in real time/space, recordings did not adequately preserve the works, even as documentation. For artists like Cage and Neuhaus, sound recordings were not only unnecessary, but also artistically dangerous (i.e., the sound recording threatens to overtake the original artwork and its meaning). Grubbs describes, however, the importance of sound recordings in our understanding of works from this period: it is through recordings on rare vinyl records, for example, that people today can experience Cage's work, despite the composer's own reticence. Specifically, Grubbs highlights how Neuhaus's musical works were available in the U.S. only through a rare LP recording for decades. The record, *Electronic and Percussion*, was a primary document from which to understand the artist's practice, especially his earliest musical output (which has been depressed in scholarship on the artist). I discuss this record in more detail throughout this dissertation, and my perspective is indebted to Grubbs's framing of the vinyl LP as a storage format and cultural object.

My research consciously draws from this diverse variety of authors to position sound in its material and textual contexts. The authors above are accompanied in my research by others, whose works are not outlined. I have internalized ideas from authors who study *new materialism* and *media ecology*, such as Jane Bennett and Matthew Fuller, and scholars in the emergent field of sound studies, such as Jonathan Sterne and Emily Thompson. Likewise, recent books on new music by Jennie Gottschalk, Marie Thompson, and Tara Rodgers have been highly influential. From these mixed methodological and theoretical vantages, I situate the act of listening as a fundamental paradigm for understanding postwar American art, specifically the rejection of high modernist values of artistic *materiality*, *site-specificity*, and *spectatorship*.

Soundworks: methods, vectors, anxieties

Neuhaus undertook a long process of self-reflection (and self-categorization) before his death in 2009. There were no existing studies of his work up until that point, except for

⁷⁴ Cox, "Installing Duration," 115.

⁷⁵ See David Grubbs. *Records Ruin the Landscape: John Cage, the Sixties, and Sound Recording*. (Durham: Duke University Press, 2014).

publications of his own writings that were collectively published in 1994 as *Sound Works Volume I-III*.⁷⁶ The books covered three distinct themes within his work up to that point, including the subjects of *Place*, *Inscription* and *Drawings*.⁷⁷ The project articulated a conscious historical overview of his artistic career, given that no art historians or musicologists had yet taken his work up in any extensive project. Likewise, there existed until recently very few academic articles on the artist, whose name rarely appeared in histories of music or visual art, despite his massive artistic contributions to both. In these books, Neuhaus portrayed a logical development of his career, focusing on *sound installation*. While undoubtedly useful, the self-authored books present a unique historical problem: how accurate and reliable is this depiction of an artist's career? Has anything been left out? If so, what – and why?

The primary artistic medium of Neuhaus was ostensibly sound, but one might also give equal weight to his use of letters. This mass amount of written documentation comes partly from his own self-criticism, which was expansive, but is also the product of professional correspondence and installation proposal, development and logistical documents, especially those that were produced in support of his permanent public installations from the 1970s onwards. Indeed, like many public artists who made environmental installations, especially artists such as Christo and Jeanne-Claude, the navigation of encounters with municipal, state, and international legal bodies, as well as the public writ large, often factored into Neuhaus's compositional process.⁷⁸ Neuhaus often stated that the 'art' in his sound installations does not come from the sounds themselves, as in a piece of music, but rather the unique sense of place that those sounds create in their environment. This sense of place, which comes from embedding sound in space, can be mutually aesthetic and social. Indeed, sound installations by Neuhaus typically had their own sonic styles, rarely repeating, unlike a composer or visual artist who refines a carefully refined style of art production. The only consistent aspect of Neuhaus's work, especially in his later installations, is the general methodology through which he approached a piece: an entirely new situation that demanded the artist to address its unique environmental conditions. In turn, to understand these works from a purely sonic perspective is to miss the point, as well as the work's broader personal and cultural contexts. Neuhaus's works ask us in their individual manners to first listen with our ears, but also with our body and mind, both as individual and collective bodies. This perspective suggests that one sound installation contains multitudes of meaning beyond its particular sonic architecture, extending outward to the manners in which it interfaces with public bodies, institutions and economies.

How do we begin to analyze the works of an artist whose artistic practice was consciously and constantly self-differentiating? Through what means may we examine these works that require us to listen, and to not only first develop an entirely new sonic methodology but also then move past our ears altogether?

There is a basic presumption of knowledge regarding the art historical tradition of modern art that allows the work to exist on both material and conceptual grounds. Ideally, both

⁷⁶ At the time of Neuhaus's death, the Dia book had not yet been published.

⁷⁷ Despite the comprehensive sense that three volumes give to a potential reader, the Estate of Max Neuhaus stated that the artist actually planned to write at least ten additional volumes.

⁷⁸ Neuhaus complained about the frequent comparisons to Christo: "Every time the scale of my work comes up, my work comes off as deriving from his works... "Radio Net" (the year of the running fence) encompassed the entire USA and was made up of 25 thousand miles of copper wire, took 500 people to launch, and was heard by four million." However, the comparison is one of the closest non-sonic analogs for his work within broader postwar art practices. Letter from Neuhaus to "Sue" (1979). Max Neuhaus Papers. Rare Book and Manuscript Library, Columbia University Library. Box 1, Folder 12.

contexts will be considered, but a viewer – a term assumed to be interchangeable with spectator, privileging sight – is free to focus on one or the other by virtue of its material-visual grounding. However, sound is invisible and cannot be observed visually beyond its effect on other material bodies (like wind moving leaves, or gas filling a balloon). Sound unseen poses a problem for conceptual art, which produced many material, and explicitly visual, referents, despite rhetoric of *dematerialization*. For an artwork made of pure sound, there is no visual base for which the spectator to stand and nothing to exhibit after-the-fact. Without an understanding of acoustics, they are limited to a purely conceptual approach – the idea that there is sound, even they cannot describe it – or to preexisting knowledge of music. In order to get both the material and conceptual dichotomy that so many conceptual artworks exploit, the spectator must know something about how sound operates materially, but must also be able to move past that acoustical framework to fully appreciate the piece. The spectator must know enough about acoustics in order to perceive the work’s formal composition, but they must also feel comfortable to not analyze the work as one might a painting or sculpture. The writings of Neuhaus help the spectator, cast as a listener, maneuver his artworks, but they also operate as a method of self-preservation in the case that individuals, or historians, do not listen.

Neuhaus organized his collected works – the term works here is broadly conceived – according to what he called *vectors*. I do not necessarily agree with Neuhaus on the nature of his vector characterizations, many of which were defined retroactively. However, in interest of historical method and in deferral to the artist’s intentions, I refer to the categories throughout this dissertation.

Neuhaus retroactively established clear categories for his practice, such as musical composition, performance, sculpture, or sound design, may unintentionally value or place importance upon some practices unevenly, privileging one more than another in a manner that reinforces given artistic or musical ideologies. In contrast, the use of vectors allowed Neuhaus to make sense of his output while not privileging certain materials, concepts, or techniques. In 2002, Neuhaus described how some previous researchers found this vector approach unwieldy, claiming that most of the authors would search for a primary, or at least somewhat consistent, objective or evolutionary through-line in his artistic practice – a convention of art history – rather than accepting his paradigm of non-linear creative dispersion: “[It] was always a problem when [somebody wanted] to write a long monograph on my work... they would try to find a linear path through it, or a linear development, or some kind of relationship [between pieces]... after talking [for] 45 minutes, they never recovered.”⁷⁹ Presumably, they also gave up outright: there is currently no published monograph on Neuhaus.⁸⁰ In lieu of a singular extensive study, there are suspiciously few publications on his work: the three aforementioned collections of artist writings, documents and drawings; an collection of academic essays published by the Dia Art Foundation to accompany its 2002 acquisition of *Times Square*; a facsimile edition of his artist book *Program Notes* (1974); and finally a handful of gallery and museum exhibition catalogs.⁸¹ Each publication provides acute information on specific works or conceptual themes in his

⁷⁹ Ron Kuivila, “Interview with Max Neuhaus.” (Wesleyan University, 2002) Unpublished.

⁸⁰ In addition to the Dia catalogue featuring Cooke, Kotz, Cox, Joseph, and Potts, three other scholars have looked deeply into Neuhaus’s career: Dasha Dekleva, Megan Murph, and Corey Matthews.

⁸¹ I was directly involved in the 2015 facsimile publication of the 1974 artist book with help from the publisher Primary Information. It’s also worth noting that the quoted interview here took place around the time that *Times Square* was renovated in 2002 (a decade after its fall into disrepair in 1992). This moment, which also included Neuhaus’s publishing of the essay “Sound Art?” in P.S.1 Contemporary Art Center’s CD catalogue for the *Volume: Bed of Sound* exhibition, and was intensely self-analytical.

diverse practices, but the limited scope of each also curtails an expanded consideration of these subjects, both considered individually and collectively.

Neuhaus did not produce an untenable amount of artworks over his career, but rather a sparse and steadied output that focused on specific materials, techniques, or concepts for some period of time, and then move on to another practice. Sometimes these practices are incredibly divergent from one another – and sometimes practices overlap chronologically, even if otherwise seeming formally or conceptually disconnected. Instead of cultivating grand gestures or clear-eyed development of specific artistic forms or concepts, Neuhaus simply engaged sound openly as a creative medium. For Neuhaus, sound did not inherently convey some particular mode or genre of artistic activity, but rather became an access point, a materialist entrance, for conceiving the artistic or instrumental potentials of sound in a variety of formal arrangements, conceptual situations, and socio-political institutions. The most difficult aspect of this study has unquestionably been to articulate and coherently analyze the vectorial difference and similarity in his works, largely due to intense material, conceptual, and institutional diversity. Neuhaus preferred to think of his vectorial practice in circular terms: he was at the center and as such was the source of each mode; each moved outward from him in different directions, indicating differences without necessarily giving more important to any single pursuit.⁸²

The vector model can quickly become confusing (perhaps an indication as to why some previous authors, according to Neuhaus, became overwhelmed by the looming complexity of his extended artistic practice). Consider the structuring of vectors in Neuhaus's own words:

I've developed a structure of eight connectors [or vectors that] start with *Performance*... The opposite end of that vector is the *Networks*, [which are performances] by many people. Another vector pair is a *Place* and a group of works... called [*Passage*], which again [is] an opposite. Another vector pair is the *Water Ways*, which [were about] *Sensation*... which [then] goes to *Design*, [an activity about] functional designs.⁸³

Connectors. Vectors. Vector pairs. The verbal gymnastics used to describe his own artistic and creative practices presents an intimidating situation to any researcher. Categories of *Performance* and *Design* seem fairly straightforward, but others are opaque, such as *Passage* and *Water Ways*, and point toward carefully constructed material and rhetorical universes that only Neuhaus could have understood.⁸⁴ The phrasing of categories also change over the years and, much like his artistic practice, are enlivened by morphological spirit. The above passage is quoted is from a 2002 panel discussion, but by the public launch of his official artist website in 2005, we see that the categories have changed: *Water Ways* is exchanged for the more succinct *Sensation*, while the dry *Design* is exchanged for *Invention*. *Networks* is also expanded to include the subgroup *Broadcast Works*, and there is finally the addition of *Moment* and *Walks*. While these shifts in language may seem innocuous at first glance, how might they convey information about the manner in which Neuhaus thought about his own practice, especially after-the-fact given that

⁸² The conceptual model for this vector model seems to be inspired by composer Karlheinz Stockhausen's *Zyklus* (1958), which places its performer in the center of a 360-degree all-percussion setup. Neuhaus performed repeatedly throughout the 1960s. See Karlheinz Stockhausen, *Nr. 9 Zyklus* (London: Universal Edition, 1961). Score

⁸³ Kuivila, "Interview with Max Neuhaus," 4.

⁸⁴ I say *creative* rather than *artistic* since Neuhaus includes the non-artistic category of *Design*, a functional and utilitarian paradigm that challenges institutional boundaries of contemporary art, as a vector.

these refer to temporary installations as old as fifty years? Do they relay insight into how he viewed his work toward the end of his life? How do these groupings affect how future researchers will approach and understand his creative output? Especially given the likelihood that visitors will not be experts in acoustics, the categories become important factors in how we engage with – historically and conceptually partition – his work as a whole. Do the vectors that Neuhaus would like us to use to approach his work reflect unconscious, or conscious, ideologies or influences? What does it mean to write a history of an artist through their own sitemap? Do they hold up when compared to his actual output – and could there be anything missing?

For the sake of addressing this problem in my dissertation, I will approach the vectors cautiously. I will refer to vector categories and groups by Neuhaus, but also freely move beyond them to integrate pieces on other terms. This is done not so much to argue against his self-categorization – a creative compartmentalization – but to acknowledge the limitations that such a construction provides: while the vector model is conceived to help guide outsiders through his creative practice, it can also be binding and, at times, somewhat misleading, especially considering that the vector model is somewhat of a retroactive inscription on past work beginning in the 1970s. The earliest periods of his practice before such terms were conceived are particularly susceptible to modification or manipulation after-the-fact – ironically, to make them fit into the non-linear narrative imposed upon them following the works *Times Square* (1977) and *Radio Net* (1977). I will thus refer to his vector model but will do so carefully and rely primarily on historical information and archival evidence, which I will use to assemble relations between his diverse practices between 1957 and 1980.

Neuhaus ultimately developed eight primary vector categories: Place; Moment; Performance; Networks; Walks; Passages; Sensation; and Invention. I have avoided listing the categories numerically, as placing each in any order would undermine the non-hierarchical vector logic that Neuhaus desired. However, in the interest of accuracy, I have replicated the order in which they appear on the artist's official estate website.⁸⁵ I will argue that Neuhaus did have personal inclinations toward particular vectors, including *Place* and *Moment*.⁸⁶ Furthermore, it is worth noting that the major projects completed during the last part of his career fell under these two vectors, which have a prominent place in his personal career narrative. Nevertheless, Neuhaus preferred to represent the vectors visually, rather than placing them in an ordered list, to emphasize the equity of significance among the vectors within his practice. The artist-designed graphic metaphorically locates himself as the creative source for each vector, which emerge from and pass through a central intersection: a trisected creative node that visually represents Neuhaus as both an artist and an engineer. What might the structure of this visual map tell us about how Neuhaus understood his artistic and creative practices?

First, the map indicates that each vector is one part of a linked and opposing pair. *Place* is related to and opposite from *Moment*. The same goes for *Walks/Passage*, *Performance/Networks*, and *Sensation/Invention*. The dual structure therein suggests a dialectical relationship between any one vector to its other partnering link, which Neuhaus sometimes called an “opposite.”⁸⁷ The

⁸⁵ See <http://www.max-neuhaus.info/soundworks/vectors>. Accessed June 20, 2016.

⁸⁶ These preferences appear to have influenced the ordering of subsite links under the “Sound Works” heading on the estate website. See <http://www.max-neuhaus.info/>

⁸⁷ Regarding *moment* and *place*, Neuhaus said: “Each one generates in the perceiver the opposite of what it is: the moment pieces generate an instant of being in one's own place; place pieces generate a period of being in one's own time. They are two opposites; each one is what the other is not.” Max Neuhaus, “Notes on Place and Moment2.”

two vectors are connected to each other to reinforce basic conceptual or structural premises while also inverting that very concept or structure. The structure reveals the artist's dialectical view of his career, where some practices are understood as linked yet opposite. *Place* refers to specific physical locations upon which Neuhaus constructed an electronic sound environment in direct relation to the conditions of its surrounding material space (e.g., *Times Square*). This type of site-specific sound installation stands in direct opposition to the category of *Moment*, which refers to inducement of psychoacoustic situations that are defined by the control of slowly rising amplitude (increasing loudness) of electronic tones and their quick signal cut-off (abrupt silence) (e.g., *Time Piece: Beacon*). *Place* uses sound to articulate space – *Moment* uses sound to articulate time.

Performance refers to a myriad of Neuhaus's musical and anti-musical practices during the 1960s, such as avant-garde percussion music, live improvised electronics and Happenings/Fluxus activities (e.g., *Fontana Mix-Feed*). *Networks* refers to the semi-autonomous media environments which the artist constructed out of telephone and radio networks in the late-1960s and 1970s (e.g., *Radio Net*). *Performance* entails placing conscious limits on duration (musical time – beginning, development, conclusion), reliance on the concert-performance apparatus (composer, performer, audience) and a shared contiguous space (composer, performer and spectator-participants gathered in a single physical location). *Networks* entails continuous duration (no musical time, but rather a period of activity), a collapse of the concert-performance apparatus (no clear distinctions between composer, performer or audience) and user-oriented systems for self-articulation in non-contiguous media environments (all creative-participants contribute to a state of collective mediated presence in telematic virtual space). There is also in these two categories a difference in the *compression of artistic gesture* in the former and the *distribution of artistic gesture* in the latter. *Performance* uses time to organize sound, while *Networks* uses sound to organize people. *Walks* entails a performance-model presentation, inspired by Happenings and Fluxus, and the exploration of acute soundscapes wherein listeners were consciously directed by Neuhaus to navigate a variety of pre-existing sound environments over a broad spatial area (e.g., *LISTEN*).

Passage refers to compartmentalized electronic sound installations that were placed in a single and specific transitory space – such as a hallway, staircase or bridge – that is consciously or unconsciously traversed by the listener without guidance by the artist (e.g., *Drive-In Music*). *Walks* guides people to listen upon space – *Passage* guides people to listen within space. *Sensation* refers to artworks that are derived from investigations into acoustics phenomena using applied and experimental research methods, such as analyzing the traversal of sound vibrations through various resonant mediums like air or water (e.g., *Water Whistle*). *Invention* refers to the application of research methods and materials to industrial design or manufacturing practices, such as the artist's recurring yet never realized redesign of emergency vehicle sirens. This vector pair is notably fractured in the graphic: the two arrow heads do not form a continuous line through the center of the image, as the other three pairs do, but are separated by a small gap. The separation of vector lines from each other is perhaps besides the point – they are still paired – but together the two seem consciously removed from more clearly artistic vectors, suggesting that Neuhaus viewed *Sensation/Invention* as a research-oriented endeavor. The exact distinction of this pair from the others is not entirely clear and raises some confusion considering that *Water Whistle* was one of his primary artistic concerns of the 1970s. Why might Neuhaus downplay a

piece that preoccupied his career for nearly a decade, especially one that was a primary focus following his abandonment of music in 1968?

Neuhaus preferred in his later years – as the vector model emerged – a narrative of his career that focused on the evolution of his permanent sound installations. For example, consider the three self-produced monographs: the first book in the series was dedicated to the *Place* vector, which emphasizes permanent installations; the second is a collection of critical writings that also tend to focus on the *Place* category; and the third is a collection of drawings and poetic descriptions of various works that again focus on the permanent installations. The other categories are present but they are generally given less conceptual weight, as evidence by the fact that the first book is the only to be totally dedicated to a single vector. This narrative reinforces a single vector that is most easily placed in art historical discourse (through rhetoric of sculpture). In turn, the narrative glosses over two important periods in Neuhaus’s career. The first period, 1957-1966, was based on his musical education and percussion performance practices that informed his earliest experimentation with sonic materiality and conceptualist performance art in 1966 and was followed by his apparent abandonment of music in 1968. The second period, 1968-1977, was an interstitial period marked by intense personal and professional uncertainty as Neuhaus navigated the first stages of his post-musical career. These two periods resulted in works that do not fit easily into the primary vectors, which may support aesthetic or economic goals, as well as self-mythology (the notion described by Cooke wherein Neuhaus ‘abandoned’ music to pursue the visual arts, culminating in *sound installation*).

These categories also intersect with each other beyond their established vector pairs. For example, Neuhaus manufactured several silent alarm clocks in the 1970s that woke a sleeping person by abruptly silencing a tone that had slowly increased in volume over a long time, resulting in a startling moment through its absence.⁸⁸ The form and concept of the silent alarm clock is clearly similar to many of the artist’s so-called *time piece* works, which use a similar structure but operate on a smaller scale (than, for example, the large time piece installed at Dia: Beacon in 2005). Despite the difference in scope and scale – one person in a bedroom rather than hundreds of people in public – the piece is easily placed along the *Moment* vector, in addition to *Invention* and *Sensation*. For another example, consider how the *Passage* vector is complicated by the installation *Drive-In Music* (1967/1975), which used localized FM transmitters and receivers to broadcast short-range oscillator tone-fields to car radios. The piece’s primary materials were sourced from the realm of radio broadcasting, and the use of transmission and listener-mediation (the listener composes the piece as they drive) allows the work to be understood obliquely as part of the *Networks* vector in addition to *Passage*. Likewise, nearly all of the *Networks* pieces could be considered as *Invention* in their use of custom audio technology and circuitry (e.g., the ten-channel automated telephone call-in answering device designed for *Public Supply* and the audio synthesis circuits of *Radio Net*).

The vectors conceived by Neuhaus help articulate his creative practice with conceptual nuance. However, the categories should be used cautiously and sparingly, as they were not meant to be completely distinct from each other (hence his use of a vector model rather than numbered or tiered organizational systems). The graphic utilizes arrow shapes for the vector movement, but notably the arrow heads are incomplete and contain only one side: the half-arrow suggests a doubling backward, as it were, toward the center or to an adjoining vector rather than continual outward movement. This design illustrates an anxiety in Neuhaus regarding the segmentation of

⁸⁸ See Joseph, “An Implication of an Implication,” 74. This information was also confirmed by Alanna Heiss in oral interview with author. See Appendix IV.

his work into discrete vectors that move away from each other, and highlights the risk on our part of moving outward from the center and not sideways or backward. Furthermore, the vectors were developed over the two decades leading up to the artist's death, a period of his career that came after many of the foundational works were already completed.⁸⁹ Many works discussed in this dissertation have few correlating historical documents and are likely lost to history beyond memory (spanning a period of five decades). The vector model allows us to approach sound works created in this time, especially those which have little documentation, with a semblance of artistic logic. Nonetheless, the vectors are not impregnable categories and we should not feel beholden to reinforce the artist's own view necessarily. Instead, we might think of them as firm categories with strong internal logic and material support, but which are ultimately malleable.⁹⁰

⁸⁹ The Neuhaus estate website in this manner incomplete and missing works referred to or found within outside historical archives and other ephemera. The website is specifically missing information on the artist's early musical performances. The majority of Chapter 1 attempts to correct this lack of information.

⁹⁰ In addition to the primary eight vectors, Neuhaus created terms that reflect works that did not fit easily into any single category, or works that were conceived, proposed or partially developed but never fully produced. These works can generally be folded into the *Open Forms* category, a subset of the artist's website that includes evocative language: *Aural Gardens*, *Sound Volumes*, *Unisons*, *Time Pieces*, and *Sound Elevators*. Some of the sub-categories, such as *Time Piece* and *Aural Gardens*, did result in specific works and bare close relation to other primary vectors: *Time Piece* is essentially a functional title for *Moment*, while *Aural Gardens* is a poetic title for *Place*. Likewise, the term *Broadcast Works* was used somewhat interchangeably with *Networks*. There is also the separate category of *Drawings*, which much like *Inscription*, refers to documents produced before, during or after a sound work was produced or completed, whether temporary or permanent. These documents are informative and contain a visual transposition or metaphor for the sound environments constructed as well as brief poetic descriptions – they are meant to give the viewer a conceptual sense of how the environments sounded in person, especially for works that are no longer on view, such as the earlier pieces. The creation of drawings began in the 1970s and 1980s as research/proposal documents, but by the 1990s the drawings took on their own quasi-artistic category, functioning, on the one hand, as documents that provide information on works no longer extant and, on the other hand, as artworks on their own. The drawings have been exhibited numerously over the past few years and are often viewed as stand-ins for the actual sound environments

SETTING THE SCORE:

BEYOND CAGE

A composer friend once asked me “Didn’t anybody ever tell you that you select tones for a chord – you don’t just use all the tones at once?” I told him, “Yes, I often do select tones but sometimes I want them all.” [Henry Cowell]

“Contemporary music makes almost universal use of materials formerly considered unusable... However, little is known about the materials of contemporary music.” [Henry Cowell]⁹¹

Sonic art history?

Sound is used in the *service of music* but it is not itself a *musical medium* – nor is sound bounded by the musical domain (i.e. the artistic forms, structures, concepts, and cultural values, of musical composition, performance and spectatorship). The materials and concepts of sound extend to art and culture broadly, circumscribing the fields of musicology, art history, acoustics, media studies, cultural studies, sound studies and the history of technology. In the context of art history, sound provides an opportunity to redefine disciplinary values, concepts and perspectives on materiality, objecthood and spectatorship. In the 1960s, visual artists challenged the definition of materiality in their artworks, such as painting and sculpture, by embracing *dematerialized* art forms, methods and encounters.⁹² The emergence of sound as an artistic medium in this regard supported such endeavors, yet the medium itself, as a material, has been instrumentalized as a conceptual tool to circumscribe broad disciplinary shifts. This section explores how a *sonic art history* that acknowledges sound as a physical material in addition to its use as a metaphor for *dematerialization* is explicit if we listen. I discuss how art history has been shaped by a sonic lens focused on the experimental composer John Cage (1912-1992) and suggest where else we might listen.⁹³ This section proposes an interdisciplinary critical language for understanding sonic art, including music, from non-performative materialist perspectives in addition to existing to linguistic modalities.

⁹¹ Henry Cowell, *New Musical Resources*. (New York: Alfred Knopf, 1930): ix

⁹² See Lucy Lippard and John Chandler, "The Dematerialization of Art," *Art International* 12, no. 2 (February 1968): 31-36. Reprinted in Lucy Lippard, *Six Years: The Dematerialization of the Art Object from 1966 to 1972* (New York: Praeger, 1973).

⁹³ For more on Cage, see: James Pritchett, *The Music of John Cage* (New York: Cambridge University Press, 1996).

Cage's influence on the visual arts of the 1960s, a pluralist realm that has been defined as a *post-Cagean aesthetics*, was pervasive.⁹⁴ His musical ideas were wielded by interdisciplinary artists to resist disciplinary homogeneity and reject the modernist values, particularly the concept of *medium specificity*.⁹⁵ This language circumscribes current *sonic art history*, which I will broadly define as a critical interpretive paradigm that examines unique histories of sonic art, or sound in art, from interdisciplinary perspectives that foregrounds sonic phenomena and concepts. In this section, I specifically examine the influence of Cage upon the Fluxus artists George Brecht and Dick Higgins (as well as a tripartite sphere of influence between Higgins, Cage, and the new music composer Henry Cowell). In examining these figures, I highlight a disparity between the conceptuality of sonic art as a medium that challenged disciplinary categories and the materiality of sound as an acoustic phenomenon. In this distinction, I do not presuppose a rift between materialist and conceptualist perspectives, wherein sound is either conceptual or material, but rather operate between these poles.⁹⁶ In this endeavor, I operate between two recent paradigms for studying sonic art: Seth Kim-Cohen's concept of *non-cochlear* sound, which grounds sound in a linguistic and textual field, and Christoph Cox's *sonic materialism*, which frames sound from a material and ontological perspective.⁹⁷ From this dual methodology, I suggest how sound, as an ephemeral medium, retained its materialist grounding during a moment of widespread *dematerialization*.

This materialist grounding of sound was rendered linguistic in the primary and secondary literature on so-called *dematerialized* art, which has come to define *post-Cagean aesthetics* from a disciplinary view. For example, Fluxus artist Henry Flynt evidenced the central role of sound in negotiating terms of materiality and conceptuality in 1960s post-visual art, and argued in the opening statement of his 1963 discursive essay 'Concept Art' that sound exists within dueling material and conceptual domains:

"Concept art" is first of all an art of which the material is "concepts," as the material of for ex. music is sound... unlike for ex. a work of music, in which the music proper (as opposed to notation, analysis, a.s.f.) is just sound, concept art proper will involve language.⁹⁸

Flynt was an activist-musician who understood sound and its ideological functions in music.⁹⁹ His articulation of the 'just sound' of music – of a 'music proper' – utilized Cagean sonic theory to define music as a materialist practice (albeit one that should, for Flynt, be recoded through

⁹⁴ I use this term as defined and delineated in the writings of Liz Kotz and Branden W. Joseph. See Liz Kotz, *Words to be Looked at: Language in 1960s Art* (Cambridge: The MIT Press, 2007); and Branden W. Joseph, *Experimentations: John Cage in Music, Art and Architecture* (New York: Bloomsbury, 2016).

⁹⁵ For an overview of Greenberg's aesthetic theory, see: Clark, T. J. "Clement Greenberg's Theory of Art," *Critical Inquiry* 9, no. 1 (Sep., 1982): 139-156.

⁹⁶ I defer to Peter Osborne's distinction between *inclusive/strong* and *inclusive/weak* paradigms of conceptualism. See Peter Osborne, "Conceptual Art and/as Philosophy," in *Rewriting Conceptual Art*, eds., Michael Newman and Jon Bird (New York: Reaktion Books, 1999), 48-49.

⁹⁷ See Christoph Cox, "Beyond Representation and Signification: Toward a Sonic Materialism," *Journal of Visual Culture* 10, no. 2 (August 2011): 145-161; and Seth Kim-Cohen, *In the Blink of an Ear: Toward a Non-Cochlear Sonic Art* (New York: Continuum, 2009).

⁹⁸ Henry Flynt, "Essay: Concept Art (Provisional Version)," in *An Anthology*, eds., La Monte Young and Jackson Mac Low (New York: La Monte Young and Jackson Mac Low, 1963).

⁹⁹ See Benjamin Piekut, "Demolish Serious Cultures! Henry Flynt and Workers World Party," in *Sound Commitments: Avant-Garde Music and the Sixties*, ed., Robert Adlington (Oxford: University Press, 2009), 37-55.

language to be culturally and politically useful).¹⁰⁰ Nevertheless, this materialist view of Cage was not carried over to art history.

Flynt is not the focus of this section, but his deft partitioning of sound into materialist and conceptual categories is useful for understanding how *post-Cagean aesthetics* foregrounds conceptual and linguistic structures. In particular, Brecht's *event scores*, which replace musical symbols with textual prompts, became a primary artistic form in *post-Cagean aesthetics* (more pointedly, in the disciplinarily open field of Fluxus). In turn, the *event score* has permeated art history's interpretation of Cage. Brecht's *event score* bounds sonic materials, as yet unsounded, in pre-sonic linguistic frames that persist through acoustical realization (i.e. the process, performance or concept of sound remains stronger than the sound itself). For example, consider how Brecht's *Drip Music* (1959), in which 'a source of dripping water and an empty vessel are arranged so that the water falls into the vessel,' invokes the processes, rather than the sonic materials, of dripping water.¹⁰¹ Though the sounds are heard, the piece is primarily about the realization of a prompted action, and not a production of noise. In contrast, Higgins framed sonic art in a materialist perspective that draws attention to sound as a physical, at times bodily, phenomenon that exists relative to, but is not overshadowed by, linguistic operations. While Brecht formed his *event score* in relation to Cage, culling out the composer's use of language, Higgins looked beyond Cage's textual frame to assert the materialist leanings of Cowell. Art history has built its sonic methods, concepts, and values – its *sonic art history* – along the lines of Brecht's conceptual linguistics, rather than Higgins's material acoustics. The tension of this duality, as acknowledged by Flynt, is the general subject of this essay. In contrast to the dominant realm of *post-Cagean aesthetics*, which proscribes a patrilineal and singular influence of Cage on 1960s visual art, I propose that we may also look beyond Cage and toward a *post-Cowellian aesthetics* from which to analyze sonic art. I have three primary goals in this venture: to renegotiate the terms of *musicality* and *sonicity* within Cage's particular influence on postwar art history, provide additional a non-Cagean source to recover materialist perspectives, and argue for an interdisciplinary language for discussing sonic art.

Situating post-Cagean Aesthetics

Sonic art history of the twentieth century has a specific influence: the *experimental music* composer Cage.¹⁰² Cage's influence in music and visual art, particularly his methods of *chance operations*, strategies of *indeterminacy*, and concept of *silence*, is well known (and while there is much to say about the mechanics, conditions and realities of his influences, these questions fall beyond the scope of this particular essay).¹⁰³ In general, Cage's ideas and music fostered a new aesthetic vocabulary around *durational*, or *time-based*, practices that rejected discrete artistic forms, structures, and values. Cagean thought was directly felt by the artists who studied with

¹⁰⁰ Flynt's interpretation of Cage has been described by Branden W. Joseph as a mutual interest in *acognitive* forms. See: Branden W. Joseph, *Beyond the Dream Syndicate: Tony Conrad and the Arts after Cage* (New York: Zone Books, 2011): 170-176.

¹⁰¹ For more on *Drip Music*, see: Kotz, *Words to be Looked At*, 79.

¹⁰² I make a distinction between twentieth century *sonic art history* and its earlier forms from the ancient, medieval, early modern, and post-Enlightenment eras.

¹⁰³ For an overview of Cage's influence on art history, see: Julia Robinson, ed., *John Cage, October Files 12* (Cambridge, MA: The MIT Press, 2011).

him in his Experimental Composition course at The New School for Social Research in 1958.¹⁰⁴ Those who studied with Cage, primarily in Experimental Composition, included Brecht, Higgins, the Happenings artist Allan Kaprow and performance artist Alison Knowles (as well as many other students, including, beyond the New School, his influences upon the drone music composer La Monte Young and Minimalist sculptor Robert Morris).¹⁰⁵ These artists, among many others, embraced Cage to reject formal their own conventions in music, film, theater, painting, sculpture and poetry. These practices revolved around Happenings and Fluxus, but what is now known as *post-Cagean aesthetics* was once disciplinarily ambiguous. In music, Cage's *experimental music* inspired composers who were disenfranchised by developments of Western *art music*, such as the formulaic atonality of Arnold Schoenberg's *twelve-tone serialism* (which structured musical form according to fixed *tone rows*).¹⁰⁶ In visual art, Cage's ideas helped replace the visual and haptic objects of modernism with multimodal or formless experiences (e.g. artworks in the 'form' of *events, situations and environments*).

Scholars have extensively analyzed the impact of Cage's course on postwar American visual art.¹⁰⁷ Liz Kotz describes how the materials, strategies and concepts learned from Cage in this course developed a borderless paradigm of art known as *post-Cagean aesthetics*. For Kotz, the paradigm was broadly based on the composer's use of textual scores and linguistic operations (embodied most clearly by Brecht's invention of the *event score*).¹⁰⁸ Branden W. Joseph has shown how this paradigm was fraught from the beginning and that some artists in his course, such as Kaprow and Higgins, rejected the composer's more 'theoretical leanings,' establishing a rift among those who studied with, or were influenced by, his work.¹⁰⁹ Likewise, Julia Robinson argues that the wide adoption of *indeterminacy* by students was a rather selective affair, stating that '[visual] artists who adopted [*indeterminacy*] took it in substantially different directions in their own projects.'¹¹⁰ The phrase *post-Cagean aesthetics* is widely used today to group a wide array of interrelated practices under a singular rubric. This paradigm was also theorized in the 1960s and 1970s. In 1966, Higgins called it *intermedia*.¹¹¹ In 1968, Lucy Lippard and John Chandler referred to a new pluralist domain (at the waning of Cage's influence) as

¹⁰⁴ See Liz Kotz, "Post-Cagean Aesthetics and the "Event" Score," *October* 95 (2001): 55-99; Joseph, "Chance, Indeterminacy, Multiplicity," in *The Anarchy of Silence: John Cage and Experimental Art*, ed., Julia Robinson (Barcelona: Museu d'Art Contemporani de Barcelona (MACBA), 2009), 210-238.

¹⁰⁵ Cage's teaching at Black Mountain College was also influential. See Eva Diaz, *The Experimenters: Chance and Design at Black Mountain College* (Chicago: The University of Chicago Press, 2015).

¹⁰⁶ See Julia Robinson, "John Cage and Investiture: Unmanning the System," in *The Anarchy of Silence: John Cage and Experimental Art*, ed., Julia Robinson (Barcelona: Museu d'Art Contemporani Barcelona, 2009): 54:117; George Lewis, "Improvised Music after 1950: Afrological and Eurological Perspectives," *Black Music Research Journal* 16, no. 1 (1996): 91-122; and Benjamin Piekut, "Chance and Certainty: John Cage's Politics of Nature," *Cultural Critique* 84 (2013): 134-163.

¹⁰⁷ See Liz Kotz, "Post-Cagean Aesthetics and the "Event" Score," *October* 95 (2001): 55-99; Rebecca Kim, "In No Uncertain Musical Terms: The Cultural Politics of John Cage's Indeterminacy," PhD diss. (Columbia University, 2008); Branden W. Joseph, "Chance, Indeterminacy, Multiplicity," in *The Anarchy of Silence: John Cage and Experimental Art*, ed., Julia Robinson (Barcelona: Museu d'Art Contemporani de Barcelona (MACBA), 2009), 210-238; Bruce Altshuler, "The Cage Class," in *FluxAttitudes*, eds., Cornelia Lauf and Susan Hapgood (Buffalo: Hallwalls Contemporary Arts Center, 1991).

¹⁰⁸ Kotz, "Post-Cagean Aesthetics," 56-57.

¹⁰⁹ Joseph, "Chance, Indeterminacy, Multiplicity," 212.

¹¹⁰ Julia Robinson, "The Sculpture of Indeterminacy: Alison Knowles's Beans and Variations," *Art Journal* (2004): 98-99.

¹¹¹ Dick Higgins, "Intermedia," *Something Else Press Newsletter* 1, no. 1 (February, 1966).

dematerialized art.¹¹² In this same year, Richard Kostelanetz referred to the *theatre of mixed means* (or simply *the new arts*).¹¹³ This variety of phrases reveal a dynamic conversation around Cage's influence at its emergence. Joseph has described how Higgins's aversion to Cage's highly technical language contrasted Brecht's explicit use of this theoretical frame.¹¹⁴ Indeed, Higgins preferred the 'concrete observations' and 'gamut of possibilities' posed by Cage's music.¹¹⁵ He also noted an affinity for Cage's '[attempt] to find more realistic structural means of composing music.'¹¹⁶ Brecht and Higgins represent two distinct poles for interpreting Cage that also inform our current reception of the composer, and *post-Cagean aesthetics*, today. Their conflicting perspectives, one conceptual and another material, circumscribe the complex sonic discourse surrounding Cage in the 1960s that was not internalized by the visual and textual frames of art historical discourse.

As Kotz and Kim have discussed, the course title Experimental Composition suggests an antagonistic view to conventional music theory. However, students learned technical terms such as *pitch*, *rhythm*, *timbre*, *morphology* and *duration*.¹¹⁷ Nevertheless, this sonic language, except for a Bergsonian concept of *duration*, rarely appears in art history. I suggest that the discrepancy is largely due to Brecht's preference for linguistics over sonic materials, as exhibited by his *event score*. Brecht's absorption of sound into language through this form has strongly informed art history's interpretation of Cage, especially given the close structural relation of Brecht's *event score* to Cage's textual score for *4'33"*.¹¹⁸ The work, which is Cage's most famous within art historical discourse, instructs a pianist to sit at, but not play, the piano. Instead of playing the keys, the pianist waits silently for the title's duration, marking the passage of time within the composition's three sections, each of which is called *tacet* (a musical symbol in the form of a small rectilinear black box that instructs silence). The original pianist, David Tudor, signaled each section by opening and closing the piano's fallboard (i.e. covering and uncovering the keys), a seemingly 'silent' anti-musical gesture that revealed an underlying structure to an apparently structure-less, and un-composed, piece. The deskilled and anti-virtuosic gesture reflected an emergent deskilling of artistic gesture in the visual arts. The lore of *4'33"* is documented and sits beyond the scope of this essay. It suffices to say that *4'33"* subverted the artistic conventions of composition, performance and spectatorship in its transformation of silence into noise and nothing into something.¹¹⁹

We can look to the Cage's use of the *tacet* in this piece to locate art history's textual focus. On the one hand, the score frames the *tacet* as a linguistic and performative prompt.¹²⁰ On

¹¹² Lucy Lippard and John Chandler, "The Dematerialization of Art," *Art International* 12, no. 2 (February 1968): 31-36.

¹¹³ See Richard Kostelanetz, *The Theatre of Mixed-Means: An Introduction to Happenings, Kinetic Environments, and other Mixed-Means Presentations* (New York: Dial Press, 1968); and Richard Kostelanetz, *Metamorphosis in the Arts: A Critical History of the 1960's* (New York: Assembling Press, 1980).

¹¹⁴ Joseph, *Experimentations*, 133-134.

¹¹⁵ Dick Higgins, "On Cage's Classes," in *John Cage: An Anthology*, ed., Richard Kostelanetz (New York: Praeger, 1970): 122-124. Higgins is quoted as in Joseph, *Experimentations*, 133-134.

¹¹⁶ Dick Higgins, "Intending," *The Something Else Newsletter* 1, no. 3 (1966): 2.

¹¹⁷ As Kotz suggests, the lecture material reflects language used in the German *new music* journal *Die Reihe*, which was edited by electronic composers Herbert Eimert and Karlheinz Stockhausen. Eimert and Stockhausen formed the Westdeutschen Rundfunks (WDR) electronic music studio in Cologne. See Kotz, "Post-Cagean Aesthetics," 65; and Kim, "In No Uncertain Musical Terms," 143.

¹¹⁸ See Kotz, *Words to be Looked At*

¹¹⁹ See John Cage, "Lecture on Nothing," in *Silence* (Middletown, CT: Wesleyan University Press, 1961): 109-126.

¹²⁰ Kotz, "Post-Cagean Aesthetics," 57.

the other hand, the score underscores the *tacet* as a material and non-performative condition. This tension serves a primary artistic function in the work: the audience perceives a pianist to not do nothing, as there is no apparent sound, while in fact the score has been carefully realized.¹²¹ Accordingly, *4'33"* challenges the boundaries of musical content and redefines the structures and values of musical performance and spectatorship.¹²² The connection to Brecht's *event score* is clear in this regard. However, Brecht's interpretation of *4'33"* skews Cage's *tacet* to his own interests. In versions of *4'33"* that use the *tacet* – there are several that do not use the form – Cage depicts the form as textual rather than graphical. Cage's notational and rhetorical shift is intentional as the *tacet* is one of the fundamental notational marks. The shift highlights a fundamental difference of a *defined* and *suggested* musical cue, and, in turn, the difference between the *performance* and *condition* of silence. While a graphical *tacet* communicates a *prompt for a specific action*, the textual *tacet* communicates a *description of a general condition*. Accordingly, *4'33"* operates at the interstice of performance and non-performance (and of the *performance of silence* the *condition of silence*). While the former highlights the categorical challenges of the piece as a performed composition, a sublimation of sound into a symbolic order, the latter highlights Cage's materialist leanings and just simply presents silence as an acoustical condition. This view reveals a contradiction in Brecht's *event score*, which renders Cage's use of text into a clearly conceptual and performative gesture, ignoring its simultaneous materialist and non-performative frame.

In Cage's music, conceptualism and performativity are fraught paradigms. For example, *4'33"* is arguably non-performative and anti-conceptual, but it retains a connection to musical performance and conceptual structures. The performance is restrained to almost nothing and the sounds are equally un-composed, existing in a material space alone rather than induced from, or representative of, a high formal structure or musical theory. Nonetheless, the conceptual view dominated the interpretation of Cage by visual artists. Indeed, Brecht was not alone in rendering Cage through linguistics rather than its sonic materiality. In 1968, Kostelanetz stated that Cage's 'ideas and examples [are] among the greatest influences shaping the *theatre of mixed means*.'¹²³ In theorizing this new paradigm, Kostelanetz, like many others, admired Cage's processes for '[getting] one's mind and one's desires' out of the way of one's art in order to let life 'act of its own accord.'¹²⁴ This adoption of Cagean aesthetics characterized broad categorical artistic shifts and exploited sound as an interdisciplinary medium, a medium disruptor, rather than an artistic medium. For example, Kostelanetz specifically described *4'33"* as 'the most crucially influential of Cage's artistic illustrations,' a citation that, while flattering, celebrates Cage's 'silent' piece for its textual, didactic and symbolic sublimation of musical and non-musical categories.¹²⁵

Cage's colleague Morton Feldman argued that Cage was rendered conceptual by visual artists, specifically through his association with the Dadaist Marcel Duchamp. According to the composer, whose connection to the visual arts was more limited than Cage, Duchamp's ideas surrounding *non-retinal art* imparted a visual artistic significance to non-visual conceptual gestures. Through Duchamp, Feldman suggests, Cage's materialist practice highlighted the

¹²¹ Cage, John. *4'33"*. Score. New York: C. F. Peters., 1952. For information on David Tudor's original performance see: William Fetterman, *John Cage's Theatre Pieces: Notations and Performances* (Abingdon: Routledge, 1996), 74.

¹²² Kotz, "Post-Cagean Aesthetics," 57.

¹²³ Kostelanetz, *Theatre of Mixed-Means*, 19.

¹²⁴ Kostelanetz, *Metamorphosis*, 14.

¹²⁵ Indeed, focusing on acoustical materiality – sounds in space heard by people – might position the paradigm of a *theatre of mixed means* as awkwardly *medium-specific*.

conceptual and linguistic foundations of *dematerialized* artworks, which operated in highly visual frameworks:

Most people don't realize it, but Duchamp and Cage are complete opposites. Cage [extracted] music from the conceptual domain [to give] the purely physiological sensation of sound, separated from this conceptual cause and effect. Duchamp distanced paintings from the most sensual aspects of perception. It is significant that Cage and I have influenced certain conceptual artists... our position is radically at the opposite of theirs... it's completely unbelievable... it happened very quickly... In a certain way, John Cage has nothing in common with Duchamp, except an in-depth understanding of process.¹²⁶

It must be noted here that Feldman's reading of Duchamp contradicts established art historical knowledge of the artist.¹²⁷ The assertion that Duchamp 'distanced paintings from the most sensual aspects of perception' is demonstrably false – one can easily find a rich visual grounding in the artist's many works in sculpture and film. In fact, Cage suggested a close artistic influence and viewed Duchamp's material and conceptual duality with nuance. In 1963, Cage noted several connections between the concepts and experiences of sensory phenomena, including vision, in Duchamp's work, arguing that 'everything seen – every object... plus the process of looking at it – is a Duchamp.' In the aphoristic writing, Cage offers another way to write music: 'study Duchamp.'¹²⁸ However, Feldman may be partially correct in suggesting that Cage was adopted by some visual artists who misinterpreted his musical methods and theories or overstated his conceptualist approach (e.g. mistaking *indeterminacy* as a grand theory of composition, rather than a nuanced musical performance procedure). However, as Robinson noted, these artists simply took what they needed from Cage and, in reality, had no obligation to mirror his own motivations. In fact, the degree to which so-called "post-Cagean" artists actually listened to the composer's music is also unclear.¹²⁹ By the late 1960s, visual artists more or less abandoned the composer, especially after the Fluxus collapse.¹³⁰ The suspicion of Cage was evidenced by sculptor Walter De Maria, who later admitted: "I never did like his music actually. But the ideas were always well stated."¹³¹ How does this disparity of *anti-conceptual materialism* and *anti-materialist conceptualism* affect the reception of Cage, and, in turn, our knowledge of *post-Cagean aesthetics*? As discussed, Brecht rendered sound meaningful through its linguistic articulation. In this symbolic framework, as Kim-Cohen argues, textual models

¹²⁶ Feldman quoted in Ivan Ilić, "Morton Feldman: Interview with Françoise Esselier (1970)," *Tempo* 69, Issue 271 (2015): 48-56.

¹²⁷ For a nuanced view of Cage and Duchamp, see Joseph, *Experimentations*, 137-138.

¹²⁸ See John Cage, "26 Statements Re Duchamp," in *A Year From Monday* (Middletown, CT: Wesleyan University Press, 1963): 70-73; and Sylvere Lotringer, "Becoming Duchamp," *Tout-Fait* 1, Issue 2 (2000). http://www.toutfait.com/issues/issue_2/Articles/lotringer.html

¹²⁹ Beyond those who explicitly studied and composed music: George Brecht, La Monte Young, Jackson Mac Low, Al Hanson, Charlotte Moorman, Nam June Paik, etc.

¹³⁰ Leaving artists such as Brecht, Higgins, Knowles, Morris, De Maria, and Young to develop their own practices. See Michel Oren, "Anti-Art as the End of Cultural History," *Performing Arts Journal*, Vol. 15, No. 2 (May, 1993), pp. 1-30.

¹³¹ Oral history interview with Walter De Maria, 1972 October 4. Archives of American Art, Smithsonian Institution. Web. Accessed June 8, 2016. <http://www.aaa.si.edu/collections/interviews/oral-history-interview-walter-de-maria-12362>

allow sound to be situated within social, political and cultural perspectives.¹³² However, Cox's view that sonic linguistics cannot describe the conditions, or experiences, of sound poses a serious problem when analyzing sonic artworks and their formal institutionalization in art history.¹³³ Generally speaking, art history has preoccupied itself with the former, believing it has understood the latter. If our current *sonic art history* has interpreted Cage's musical matter through Brecht's linguistic gestures, where might we reclaim the sonic?

Beyond Cage

If the 'post-Cagean' legacy has been taken for granted, how might we reinterpret his wide influence and to whom else might we listen? This section explores broader musical contexts that Cage operated within and how these influences were imparted, perhaps unconsciously, to visual artists and, in turn, the paradigm of *post-Cagean aesthetics*. Specifically, I look to the relation of Cage to his teachers Arnold Schoenberg and Henry Cowell. I also look to another Fluxus artist, Dick Higgins, who was a student of Cage and Cowell in 1958. In this perspective, I suggest an alternative model for *sonic art history* through to provide a sonic materialist paradigm that complements Brecht's linguistic performative model.

The international role of music from the United States was limited in the first half of the twentieth century. In contrast, a new form of European modernist music, *serialism*, became an international phenomenon (in part due to the emigration of composers to the U.S. during and following the Second World War).¹³⁴ Schoenberg's *twelve-tone* system was a primary model for the production of *new music*.¹³⁵ Schoenberg's system operates on the premise that fundamental musical parameters, such as *pitch* and *harmony* – and, in later variations, *duration* and *timbre* – should be deduced by an impartial algorithmic structure (e.g. the *tone series* or *row*). The theory postulates an objective methodology for the composition of music, where the arrangement of notes 'relate only to one another' rather than to extra-musical ideas or personal preferences of musical form or emotion.¹³⁶ Both Schoenberg and Cage are well established figures within the context of art history. However, the composers pose two very different approaches to atonality (and, in turn, vastly unique uses in art historical discourse).¹³⁷ Schoenberg explored atonality through a theoretically dense framework for pitch relations. Cage exchanged pure pitch for indeterminate noise. After studying with Schoenberg between 1935-1937, Cage wrote compositions in the international *serialist* style. However, he quickly became wary of the limitations imposed by the partitioned *tone row*, and his rejection of *serialism* in the 1940s marked a commencement of his engagement with un-pitched and non-musical sound.¹³⁸ Through

¹³² See Kim-Cohen, *In the Blink of an Ear*.

¹³³ See Cox, "Beyond Representation," 145-161.

¹³⁴ See Dorothy Lamb Crawford, *Evenings on and Off the Roof: Pioneering Concerts in Los Angeles, 1939-1971* (Berkeley, CA: University of California Press, 1995).

¹³⁵ The compositions of Schoenberg, along with others like Alban Berg and *post-serial* works of composers like Anton Webern and Karlheinz Stockhausen, dominated in the United States through WWII. It should be noted that twelve tone serialism is but one model of serialism and that these terms are not synonymous.

¹³⁶ See Arnold Schoenberg. *Style and Idea: Selected Writings of Arnold Schoenberg*, ed., Leonard Stein. (Berkeley and Los Angeles: University of California Press, 1975): 218.

¹³⁷ Schoenberg's friendship with Kandinsky is well established in art history.

¹³⁸ Cage famously claimed that his teacher suggested he would never be a composer because he had no sense of harmony. See Michael Hicks, "John Cage's Studies with Schoenberg," *American Music* 8, no. 2 (1990): 125-140.

his studies with Cowell, Cage envisioned atonality through indeterminate noise rather than determinate pitches. In this sense, Cage's turn toward the *prepared piano* and percussion music was a direct reaction against the rigid power relations that inscribed *twelve tone* music.¹³⁹

In 1966, Higgins outlined his distaste for the *serialism* (articulating a social critique that Cage avoided): "Whether or not it was Cage's view, it is certainly my own, that serial music [is] a neo-feudal tendency, characteristic, socially, of the McCarthy era in which it flourished, and quite without relevance to the rather different problems of our own times."¹⁴⁰ Higgins's critique is grounded on the implicit political implications of serialism and the apparent political ambivalence embodied by Cage's music (which was at odds with the radical politics of Fluxus and the progressive politics that often circumscribe *post-Cagean aesthetics*). Nonetheless, Higgins appreciated Cage's embrace of *timbre* over *tone*, and *noise* over *harmony*, to compose music from a materialist, rather than linguistic, perspective. Indeed, Cage's turn to noise was more inflected by Cowell's chromatic explorations than Schoenberg's pitch relations, as the realm of *new percussion music*, symbolized by the works of Cowell and Cage, posed an alternative to Schoenbergian atonality. Cage's *chance operations* and nascent concept of *indeterminacy* were not limited to a conscious purging of serialist authorship and pitch-based atonality. This new paradigm, not concerned with determinate pitch, represented an exploration of noise as a *musical material* for a *materialist music*. In turn, Cage's pursuit of *silence*, tinged in art history by his negative experiences with Schoenberg, was inspired by Cowell's positive influence.

Like Cage in the early 1940s, Cowell located the potential to expand the compositional limits of tonal harmony in atonal piano and percussion music (though Cowell never abandoned tonal harmony like Cage). Cowell's embrace of noise was initially found in his use of the *tone cluster*: the simultaneous sounding of a dense layer of pitches irrespective of discreet pitch or consonant harmony (i.e. the pitches are heard as a large atonal group rather than legible singular tones).¹⁴¹ While Cowell did not invent the *tone cluster*, he was unique in framing the device as a serious compositional form: a focused noise structure rather than a passing dissonant chord. For example, His piano compositions like *Dynamic Motion* (1916) and *The Tides of Manaunaun* (1917) instruct the player to use their forearm, rather than fingers, to play twenty-five-note chords, a spectrum that obfuscates pitch recognition in a burst of indiscriminate noise. (The noise was partially chance-based, though Cowell did not use the term, as a pianist has limited control over which specific keys their forearm hits.) Furthermore, the chords are typically played with the sustain pedal depressed, which lets the strings resonate long after being struck and further blurs pitch in an unrecognizable tonal wash. In this context, Cowell turned the piano into a noise-making, rather than tone-making, instrument.¹⁴²

In addition to piano music, Cowell composed music for percussion ensembles. He once described the unique materiality of percussion instrumentation and the capacity of percussion

¹³⁹ Europeans like Karlheinz Stockhausen and Sylvano Bussotti were also prominent in the area of percussion ensemble music, but their retaining of compositional authority, contrasting Cage, highlighted a disconnect between American and European traditions.

¹⁴⁰ Dick Higgins, "Intending," *The Something Else Newsletter* 1, no. 3 (1966): 2.

¹⁴¹ See Michael Broyles, *Mavericks and Other Traditions in American Music* (New Haven and London: Yale University Press, 2004); and Michael Hicks. *Henry Cowell, Bohemian* (Urbana: University of Illinois Press, 2002).

¹⁴² Once Cowell was asked "Didn't anybody ever tell you that you select tones for a chord – you don't just use all the tones at once?" His response: "Yes, I often do select tones but [sometimes] I want them all." See Cowell, Henry. "Henry Cowell Musical Autobiography." WBAI-FM. April 6, 1961. Radio program. <https://archive.org/details/HenryCowell>

instruments to change *timbre* in manners not available to conventional tonal instruments due to their rich overtone structures: ‘Each [percussion] instrument is capable of... an infinitude of sounds... depending on where [and] how it’s hit.’¹⁴³ In Cowell’s works, Cage distanced himself from the tonal concepts of Schoenberg (in favor of brash atonal percussion). As such, it is through Cowell’s piano and percussion works that Cage first arrived at his compositional understanding of noise as a musical material. Cowell also provided insight on the limitations of musical notation. The paradigm of interpretive graphic scores, which rejected conventional notation symbols and instead provided open-meaning visual forms, is typically associated with postwar composers of the New York School (e.g. Cage, Feldman, and Earle Brown) and their parallel European counterparts (e.g. Bussotti and Stockhausen). However, the graphic modes were partially sourced from Cowell, whose 1927 essay, ‘Our Inadequate Notation,’ suggested, for example, that duration should be marked graphically and spatially in a score rather than being depicted using mathematical symbols:

In our notation of rhythm, [duration] is not expressed graphically in any way; one must learn [mechanically] by an involved system of stems and hooks. How simple to present the execution of a quarter and two eighth notes [if] the duration of each were indicated by a like duration of the note itself?¹⁴⁴

Cowell’s novel conception of musical time influenced Cage’s fascination with *clock time*, which represented duration through visual and textual patterns and rejected interpretive or ambiguous tempo instructions like *poco ritenuto*, or *quickly decreasing speed* (which Cage used in the score for *Bacchanale*). Through *clock time*, Cage conceived music as a straight-forward sequence of sound events, organized linearly, that were shown as acoustical facts (similar to Varèse’s oft quoted dictum, including by Cage, that music is simply ‘organized sound’).¹⁴⁵ In this context, Cage’s most famous ideas, such as *indeterminacy*, are shown to have developed in relation to emergent musical methods, concepts, and strategies of new piano and percussion music, and specifically the materialist musical experiments of Cowell. This revelation is not particularly surprising from a musicological point of view, yet, in art history, the connections is largely disconnected.

For example, Cage’s *Bacchanale*, the composer’s first work for *prepared piano*, assumes a key role in his art historical legacy. However, the piece shows a strong influence of Cowell in its manipulation of piano’s strings and idiosyncratic performance technique. Cage originally intended to compose the piece for a small percussion ensemble, but, given the small space of the concert hall in which the piece was to be performed, he found himself musically and spatially limited. The concert hall had no orchestra pit and the stage was too small to allow for the dancers for whom the work was written and a full percussion instruments. Furthermore, Cage tried to ‘conscientiously find... an African twelve-tone row’ for the single piano on stage, reflecting the

¹⁴³ Henry Cowell, “Percussion Music,” in *Essential Cowell: Selected Writings on Music*, ed., Dick Higgins (Kingston, NY: McPherson & Company, 2001).

¹⁴⁴ Henry Cowell, “Our Inadequate Notation,” *Modern Music* 3 (March-April 1927): 29-33. Reprinted in *Essential Cowell: Selected Writings on Music*, ed., Dick Higgins (Kingston, NY: McPherson & Company, 2001): 244-248.

¹⁴⁵ Edgard Varèse and Chou Wen-Chung, “The Liberation of Sound,” *Perspectives of New Music* 5, no. 1 (1966): 18.

choreographer's chosen theme, but was unable to find a suitable system.¹⁴⁶ To solve these dual spatial and tonal complications, Cage composed a pulse-driven rhythmic composition for solo piano that could fit the musical theme and the space. However, Cage found the particular timbre of the piano – a foundational instrument of Western *art music* – both stylistically and acoustically overpowering.

The prepared piano was invented to solve this unique problem. In developing this solution, Cage was inspired by Cowell's wild chromatic manipulations of the piano in *The Banshee* (1925). *The Banshee* tasks the performer to manipulate strings in the interior of the piano, rather than through only the keyboard. Like Cowell, Cage turned to the interior and placed wooden and metal objects on the strings to alter its tonal character. Specifically, Cage explored the variable capacities of strings to reverberate and resonate under manipulated, or *prepared*, conditions (much like Cowell's exploration of *tone clusters* and percussive noise). The development of the *Bacchanale* highlights Cowell's influence from a musical, and tonal, point of view, but it also reflects his influence on what might be called a percussive strategy on Cage's larger musical practice. In particular, Cage absorbed Cowell's unique engagement with timbre into his nascent methods of chance operations and indeterminate strategies:

When I first placed objects between piano strings, it was with the desire to possess sounds (to be able to repeat them). But, as the music left my home and went from piano to piano and from pianist to pianist, it became clear that not only are two pianists essentially different from one another, but two pianos are not the same either. Instead of the possibility of repetition, we are faced in life with the unique qualities and characteristics of each occasion.¹⁴⁷

Cage revealed the spectral complexity of his sonic materials in his attempts to capture musical forms (or 'to possess sounds'). For example, any shifts in the physical material or form of the prepared piano could greatly affect a composition realization: the material density of a screw, or a wooden object, would cause shifts in the timbre of the instrument. Sonic materialism was a core aspect of Cage's *experimental music* project – and, as we will see, of Higgins's own experiments – and was directly sourced from Cowell.

Cage freely admitted Cowell's influence.¹⁴⁸ In 1972 (amidst the waning of *post-Cagean aesthetics*), the composer recalled how working with Cowell helped him free his ideas from the strict *twelve-tone* methods that sought total control of the compositional process. Specifically, Cowell's influence pushed Cage to explore chromatic and indeterminate noise. Cage even assisted Cowell – perhaps presciently – as the silent secondary performer in the latter's chromatically rich *The Banshee*:

I had often heard [Cowell] play a grand piano, changing its sound by plucking and muting the strings with fingers and hands. I particularly loved to hear him play *The Banshee*. To do this, [Cowell] first depressed the pedal with a wedge at

¹⁴⁶ Composers of *new percussion music* like Cowell, Cage and Harrison appropriated the rhythms, timbres, and performance methods of music of Africa, Latin America, and China, establishing new music by appropriating the otherness of non-Western traditions.

¹⁴⁷ John Cage, "How the Piano Came to be Prepared," *Empty Words: Writings, '73-'78* (Middletown, CT: Wesleyan University Press, 1973): 8.

¹⁴⁸ For more on the relationship between Cowell and Cage, see: Leta E. Miller, "Henry Cowell and John Cage: Intersections and Influences, 1933-1941," *Journal of the American Musicological Society* 59, no. 1 (2006): 47-112.

the back (or asked an assistant, sometimes myself, to sit at the keyboard and hold the pedal down), and then, standing at the back of the piano, he produced the music by lengthwise friction on the bass strings with his fingers or fingernails, and by the crosswise sweeping of the bass strings with the palms of his hands. In another piece he used a darning egg, moving it lengthwise along the strings while trilling, as I recall, on the keyboard; this produced a glissando of harmonics.¹⁴⁹

When performing *The Banshee*, the pianist can only be so precise in their scraping of the strings, and will inevitably vibrate strings that are not specifically intended to sound (a total inversion of Schoenberg's *twelve tone* system). Notably, *The Banshee* requires two performers. The primary performer produces loosely defined pitch ranges (stretching an entire octave with only the beginning and ending tones marked). The second player sits on the bench, silently, throughout the duration of the piece, holding down the piano's sustaining pedal so that scraped *tone clusters* overlap in an indeterminate wash. The second performer, sitting still on a piano bench, only nominally interacts with the piano's secondary features (similar to *4'33''*). Indeed, Cage's piece uses a similar performative structure to *The Banshee*, albeit with all string activity ceased, in which a person sits at the piano bench produces no direct sounds. Not only did *The Banshee* influence Cage's *Bacchanale*, and thus the *prepared piano*, but the noisy work also unexpectedly seeded his embrace of silence through its embodied inaction. Before Cage's later use of the *tacet*, he first helped Cowell realize *The Banshee* by not making sound. Perhaps by no coincidence, the 1952 premiere of *4'33''* was followed by *The Banshee*.¹⁵⁰

According to Higgins, Cowell referred to himself as both 'conservative' and 'innovative,' a dual recognition of his conventional instrumentation and notational structures with his unusual techniques and stylistic interests.¹⁵¹ Indeed, Cowell was dedicated to conceiving new manners of musical composition, sometimes going beyond conventional notions of performance and also challenging accepted definitions of music. (In this regard, Cowell set groundwork for Cage's own notion of *experimental music*.) Cowell taught Cage in the 1930s, but the two composers encountered each other, in part through mutual students such as Higgins, in an interchange of artistic ideas in the 1960s. In 1961, Cowell argued for the sort of boundary-pushing artistic exploration with which Cage was being associated with in visual art: 'The composer [selects] different means owing to what the idea is that [they want] to express in the music. Sometimes this is a musical idea and sometimes it isn't quite a musical idea.'¹⁵² In this turn of phrase, Cowell summons a desire, or a need, to move beyond musical conventions whenever the composition requires such a venture.

Furthermore, Cowell – like Cage – taught music in New York at this time. In addition to Columbia University, he also taught at the New School in 1958 – the same year as Cage's *Experimental Composition*.¹⁵³ Higgins, a counterpart to Brecht, studied with both of these composers during this year. If Brecht's Cage class notes gave art history its rhetorical grasp on *new music*, and so *sonic art*, Cowell's role as a teacher offers an alternative view, one through which we may reclaim his materialist influences of Cage, which were rendered conceptual

¹⁴⁹ See Cage, "How the Piano Came to be Prepared," 7-10.

¹⁵⁰ Kyle Gann, *No Such Thing as Silence* (New Haven & London: Yale University Press, 2010): 7-8.

¹⁵¹ See Dick Higgins, "Introduction," in *Essential Cowell: Selected Writings on Music*, ed., Dick Higgins (Kingston, NY: McPherson & Company, 2001): 13-34.

¹⁵² See Cowell, Henry. "Henry Cowell Musical Autobiography." WBAI-FM. April 6, 1961. Radio program. <https://archive.org/details/HenryCowell>

¹⁵³ H. Wiley Hitchcock, "Henry Cowell's 'Ostinato Pianissimo,'" *The Musical Quarterly* 70, no. 1 (1984): 25.

through Brecht. Cowell had fewer students than Cage, given his lesser-known reputation (at least among the defectors of painting and sculpture). However, Cowell had one dedicated student who is very important to our discussion of the transmigration of Cagean concepts: Higgins. The iconic, often iconoclastic, artist's concept of *intermedia art* is often used as shorthand to describe the artistic practices that are associated with *post-Cagean aesthetics*. However, Higgins learned from both Cage and Cowell during this pivotal moment in his practice, which coincided with the rise of *dematerialized art*. Higgins was dedicated to and inspired by Cowell. In 1958, Higgins studied music with Cowell at Columbia University. In this same year, he also studied with Cage at the New School, registering for *Experimental Composition* after attending Cage's twenty-five year retrospective concert at Town Hall concert space.¹⁵⁴ Even as a student, Higgins observed the strong influence of Cowell on Cage, retroactively stating that: 'Cage's first important music teacher was Cowell, [who] provided the perfect counterweight to studying with Cage... one could not but become aware of Cage's tremendous debt to [him].'¹⁵⁵

Higgins studied with Cage only after attending the 1958 concert. In contrast, he knew of Cowell's music as a high school student (and traveled to New York City to study with him in particular). As a teenager, Higgins had ordered an American Recording Society vinyl record subscription, which contained Cowell's *Fifth Symphony* (1948):

[The *Fifth Symphony*] was the first [work by Cowell that] I heard... in 1956 my mother hired... an erudite communist [as a] babysitter for my younger brother, who informed me that modern music was mostly garbage except for Henry Cowell's... I became very interested [and] sought out all [his] records...¹⁵⁶

Despite this influence, Higgins described the low attendance in Cowell's course: 'only four or five students' signed up due to difficult music theory homework.¹⁵⁷ The 'low attendance' was described by Higgins as 'partly due to requirements of composing and performing [conventional musical] works weekly... German Lied or expressionist work.'¹⁵⁸ In one assignment, students were tasked write a piece of music in another composer's style. Higgins turned in his work and Cowell lamented that, while the notation did not look like the work of the composer, the music sounded correct. Taking this as a life lesson, Higgins claimed that 'to look and sound the same became an objective' for his art practice, musical or otherwise, going forward.¹⁵⁹ Indeed, the premise of 'looking and sounding the same' became a basic concept in Higgins's 'post-Cagean' Fluxus artworks, which were often based around simple actions with noise-making activities. Works such as his recurring *Danger Music* series sat adjacently to Brecht's *event score*, but without the overbearing function of linguistic operations. In fact, the foundation of Fluxus aesthetics, as realized through Higgins, largely came from Cowell:

¹⁵⁴ Higgins, "Introduction," 26. Notably, Paul Price's Percussion Ensemble performed at the Cage concert, though Neuhaus was not featured. See: Cage, John. *The 25-Year Retrospective Concert of the Music of John Cage*. 1959. LP.

¹⁵⁵ *Ibid.*, 27.

¹⁵⁶ *Ibid.*, 26-28.

¹⁵⁷ *Ibid.*

¹⁵⁸ See Dick Higgins and Nicholas Zurbrugg, "Looking Back," *Performing Arts Journal* 21, no. 2 (1999): 19-32; and Kim, "In No Uncertain Terms," 141.

¹⁵⁹ Higgins, "Introduction," 28.

Another assignment was [to] write the most expressionistic piece possible. My solution [was] hopelessly grotesque [and] unintentionally funny... my annoyance stayed with me, and years later, when I was active in Fluxus, I composed *Danger Music No. 17* (1962) with Cowell's assignment in mind – a sustained loud scream, kept up until the screamer is exhausted... it is perhaps my best-known piece.¹⁶⁰

Higgins's goal to "look and sound the same" was realized in his violent scream, which embodied a thoroughly materialist, and dangerously affective, perspective that could not be easily masked by the conceptualism associated with *post-Cagean aesthetics*. Indeed, Cowell's *Danger Music* project is described in terms of *chance operations*, despite the artist's overt rejection of Cage's interest in the technical processes of chance. As Joseph recalls, 'Higgins... declared himself at odds with much of Cage's perspective... and [moved] in his own direction.'¹⁶¹ Higgins's direction, it seems, was also substantially informed by Cowell.

In addition to Cage – whose impact is more readily known and easily traced – Higgins recalled his experiences with Cowell throughout his life. Just prior to his death in 1998, Higgins edited a collection of the composer's collected writings, and wrote a lengthy introduction that describes his experiences with Cowell as a teacher.¹⁶² Even as early as 1969, Higgins reprinted Cowell's music theory treatise, *New Musical Resources* (1930), through his artist-run imprint, Something Else Press (which also published selected writings by Cage among other artists, or influences, associated with Fluxus).¹⁶³ In the same year, an issue of *Something Else Newsletter*, which provided information on upcoming publications and a scene reports on the (increasingly collapsing) New York City avant-garde community, singled Cowell out as a primary artistic influence upon 1950s and 1960s *new music* (and, in turn, postwar art): "There weren't too many structural ideas that came up in the Cologne School of the late 50's and early 60's that weren't anticipated [by Cowell] back in 1930."¹⁶⁴ The quote refers to European composers, ostensibly to Stockhausen (who was often, somewhat erroneously, associated with Cage). However, the excerpt underscores the particular influence of Cowell on Higgins and, arguably, his still emergent theory of *intermedia* art. Though a major source of influence on Cage and Higgins, Cowell was - and remains to be – less well-received by younger artists looking to push artistic boundaries. The composer's dedication to conventional music theory and notation were, to some degree, at odds with his eccentric use of chromatic and rhythmic noise. Perhaps this latent conservatism was sensed by artists who instead adopted Cage. Indeed, Cowell's willingness to experiment with noise and extended techniques – two features that characterize Cage's music – remained grounded, if delicately, to musical conventions. Cowell's music may have been appreciated by some younger artists, such as Higgins, who sought to work in direct relation to music, but was not as likely to be used as a theoretical or methodological standpoint for other artists, such as Brecht, whose musical, or sonic, interests were comparatively limited. The limited reception of Cowell, despite Cage's own acknowledgments of his influence, was partly a

¹⁶⁰ Ibid.

¹⁶¹ Joseph, *Experimentations*, 134-145.

¹⁶² See Dick Higgins, "Introduction," in *Essential Cowell: Selected Writings on Music*, ed., Dick Higgins (Kingston, NY: McPherson & Company, 2001): 13-34.

¹⁶³ The Something Else Press was co-managed with Alison Knowles. See: Henry Cowell, *New Musical Resources* (New York: Something Else Press, 1969).

¹⁶⁴ See Camille Gordon, "Camille Reports Again," *The Something Else Newsletter* 1, no. 10 (1969): 2; and Gilbert Chase, "New Musical Resources – Yesterday and Today," *Anuario* 5 (1969): 101-109.

result of his inability to challenge artistic forms in the same manner as Cage. Higgins – a key figure in postwar American art who is largely associated with *post-Cagean aesthetics* – nevertheless viewed Cowell as his most important artistic influence, rather than Cage. Through Higgins we can reclaim Cowell’s materialist perspective. We can use this framework to not only rethink our understanding of Cage, who was like Higgins a primary recipient of his influence, in addition the methods, concepts, and language of *sonic art history* generally.

Cowell and Neuhaus

The attention given to percussion by Cowell in the 1930s, at times exclusively, contrasted the use of stringed and woodwind instruments by serialist composers. Serialism depends on precise pitch and harmonic relations. In contrast, percussion instruments are mostly incapable of producing determinate pitch.¹⁶⁵ The size and weight of a cymbal factors into its frequency range (e.g., low, middle, high), but it is nearly impossible for the instrument to produce a pure tone placed on a harmonic scale.¹⁶⁶ The result, when not using a mallet-instrument, is that a composer is limited to non-pitched sounds. They are not able to rely upon pitch relations that have defined the Western musical paradigm, even serialism, and instead must explore the conditions of *timbre* (texture), *dynamics* (loudness), and *rhythm* (repetition). Percussion music is naturally oriented to materialist experiments – and noise.

Cowell began focusing on percussion music in the 1930s and explained that this new type of “percussion orchestra” music was at first an amateur’s game. While working in San Francisco in the 1930s, the composer (with Cage and Harrison) began to produce modern music for dance choreographers (such as Martha Graham and Anna Halprin). Cowell believed that the dancers could realize the music themselves, since percussion instrumentation is an easy entry point into musical performance (e.g., it is technically easier to play a drum than the violin). The dancers who were not performing on stage could play music off stage. Over time, Cowell suggested, the percussion music became “less and less” amateur and more professional.¹⁶⁷ Soon the composers created works that required virtuosic players. This narrative was addressed by Cowell on the New York City public radio station WBAI-FM in 1961. While introducing a “recent recording” of the percussion ensemble work *Ostinato Pianissimo* (1934), Cowell mentioned the “very skilled percussion men” of Paul Price’s Percussion Ensemble that realized the work. The group was based out of the Manhattan School of Music and was joined by Neuhaus as a student, 1958-1962. Neuhaus, a young percussionist first inspired by Gene Krupa, had just finished his Bachelor’s and was in the midst of his Master’s degree at the time of the recording.¹⁶⁸ Neuhaus is not listed as a performer on the commercial album, which lists Cage as a co-conductor, but likely performed the delicate and highly rhythmic composition in rehearsal and official concerts.¹⁶⁹

Cowell’s percussion music as performed by Neuhaus as a student. Works by Cowell with others, especially Cage and Harrison, informed the young percussionist’s views on music, art,

¹⁶⁵ The exception to this general rule are the various types of mallet instruments that replicate the keyboard structure, such as the marimba and xylophone. Perhaps it is also useful to remember that the piano, despite its ubiquity as a harmonic centerpiece, has long been considered a percussion instrument – or at least a *percussive* instrument – due to its use of small hammers that strike, but do not pluck, its interior strings.

¹⁶⁶ Some percussionists may achieve a sine-wave like tone by bowing the cymbal with a violin bow, but it is difficult to maintain and prone to pitch modulation.

¹⁶⁷ See Cowell, Henry. “Henry Cowell Musical Autobiography.” WBAI-FM. April 6, 1961. Radio program.

¹⁶⁸ *Ostinato Pianissimo* is recorded. See: Various Artists, *Concert Percussion*. Time Records S/8000, 1961. LP.

¹⁶⁹ See also: “Pre-Eminent Percussion – Captivating Works, Superbly Performed,” *Stereo Review*, Volumes 6-7: 70.

and performance. Such works, especially those for solo percussion, moved his interests toward materialist and spatial sound later in his artistic career: *musical* (e.g., performances of scores by Stockhausen, Cage, Morton Feldman), *anti-musical* (e.g., sonic Happenings and situations), and ultimately *post-musical* (e.g., continuous sound installations). Cowell's works were integral components in the development of Neuhaus as an artist, perhaps as much Cage and Stockhausen, despite his noted absence in art historical views of the period (a particular oversight given the explicit influence he had on Higgins (and thus the entirety of *intermedia* art).

Archival materials, including concert programs, suggest that Neuhaus performed two of Cowell's compositions: *Ostinato Pianissimo* and *Vocalise* (1960). Both were performed in 1960 on an ensemble recital, conducted by Price. Incidentally, Neuhaus had just started to perform as a solo percussionist, a rejection of group percussion that marked a slow recusal from the ensemble model (and prefiguring his rejection of performance in 1968). Nonetheless, it was in an ensemble performance model that Neuhaus first encountered sonic materialism. The degree to which *Ostinato Pianissimo* and *Vocalise* influenced Neuhaus is unclear, but I would like to discuss the works briefly to highlight the composer's techniques as the basis for Neuhaus's own materialist turn. Neuhaus never singled out Cowell as a significant influence, as he did Stockhausen and Cage. This absence can be explained by a clear rejection by Cowell of avant-gardism (and his claim to be conventional when accused of being an experimentalist and too experimentalist when accused of being conventional). Neuhaus's engagement with Cowell reveals an emergent and conflicted culture of percussion music in the late 1950s. The focus on Cowell also reveals the background of Cage, whose works not only influenced Neuhaus but postwar visual art broadly speaking.

Vocalise (1960) is a dissonant trio for piano, flute, and soprano voice. The presence of the work in Neuhaus's recital history indicates that he was definitely trained on the piano as part of his musical education, but likely did not specialize on the instrument. The piano was considered part of a standard percussion instrumentation, both concert hall and jazz music.¹⁷⁰ If Neuhaus had pursued music education or professional accompaniment, instead of sound art, the piano may very well have become his primary instrument. However, the composition of *Vocalise* uses the piano sparingly. The instrument provides a simple *staccato* rhythmic accompaniment, suggesting that while Neuhaus could have maneuvered a tonal keyboard – in fact, he ultimately specialized in mallet percussion – he would not have needed to in this work. *Ostinato Pianissimo* (1934) allowed Neuhaus to refine his percussion skillsets, although it is not clear which particular instruments he played. The work features what is effectively a *prepared piano*, referred to in the score as “string pianos,” with rice bowls, xylophone, woodblocks, tambourine, guiro, bongos, drums and gongs.¹⁷¹ These instruments were intimately familiar to Neuhaus and circumscribe the basic sounds of a percussion ensemble (excluding the snare drum). *Ostinato...* was among Cowell's earliest all-percussion piece. Accordingly, it also was one of the first compositions for percussion ensemble, excluding non-Western music, of the twentieth century. The piece is not only repertoire for Neuhaus, but also symbolic of the new genre of ‘percussion music’. As suggested, *Ostinato...* features an extended technique: the piano player is asked to “[dampen] the strings to be played... with his fingers [to produce overtones],” a prefiguration of Cage's own insertion of screws and other objects between strings to control resonance.¹⁷² The technique

¹⁷⁰ Neuhaus began his career as a jazz musician before abandoning it around 1958 to focus on classical and later avant-garde percussion music.

¹⁷¹ Hitchcock, 23-44.

¹⁷² *Ibid.*, 27.

limits the function of the piano, typically a central instrument, to the background, de-emphasizing its harmonic potential to instead turn it into a rhythmic percussion instrument. The subjugation of tonality is underscored in the composer's emphasis on the drums and gongs. The latter are percussion instruments that are slightly pitched (not purely pitched), but which he advises to the player should "[not be] tuned, but arranged from low to high."¹⁷³

Cowell desired indeterminate frequency ranges rather than specific pitches.¹⁷⁴ As for the title, the musical term *ostinato* refers to a continual rhythmic repetition, while *pianissimo* indicates that they performers should play quietly (hence the request to dampen the piano, which not only limits the volume, but also creates a percussive timbre). Indeed, the piece makes use of repeated rhythmic passages, at times seemingly polymetric, and has sustained dynamics throughout its roughly three-minute duration. Typically, instructional phrases like *ostinato* and *pianissimo* are printed within the score, generally above the musical staves, and are only meant to be seen by the performer. The titling of the piece using simple musical instructions (play repetitively, play quiet) highlights the artistic emphasis of percussion music on dynamics, as well as the interpretation of the performer to follow the score, as well as their own need for self-guidance: suggestions such as *pianissimo* are used as guides for performance technique and are not quantifiable like musical notes or rhythm, meaning that each person will have their own notions of what 'quiet' actually means.

I would also like to highlight Cowell *Pulse for five players* (1939). *Pulse...* is typical of Cowell's percussion-centered composition of the 1930s. The work is composed with an intense asymmetrical staccato rhythm, which is quickened and almost entirely syncopated, and switches abruptly between two brash dynamic ranges: soft and loud. The work has a length of about five minutes and is comprised of cymbals and tom-toms with a brake drum, along with minor semi-melodic phrasings in several small pitched instruments, such as wood blocks and Japanese rice bowls. About two-thirds through the work, there is a brief harmonic passage, but the phrasing is anything but distinct and allows for no clear pitch relations to come forward. The work is notable for its emphasis on percussive noise rather than melodic or harmonic content. *Pulse...* does use a handful of pitched drums, but there is a noticeable lack of keyboard-inspired mallet percussion instruments like the xylophone or marimba, which are tailored for replicating piano instrumentation, such as melodic lines and harmonic counterpoint.¹⁷⁵ The syncopated rhythm, which evades a downbeat, ironically contrasts the composition title, which conveys a straight, consistent, and evenly spaced rhythm.

For Cowell, like Cage, percussion music was a new area to explore new musical composition beyond the paradigm the *twelve-tone* row. The works that Cowell composed, such as *Pulse*, which was dedicated to "Cage and his percussion group," created a new repertoire for solo percussionists like Neuhaus to perform (i.e., outside of orchestral accompaniment).¹⁷⁶ As discussed, Cowell was not alone in this endeavor. The works of Cage also set the stage for *new American percussion music* and for Neuhaus's eventual move toward a sonic materialist art practice, removed from music, but which roots in percussion experiments, 1930-1960. The

¹⁷³ Ibid., 27.

¹⁷⁴ Hitchcock, 33.

¹⁷⁵ The full instrumentation breakdown of *Pulse*: Player I: 3 Korean Dragon's Mouths, 3 Wood Blocks Player II: 3 Chinese Tom-Toms, 3 Tom-Toms Player III: 3 Rice Bowls, 3 Japanese Temple Gongs (sub 3 bells) Player IV: 3 Suspended Cymbals, 3 Gongs Player V: 3 Pipes, 3 Brake Drums Player VI: 3 Japanese Temple Gongs (shared with player III), 3 Wood Blocks (shared with player I). See Henry Cowell, *Pulse*, [1939] New York: Music for Percussion, 1971. Score.

¹⁷⁶ Ibid.

agency of the percussionist in such works challenges the creative conditions of the composer, performer, and the audience – a tripartite power structure that Neuhaus will later collapse. *Ostinato...* was dedicated to conductor Nicolas Slonimsky, a friend of Cowell who also conducted the all-percussion piece *Ionisation* (1931) by French modernist Varese. *Ionisation* is perhaps the earliest all-percussion composition in the Western canon and is also the most famous of the genre. The composition is scored for thirteen percussion instruments and one piano and makes liberal use anxious rhythms interspersed with the disruptive wailing calls of emergency sirens and dissonant thunderous percussion, a notorious appropriation of industrial noise that, in retrospect, captured the cultural anxiety of the European interwar period. Cowell, who performed the work's piano parts at its 1933 premiere, was more formally conservative than Varese, whose music revitalized European *post-serial* expressionism. The discussion of Varese following this section frames the emergence of *new percussion music* as an international phenomenon, and as a noisy affair that antagonized musical decorum.

Edgard Varese

“Varèse in America!” exclaimed Morton Feldman in 1986, speaking of Edgard Varèse’s (1883-1965) looming influence upon the field of new American music.¹⁷⁷ The French composer first visited the United States in 1917. He was brought to the U.S. to direct a performance of a piece by the late-Romantic composer Hector Berlioz.¹⁷⁸ Varese lived among kindred spirits in the Greenwich Village.¹⁷⁹ Nonetheless, the composer met eccentric artists in and out of music, such as the Dadaist-turned-Surrealist Francis Picabia and electronic musician and engineer Leon Theremin.¹⁸⁰ The effects of the United States on the music of Varese, particularly the noise and density of New York, pushed his music toward an uncompromising wielding of “sound masses,” including air raid sirens, which existed as blocks of “organized sound” rather than discrete formal relationships that defined serialism. The effects of Varese on the music of the U.S. as a whole were vast, particularly in the realms of electronic and percussion music. Indeed, Varese embraced an experimentalist approach to music as an “art-science” that sought an unbridled investigation of new sounds, forms, and perspectives that shaped the emergent paradigm of *new music*. Varese became a U.S. citizen in the mid-1920s, a life shift that inspired his composition *Amérique* (1918-1921/1927), a twenty-four-minute-long opus that is composed as an onslaught of dissonant “sound masses” from the orchestra with stilted and frenetic percussion. The work solidified his post-serialist reputation as a harbinger of noise.

By the end of the 1920s, the composer was particularly celebrated, or lampooned, as an active producer in the realms of both electronic and percussion ensemble music. For example, the *Sante Fe New Mexican* dubbed him the “great sound builder [that] threw New York music lovers into a frenzy with his ecstasy of din,” “the most bitterly discussed composer [in]

¹⁷⁷ The subsection title is taken from comments made by Morton Feldman on the influence of Varese on new American art music, notably his “great legacy [being the uncanny] marriage between timbre and pitch.” Remarks by Feldman on the radio program: Roger Wright, “A Martyr for the Cause,” London: BBC Radio 3, October 22, 1986.

¹⁷⁸ “Some Facts about Edgar Varese,” *The New York Times* (April 1, 1917): 4.

¹⁷⁹ *Ibid.*

¹⁸⁰ Theremin was the inventor of the eponymously named electronic instrument, the Theremin, which was one of the earliest to be playable by a conventional musical performer. See Olivia Mattis, “Interview of Leon Theremin (Lev Sergeyevich Termen),” unpublished manuscript. Bourges, France (June 16, 1989).

America,” and less dramatically, “the founder of new music.”¹⁸¹ In the 1930s, Varese was among the most infamous composers in the U.S., perhaps rivaled only by the young Cage (who was then beginning to experiment with the *prepared piano* technique). Varese was, in addition to Cowell and Cage, a pointed influence on Neuhaus as a student. However, the influence was not limited to the inclusion of noise (for our purposes, Cage sufficed). In Varese, Neuhaus saw an extension of sound out of time and into space. In a 1936 article, Varese spoke of “beams of sound” that position musical experience as a material and spatial condition. Varese pontificated on the state and development of ‘new music’ – a term that while common today was a strong indicator of forward-thinking musical trends in the inter- and postwar eras in both America and Europe:

In a composition it is of little consequence whether the impetus come from an image or an idea. This objective schema is only an ostensible motive which will gradually disappear as though absorbed and finally eliminated by the work which is taking shape and which is animated by invention only.¹⁸²

Varese posed a new model of music – *new music* – not based on preconceptions of music practice and theory, such as melody, harmonics and the development of specific themes exposed and developed in a composition over time. Such a composition only exists within formal boundaries of a self-imposing structure. Instead, the composer spoke of a model that supports the “taking shape” of a work “animated by invention” rather than an image or schema.

The Bergsonian rhetoric adopted by Varese summons the philosopher’s *materialist* and *vitalist* rhetoric, specifically the idea of non-mathematical time or *duration* (“the work which is taking shape”) and the more mystical idea of *elan vital*, an autonomous life force that engenders action in the material world (“animated by invention”). As shown by Christoph Cox, the concept of *duration*, as formulated by Bergson, was adopted by composers of *new music*, including both Varese and Cage. This idea was also embraced by another French composer, Pierre Boulez, who described his music as “non-developmental” (and with whom Neuhaus once toured). Rather than the introduction of noise for noise’s sake, these composers formulated toward a process-oriented music beyond the linear structure of rigid *musical time*. Indeed, Varese expressed this opinion on leaving musical time explicitly: “Until now, music as it unfolds, has represented for us only the element, time, making us conscious of two dimensions only. Our new conception of the universe now makes it possible for us to imagine music in its true sense special.”¹⁸³ The conception of expanding music out of time (what he calls an “element”) was a revolutionary thought for Neuhaus, who too described his practice of sound events, spatial music, and sound installation, which he first described as “music for non-concert hall situations”: “Traditionally composers have located the elements of a composition in time. One idea which I am interested in is locating them, instead, in space... and letting the listener place them in his own time.”¹⁸⁴ Works such as *Ionisation* and *Hyperprism* (1922-23) utilized percussive noise piqued with tonal elements and non-musical sound sources, such as sirens.¹⁸⁵

¹⁸¹ B. B. D., “Edgar Varese, ‘Great Sound Builder’, is Here; Started New Music Movement in Yew York: Loves ‘Ecstasy of Din’,” *Santa Fe New Mexican* (June 15, 1936).

¹⁸² B. B. D., 1936.

¹⁸³ Ibid.

¹⁸⁴ Neuhaus, *Program Notes*, 1974. See also The Museum of Modern Art Archives. MoMA PS1. Series I: Curatorial and Exhibition Records. IA.4. “Max Neuhaus 1973.”

¹⁸⁵ *Ionisation* is most often celebrated for its innovative use of air raid sirens, which offer extreme portamenti (or continuously rising tones) for dramatic mechanical flair. Varese used sirens earlier in *Hyperprism*, which is less well

Neuhaus claims to have first met Varese in 1961. The circumstances are unclear as to where and why this meeting occurred and the account has not yet been verified. Likely the composer may have visited the Manhattan School of Music, given the marginal success of its new percussion program headed by Paul Price. Indeed, the Paul Price Percussion Ensemble focus entirely on new percussion music, making Varese, an early adopter of the genre, a worthy contact. Varese either visited the percussion students at their school or attended one of their concerts, perhaps one listing a piece of his own. However, there are photographs of Neuhaus and Varese together later in 1964 prior to a program of “All Varese” music on September 2, 1964. The concert was given as part of the cellist Charlotte Moorman’s Second Annual Festival of the Avant Garde, a mixed-media and multi-disciplinary project that brought together new art, music, and theater.¹⁸⁶ It is unclear whether Neuhaus participated in the Varese program as a performer, but the *New York Times* published a photograph of the two joined by Cage. Neuhaus is seen demonstrating one of his large Japanese gongs for the composers. Neuhaus is shown standing behind a large work-board panel that likely contained collaged pages of the score for Stockhausen’s *Zyklus* (1959). Varese and Cage look on from behind a table-top upon which various bits of electronics and metal sit, including a medium-sized siren.

Neuhaus performed as a solo percussionist the following evening, September 3, 1964, where he premiered Morton Feldman’s *The King of Denmark* (1964-63).¹⁸⁷ Neuhaus specialized in the performance of extremely new works of solo percussion music, many of which were rarely performed, like Stockhausen’s *Zyklus* (1958), or written at the request of the percussionist, like Feldman’s *The King of Denmark* (1963-64). There is no direct evidence that shows Neuhaus ever publicly performed the music of Varese, but he certainly knew well the works of the composer, despite the fact that the latter never wrote works for solo percussion. However, the musical ideas of Varese are useful for positioning Neuhaus’s emergent interest in sonic space and the non-linear materiality of sound. The composer was also appreciating a moment of renewal in the 1950s and 1960s. The EMS record label released a collection of the composer’s early works in 1951, which included his famous percussion work *Ionisation*. The release of this piece during a moment of the rise of new American percussion music, specifically the formation of the Paul Price Percussion Ensemble, is not coincidental. *Ionisation* became a masterpiece of the new genre of percussion ensemble music: a large-scale orchestral work that focused on instruments almost never given the spotlight, save for the occasional marimba or timpani concert.¹⁸⁸ Varese published in the newly formed *Perspectives of New Music*. Rather, the writings of the composer were collected, edited, and published in the academic musicology journal. In the essay, “The Liberation of Sound,” the writings of Varese (some from as early as 1936) lay groundwork for his theory of “organized sound.” The theory refers to musical composition as the control or formation of interrelations between moving sound objects, which act as sonic masses, rather than the refined interweaving of more standard theoretical tropes of melody, harmony, and rhythm (what could in a word be called *counterpoint*).

known today, but exhibits similar compositional wielding of noise and performance ambiguity (i.e., the inability to exactly control a siren, one of the only instrument to conjoin musical rhythm and pitch. For more on sirens as musical instruments and the connection between rhythm and pitch, see the writings of musicologist and music historian Alex Rehding.

¹⁸⁶ Fondazione Bonotto, “2nd Annual Avant Garde Festival Flyer – Poster” and “2nd Annual... Flyer” (FXC1656).

¹⁸⁷ See Appendix.

¹⁸⁸ For example, Darius Milhaud’s *Concerto for Marimba and Vibraphone* (1948/1954) (which Neuhaus performed at his Master’s degree performance). Oral interview with Jan Williams. See Appendix.

Notably, the composer points out his desire for “new instruments,” presumably electronic, that will give him more control over shifting sound masses and planes that resist traditional counterpoint structure:

When new instruments will allow me to write music as I conceive it, taking the place of the linear counterpoint, the movement of sound masses, of shifting planes, will be clearly perceived. When these sound masses collide the phenomena of penetration or repulsion will seem to occur. Certain transmutations taking place on certain planes will seem to be projected onto other plans, moving at different speeds and at different angles. There will no longer be the old conception of melody or interplay of melodies. The entire work will be a melodic totality. The entire work will flow as a river flows.¹⁸⁹

Varese here explicitly summons Bergson’s *duration*. On musical time, Varese suggested that musical scores delimit sound as a two-dimensional inscription rather than a three-dimensional spatial structure (or four-dimensional durational experience): “Until now, music as it unfolds, has represented for us only the [one] element, time, making us conscious of two dimensions only.”¹⁹⁰ The conception of expanding music out of time and into space had profound reverberations with the 1960s art world (even if delayed or secondary). Varese also warned of misinterpreting non-developmental music for non-rhythmic music, which is not entirely true. The composer points out that his notion of rhythm differentiates space and scale outside of equalized metric succession:

Rhythm is too often confused with metrics. Cadence or the regular succession of beats and accents has little to do with the rhythm of a composition. Rhythm is the element in music that gives life to the work and holds it together. It is the element of stability, the generator of form. In my own works, for instance, rhythm derives from the simultaneous interplay of unrelated elements that intervene at calculated, but not regular time lapses. This corresponds more nearly the definition of rhythm in physics and philosophy as “a succession of alternate and opposite or correlative states.”¹⁹¹

This notion of rhythm is what undergirds much of the new percussion music of American composers like Cage and Feldman, as well as European composers like Varese, Stockhausen and Haubenstock-Ramati. Neuhaus played works by all five composers. Varese wielded noise to stimulate novel spatial acoustical events and psychoacoustic phenomena, locating composition not just in the organization of sound, but also the production of an embodied sonic experience. Varese’s ideas on noise and sonic materiality share affinity with emergent non-linear spatial practices in postwar sonic art, including the emergent realm of *spatial music* and *sound installation*. Prior to Neuhaus’s innovations in these areas, he studiously performed as a percussionist, widening and finally breaking the limits of musical composition, performance, and spectatorship.

¹⁸⁹ Varèse, Edgard and Chou Wen-Chung, “The Liberation of Sound,” *Perspectives of New Music* Vol. 5, No. 1 (Autumn - Winter, 1966): 11.

¹⁹⁰ B. B. D., 1936.

¹⁹¹ Varèse, Edgard, “Rhythm, Form and Content,” [1959] in *Contemporary Composers on Contemporary Music*, eds., Elliot Schwartz, Barney Childs, and Jim Fox, . New York: Da Capo Press, 1998.

CHAPTER ONE: MUSIC

New Percussion Music and the Postwar Avant-Garde

For the past several hundred years, music has confined itself to one presentation, literally and figuratively, the proscenium situation. This form evolved from social and practical situations which existed a long time ago. These circumstances are very much different now.¹⁹² [Max Neuhaus]

Music probably cannot change the world. But it is a good idea to act as if it could. The situation is hopeless, but you try to make the best of it.¹⁹³ [Frederic Rzewski]

Max Neuhaus and Postwar Art

Neuhaus is now known for his sound installations that utilize live electronic circuits that allow the works to run continuously and autonomously (i.e., they are not composed or performed by standard musical conventions).¹⁹⁴ His use of electronic circuits in the mid-1960s – first with Cage's *Fontana-Mix Feed* in 1964 – had a threefold influence of John Cage, Edgard Varese, and Karlheinz Stockhausen. (Other composers were influential and will be discussed in this chapter.) However, Neuhaus first performed acoustically with percussion instruments prior to his unique realizations of Cage's *Fontana Mix*. In *Fontana Mix*, discussed in more detail shortly, Neuhaus placed contact microphones atop acoustic tympani situated between loudspeakers to generate electroacoustic feedback. The amplified noise was manipulated by the artist live in front of the audience. Neuhaus used Cage's score between acoustic and electronic sound sources (the original was for tape and voice) to utilize each simultaneously.¹⁹⁵

Neuhaus dubbed his own realization(s) of the work, which were unique, collectively as *Fontana Mix-Feed*. The alteration of the title emphasized his contribution as the performer to the final form of the composition (as heard by the audience). The work is also a concise description of his interaction between the worlds of new music, primarily percussion but also orchestral, and the new realm of electronic music, especially live electronic music. *Fontana Mix* was a repertoire performance piece, with Stockhausen's *Zyklus* (1958). These works symbolized a recurring struggle between his *musical* and burgeoning *anti-musical* practices, a drama that played out for the artist throughout the 1960s. The latter ultimately won from a career perspective, as discussed in Chapter Two. The focus of this chapter is the former, which never quite went away, and subtly influenced the artist's subsequent activities. However, before Neuhaus developed his sound installation practice, his works were clearly musical. This chapter explores the relation of

¹⁹² Neuhaus quoted in *Radio Net*. Washington D.C.: NPR, 1977. Video.

¹⁹³ Rzewski quoted in Allen Otte, "Letter to a Young Percussionist," in *The Modern Percussion Revolution: Journeys of the Progressive Artist*, eds., Kevin Lewis and Gustavo Aguilar (New York: Routledge, 2014): 292.

¹⁹⁴ Neuhaus's works after 1980 utilize digital systems. Some works, including the reinstallation of *Times Square* in 2002, utilize pre-recorded flashdrive media. See Max Neuhaus Papers. Rare Book and Manuscript Library, Columbia University Library. Box 10. Folder 12.

¹⁹⁵ The method conveys what is now called *electroacoustic* music.

Neuhaus's musical practice to his emergent interest in the performative body and sonic space, as rendered through his creation of "music for non-concert hall situations."¹⁹⁶

Neuhaus's interest in spatial music came from his background as a solo percussionist. Percussion ensemble music – only percussion instruments – was a new area of composition and performance, 1930-1960, which emphasized rhythmic and timbral innovation over harmonic, or pitched, content. By the 1950s, composers like Cage and Stockhausen produced solo percussion pieces, an area that was non-existent in the Western tradition (as percussion was almost always relegated to orchestral accompaniment). These compositions, such as *Zyklus*, were written for percussion instruments often used conventional musical notation. By the early 1960s, composers such as Varese, Cage, and Stockhausen developed non-traditional *graphic notation* and *graphic scores* that distributed sound in space in addition to time (i.e., the notation was distributed within the score in a non-linear order or amplified with external spatial parameters such as multichannel mixing boards and speaker systems). Because percussion instruments are not capable of harmonic and melodic content, conservative ideas of musical composition, such as determinate pitch, melody, and harmony, no longer applied. This formal and compositional shift allowed composers, and in turn performers, to focus on complex and nuanced interrelations of gestural and timbral noise.

The new musical direction required novel forms of notation, sometimes entirely idiosyncratic, given that previous notational models were unable to properly indicate musical or performative structure. Composers developed new languages tailored specifically to their compositions, which increasingly included non-linear spatial arrangements (such as moving through passages or entire pages asynchronously) and open-variable graphic symbols (notational markings that may change location or meaning throughout one or multiple performances). Within the context of experimental music broadly speaking, such indeterminate scores were interpreted and improvised by the performer *in situ* – or, to borrow a phrase from visual art, *on site* – during the performance.

In the case of *new American percussion music*, the individual performers would have often made compositional choices based on their unique encounters with space, both inside and outside of the musical score. The concept of environment was a meaningful device for the composition and performance of new percussion works, as well as their audience reception, because of the necessity of working with, and within, physical space. The listeners of new percussion music were rarely given sustained passages traditional musical form, which can be generally described as imagistic. By avoiding the virtual domain of Western musical forms, such as rhythm, determinate pitch, and harmony, these new percussion works stayed acutely grounded in the physiological domain of haptic space rather than metaphysical (or Pythagorean) musical space. When listening to a pure percussion piece, the audience was thus able to witness, and comprehend, the specific source and conditions of a noise – a sound event – as it was produced in physical space, more or less directly in front of not only their ears, but also their bodies. That is to say in percussion music, the listener is able to recognize a sensorial connection between auditive and haptic encounters (rather than, say, in the case of a clarinet, where the listener sees repetitive hand movements that are disconnected from the sounds heard). When a performance is visually static while sonically diverse, the untrained listener will search for musical phrasing, and thus depend on their knowledge of established musical codes. What we have here is a difference

¹⁹⁶ See Neuhaus's biographical statement/resume (1973). See The Museum of Modern Art Archives. MoMA PS1. Series I: Curatorial and Exhibition Records. IA.4. "Max Neuhaus 1973."

between a sonic event (that emphasizes the construction of sound in space) and a musical image (that emphasizes the construction of sound over time).

The history of site-specific and environmental art of the 1970s has something of an unlikely counterpart, and as this dissertation will argue a direct source, in the composition and performance of new percussion music in the United States, ca 1956-1970. Neuhaus played a key role in the dissemination of musical ideas, particularly in relation to spatial sound. The figures who will be discussed in this chapter include the composers John Cage, Henry Cowell, Karlheinz Stockhausen, Earle Brown, Morton Feldman, James Tenney, Sylvano Bussotti, among others, including the conductor Paul Price. I will give particular attention to Neuhaus's time as a student at the Manhattan School of Music. He began studies there in 1957 as a teenager and hoped to become a jazz percussionist. (Neuhaus was inspired to play the drums after listening to the drummer Gene Krupa, who was famous for his energetic style, virtuosic drum solos and drummer-on-drummer battles.) Neuhaus quickly became an internationally acclaimed performer of new percussion music, notably experimental solo percussion and improvised electronic music, and also became recognized in contemporary art.¹⁹⁷

The core argument is that the aesthetic influence of Cage – who has long been the most common, if not only, serious reference to new music in histories of postwar art – goes far beyond the general impact of his ideas of chance and silence. These ideas were widely incorporated by Fluxus artists of the 1960s, who used sound – as a medium and a metaphor – to redefine the art object on material, cultural, and economic grounds. In this framework, much focus has been given, and limited, to the works created for or around the Fluxus leader George Maciunas. Specifically, the general knowledge of how new music intersected postwar art has been largely defined by the first Wiesbaden Fluxus festival (1962), Jackson Mac Low and La Monte Young's *An Anthology* (1963).¹⁹⁸ However, the influence of new music was much broader both in relation to Cage specifically, as well as others such as Stockhausen, Feldman, Brown, and Tenney. The influence of these composers found some strength in the anti-art and experimental performances and objects of Fluxus, but this paradigm has become something of an historical threshold for the investigation of conceptual art and new music.

Neuhaus's early musical career was largely defined by his engagement with these composers, and especially Cage and Feldman. Neuhaus also found great inspiration in the anti-academic practices of Happenings, Fluxus, and the Judson school. However, the young percussionist also encountered composers and musicians much less experimental, though not necessarily less visionary. While the major interest of this dissertation is to situate Neuhaus in the contexts of art history, and of the postwar engagement with environment in sculpture and performance, I will also focus heavily on the musical experiences of Neuhaus prior to his 1968 "cessation" of percussion activity.

Going forward, this chapter explores the music education of Neuhaus at the Manhattan School of Music, 1958-1962, and the post-education musical activities of the artist in the United States and within Europe. In particular, this section examines Neuhaus's work with his teacher Paul Price, director of the Paul Price Percussion Ensemble, and the formation of 'new American percussion music' as a subset of new music. The musical works by composers Henry Cowell,

¹⁹⁷ His name currently appears nowhere on the Manhattan School of Music website. The omission indicates not only a simple historical error, but also institutional and ideological preference. Neuhaus is not notable because his work does not clearly operate in the school's musical tradition.

¹⁹⁸ The sonically-inclined *artist multiples* included in *Fluxus 1* (1964) and *Flux Year Box 2* (1965) are also worth considering in this context.

John Cage, Morton Feldman, Karlheinz Stockhausen, and many others, will be discussed in detail. These works offer a foundation in music for a materialist acoustical language, which Neuhaus develops as a student and modifies into anti-musical gestures after he graduates (at which point he links with postwar visual art movements such as Happenings, Fluxus, and the Judson Church, discussed further in Chapter Two). This present chapter focuses on musical forms, materials, and concepts that will be utilized elsewhere in the dissertation: a sonic groundwork from which Neuhaus developed his unique artistic practice and from which I structure my analysis. This chapter also examines how Neuhaus's academic musical background fueled his embrace of experimentalism and his abandonment of performance.

Neuhaus at the Manhattan School of Music

Historians tend to focus on a period of Neuhaus's career that emphasizes his early performance of indeterminate compositions and experiments with electronics, embodied respectively by his realizations of Stockhausen's *Zyklus* and Cage's *Fontana Mix*. However, Neuhaus was exposed to a diverse selection of music during 1957 and 1962, the date of his Master's graduation, a period that shows his musical training as much conservative as it was experimental. To totally disregard the experiences Neuhaus had with more traditional compositions and performance strategies, as well as the emerging commercial music recording industry, would categorically erase the impact of these paradigms upon his thoughts on music and sound construction, whether those are negative or positive. This erasure prevents a thorough understanding of his sonic thought and method as it developed in those formative years, especially his notions of spatial sound and sonic materiality. How might these early experiences with new American percussion music have influenced Neuhaus in his thinking about sonic composition, performance, and spectatorship? Or furthermore the concepts of site, place, and environment?

Neuhaus enrolled in the Manhattan School of Music in 1957. He chose the school for two reasons: first, to live in the large metropolitan environment of New York City, a lifelong dream, in order to become immersed in its music scene; and second, to work specifically with renowned percussionist and conductor Paul Price, who was hired by the school in that year to start a new all-percussion ensemble. Neuhaus was among the first members of the quickly famed Paul Price Percussion Ensemble, one of the first nationally and internationally. Neuhaus was quickly subsumed in the realm of classical percussion music, a new musical paradigm for composition and performance, despite his lingering interest in jazz. Neuhaus abandoned his aspirations of being a jazz drummer in 1958, around the time that he was first exposed to experimental music by composed like Cowell, Cage, Feldman, and Stockhausen. In a photograph from a practice recital at the MSM, Neuhaus plays a chime rack while a fellow percussion ensemble player hits steel brake-drums (noisy non-musical instruments adopted by new percussion music composers for their unique atonal timbre). New percussion music by these composers provided an experiment-based approach to atonal music based on the exploration of sonic qualities and conditions of noise. About halfway through his education, Neuhaus decided to explore solo percussion as a primary practice, leaving the ensemble behind. However, these early experiences in the Paul Price Percussion Ensemble were formative to Neuhaus's later materialist approach to sonic art.

Sound Adventure

In 1958, one year after Price founded the ensemble, the music label Period Records released a long-playing (LP) vinyl record featuring several recordings of the conductor's new group.¹⁹⁹ The full length album was one of the first dedicated to percussion music and evocatively titled *Sound Adventure*. Despite its spectacular title that connotes narrative imagery, the record featured many of the group's repertoire pieces up to that point in time, mostly straightforward compositions that explored all-percussion instrumentation in timbral complexity and rhythmic variation. To put it bluntly, the album was not experimental in the sense of the term used by Cage, but in many ways conventional from a musical standpoint. Side A of the album includes three compositions: *Prelude for Percussion* (1956) by Malloy Miller; *Percussion Music* (1952) by Michael Colgrass; and *Percussion Music* (1935) by Gerald Strang. Side B of the album includes two compositions: *Song of Quetzalcoatl* (1941) by Lou Harrison; and *Trio for Percussion* (1957) by Warren Benson. The ordering of the audio tracks as such was intentional – and there are two specific reasons for this organization. The first reason is that the vinyl record has an allotment of about thirty minutes per side when the original audio is recorded for playback at 33 1/3 RPM.²⁰⁰ Miller's composition is by far the longest piece at nearly twenty minutes in length, while the following two works by Colgrass and Strang are each about five minutes. Together they produce a track that falls just below the thirty-minute standard. The works by Harrison and Benson each have a duration around thirteen minutes, making the two a natural pair. The same logic is applied to both Side A and Side B. No other pairing of the chosen recordings would have worked, because each variation pushes at least one side over its duration limit. The technical limitations of the LP clearly illustrate the durational logic of the vinyl record, highlighting the media object as an audio storage format used for the preservation and playback of musical recordings. I raise this situation to get to the second reason: when posed with such a tight durational limit, whoever produces a record must make decisions not just about ordering the chosen recordings, but must also choose which recordings to include in the first place. In addition to their organization, the very selection of recordings reveals some important information about how its producer, in this case Price, intended the record to be understood, and not just heard, by the listener. The five pieces included on the album were all written by American composers, all of which after 1935 and two pieces within just two years of the record release. The focus on recent compositions indicated the album's thematic focus on new music, not only in terms of composition date, but also within the new musical and ideological paradigms posed by all-percussion music.²⁰¹

Percussion music had been written consistently since the early 1930s, if not on a large scale, and was by 1958 a recognizable musical genre. This was especially true following the premiere of Varèse's infamous *Ionisation*, which quickly became a standard point of reference for new percussion music. However, the cultural status of percussion music within established musical institutions, whether educational or performative, was still fairly low. Furthermore, while experimental compositions like *Ionisation*, Cowell's *Banshee*, and Cage's *Bachannale* detached from musical conventions to highlight a distinctly new percussive musical mode, many

¹⁹⁹ Manhattan Percussion Ensemble. *Sound Adventure*. Period Records SPL 743, 1958. LP.

²⁰⁰ Rotations Per Minute (RPM)

²⁰¹ I use the phrase new music here to indicate both the recentness of the compositions as well as the thematic newness of percussion music as a genre. On the ideology of audio storage formats, see Jonathan Sterne, *MP3: The Meaning of a Format* (Durham: Duke University Press), 2012.

new percussion works, such as those by Colgrass, Strang, Harrison, and Benson, are actually quite conservative musically. Although the works by these composers are largely atonal by virtue of their percussion instrumentation, and wooden and metallic materials, the compositions make liberal use of pitched mallet instruments and often rely on established rhythmic conventions. They also typically use standard notation, instead of new forms of graphic notation, and more or less envision percussion music within a traditional rather than experimental musical mindset.

Sound Adventure was released in 1958, only one year after the Percussion Ensemble at MSM was formed. The close proximity between the formation of the ensemble and the commercial release frames the record as a sort of testing ground for new musical compositions, but also as a test for the value of the experiments to classical music as a cultural institution, as well as its correlating commercial market. The implications for continued funding of Price's ensemble is somewhat clear in this context, not to mention the impact on incentive for other composers to create percussion music. In turn, it is no surprise that the compositions on the record are not very experimental, but rather utilize percussion instrumentation in a traditional form, effectively producing a record that sounds like percussion accompaniment with the rest of the orchestra omitted. Nonetheless, the album can tell us something about how this new genre was perceived outside of the experimental mindset and provide insight into how this new music was perceived by the record industry and the general public. Viewing percussion music in these broader musical, social and economic contexts reveals the cultural conditions in which experimental composers and percussionists conceived, composed, and performed their music. The vinyl record emerged as a cultural signifier and commodity support for social and economic ideologies, an exchange of value through sound in which *Sound Adventure* operated.

The record was released commercially and quickly reviewed in an issue of *Billboard* magazine. The publication – as it still does today – provided market information and editorial reviews for new album releases in all genres. The magazine primarily focused on popular, classical, and jazz music, but it also included some smaller categories to cover comedy, international, spoken word, documentary, sound effects, and children's records. *Billboard*'s aim was to serve as a one-stop reference for the commercial record industry, but it also supported the emerging commercial radio market, which relied on musical recordings. *Billboard* flagged *Sound Adventure* as part of its recurring "Spotlight" feature. The section highlighted exceptional records for their "outstanding sales potential, artistic merit, new talent, sound recording or display value."²⁰² In this particular edition, the spotlight section listed a number of genre subheadings including "Classical Album," "Special Merit Jazz Album," "New Jazz Talent Album," "Children's Album," and "Specialty Album." Curiously, the *Sound Adventure* LP was listed in neither classical nor specialty categories, two options that would have been equally logical.²⁰³ The album was simply listed under "Sound," despite the fact that the record clearly features lengthy recordings of classical music. This nondescript heading downplayed the integrity of the album as a collection of compositions and also removed the record from any specific musical genre. *Sound Adventure* was presented to the reader as a playful exercise in acoustics and a display of timbral and rhythmic diversity, rather than a composition and performance of music. Indeed, the category of "Sound" refers here to a niche submarket of novelty records marketed to test home Hi-Fi audio systems. The reviewer mentioned this

²⁰² *Billboard*. April 28, 1958: 18.

²⁰³ All-percussion music was at the time considered as much of a novelty on the commercial market as it was in the music conservatory.

submarket outwardly and also indicated its apparent saturation with the release of similar percussion records:

Many hi-fi fanciers are getting a bit blasé about percussion workouts... [but] this session of five numbers by the Manhattan Percussion Ensemble will still tickle eardrums nicely. The whole percussion family from temple blocks to four-pedal tympani get a real shakeout... the sound hounds will love the sharp transients and odd rhythms.²⁰⁴

The rhetoric of “sound hounds” suggests two things. Firstly, the writer wanted to market the album toward owners of Hi-Fi stereo systems, who were typically middle-class adult white males. This commercial domain emerged in the 1950s following the rise of the record industry and its emergent masculine stereo culture.²⁰⁵

The album also reveals the stark difference between the two types of percussion music, and their cultures, available to Neuhaus, 1958-1962: conventional formal ensemble compositions as found on the *Sound Adventure* LP and the experimental works of Cowell, Cage, Harrison, and Stockhausen. Neuhaus’s experience performing – and training with – these conservative works fueled his embrace of the avant-garde. However, there were still few compositions of percussion music. Neuhaus was forced to develop his own repertoire or otherwise perform traditional works that upheld musical conventions. He also decided to leave behind the ensemble format altogether to become a solo percussionist (a virtually non-existent category). What percussion compositions did Neuhaus find, or commission, as he established himself as a soloist?

Primary repertoire

The young music student quickly developed a repertoire in solo percussion performance. By 1963, Neuhaus had built a full repertoire for himself – and for the fledgling genre. New percussion music, as shown, was typically an ensemble endeavor. In the early 1960s, percussion music began to draw an audience – among listener and composers – but it was still nascent and rarely did either group focus on individual performance over the ensemble group. There are several reasons to explain the hesitance toward solo performance. Firstly, the ensemble, being made up of multiple performers, is more naturally adept at performing the complex rhythmic patterns (including polyrhythms) that dominated percussion compositions and their emerging commercial market, whether in live concerts or as recorded albums (e.g., the type of percussion music contained on *Sound Adventures*, which can be appreciated by experts of classical music as well as the casual home listener).

Solo percussion music has less opportunity to develop such rhythmic patterns, especially as embodied by the battering layered styles of the ensemble. The ensemble format also allowed for a broader timbral overtone range, or sonic character, which is to say that each performer can focus on the specific sound types of their own instrument(s). As such, the group can easily layer the contrasting textures and sonorities that make up the group instrumentation, allowing for a wide range of sonic and musical expression. This timbral layering would be difficult for the solo

²⁰⁴ *Billboard*. April 28, 1958: 42.

²⁰⁵ See Kier Keightley, “‘Turn It down!’ She Shrieked: Gender, Domestic Space, and High Fidelity, 1948-59,” *Popular Music* Vol. 15, No. 2 (May, 1996): pp. 149-177.

performer, who must work with a limited number of hands, limbs and sounds. Thirdly, the solo percussionist – a wholly new category – must be a virtuoso performer in order to resolve the problems above, which is to say they must have the technical and artistic skills to realize and develop interesting rhythmic and timbral content of a solo percussion score (of which there were very few, meaning that they also had to work with limited options while embodying ‘good musical taste’ in choosing an interesting score). The concepts and methods of performance were modified by Neuhaus as he played new percussion works, especially those written for solo percussion (and, in many cases, specifically for his repertoire).

Before he could articulate the ideas of *sound installation*, Neuhaus developed the *gzkurpi eqpegr* of *realization* to describe his musical process. The concept of *realization*, rather than *performance*, more accurately reflected his approach to music and the processes of interpreting and transforming a score into sound. Instead of carefully decoding a musical score as a consistent structure, perfecting each performance upon the last in an attempt to reach the ideal interpretation, the percussionist approached each occasion on which a work was produced as a unique realization. Neither realization was necessarily worse or better than any prior or future version, or in any way related to an ideal state. Each realization was simply different. The term ‘realization’ also undercuts the authoritative drama of performance: if a work is realized rather than performed, it is framed as a work-in-process or just an occasion in which an idea has been given form. The framework of the realization was a first step toward leaving the concert hall, and the idea of performance, altogether, and is directly related to the artist’s formative sound installation practice. Neuhaus used the term throughout his career as a sound installation artist, not just in reference to music. There were about ten pieces that Neuhaus regularly performed outside of the ensemble. Most of the works were composed within the span of a decade around 1960. As such, his repertoire built a bridge between two moments in new percussion music: on the one hand, the open-form, variable and guided-improvisational scores of the late 1950s, which broke free from the ardently-notated rhythmic and timbral expressionist styles of percussion music prior to 1950, and on the other hand, the new musical explorations of the New York School composers of the early 1960s that in turn broke free from the conventions of musical notation, as well as instrumentation, altogether (often employing text scores, unassisted improvisation and electronic or electroacoustic instrumentation).

The former sought to invigorate and expand the existing musical notation and structures with new sound characters, methods of inscription and performance techniques. For example, Stockhausen’s *Zyklus* (1958) uses a *polyvalent* score that is interpreted by the performer through guided, or assisted, improvisation. In this context, the performer is given the daunting task to decode the ambiguous visual score and provide an interpretation that is both theoretically sound and musically engaging. In contrast, James Tenney’s *Maximusic* (1965), composed for Neuhaus, uses a text score that offers clear prompts for a generalized musical activity (“soft roll on large cymbal; constant, resonant, very long,” “let the cymbal fade out by itself”). Instead of decoding arcane musical notation, perhaps incorrectly, the performer is asked build upon its guidelines to ‘realize’ a novel methodology for its musical activity. For Neuhaus, the concept of *performance* upheld outdated musical conventions, such as composer’s intentionality and performer’s virtuosity, while the concept of *realization* envisioned a new type of musical practice entirely stripped of traditions, one that courted anti-virtuosity and anti-musicality (as in Fluxus). However, there were also many works that laid in-between (such as the compositions of Morton Feldman). Five recurring pieces were performed by Neuhaus locally, nationally, and internationally on a recurring basis. In addition to Stockhausen’s *Zyklus* (1958) and Cage’s

Fontana Mix (1958), Neuhaus regularly performed Earle Brown's *Four Systems* (1953), Sylvano Bussotti's *Couer Pour Batteur* (1959), and Morton Feldman's *The King of Denmark* (1963-64). Cage, Brown and Feldman are three composers associated with the New York School of composers (which also included Christian Wolff and David Tudor). Stockhausen and Bussotti were two of the selected European composers whose works Neuhaus played, in addition to selections by Bo Nilsson and Roman Haubenstock-Ramati.²⁰⁶

Zyklus (1958)

“For the past year, I’ve been learning this Stockhausen piece, *Zyklus*” Neuhaus said in a 1963 radio interview on New York City’s WBAI-FM.²⁰⁷ Neuhaus spoke to the program host John Corigliano, the music director at the popular public radio station, who invited the young percussionist on air for a live interview. The interview followed the artist’s recent completion of a Master’s degree at the Manhattan School of Music, under conductor Paul Price, and also his first European trip for his attendance at the renowned Darmstadt International Summer Course for New Music.²⁰⁸ The artist described to the host the uniqueness of Stockhausen’s virtuosic piece: “[*Zyklus* is a] totally new concept in percussion, solo playing... the instrument is so large – all these instruments [involved in the piece] are considered [as one] by the performer... It’s the first [composition] that involves [a single percussionist] playing all of these instruments.” Neuhaus graduated from the Manhattan School of Music in 1962 with a Master’s degree, but had not seen the score for *Zyklus* until the same year.²⁰⁹ Accordingly, it is very unlikely that he ever performed the piece as a student, at least not on any official concert. However, he did perform it privately leading up to his visit to Darmstadt to study with the composer later in the year, suggesting that he spent sometime in the spring and early summer practicing a work that would essentially define his career as a professional percussionist. Neuhaus first publicly performed the work in August 1963, a year after his time with the composer, as part of Charlotte Moorman’s *6 Concerts '63* festival.²¹⁰ *Zyklus* became his primary repertoire piece as a solo percussionist, a burgeoning field of activity that did not exist when he began to perform internationally.

The piece was composed by Stockhausen in 1958 – just four years prior to Neuhaus’s attendance at the composer’s famed summer program for new music composition. Neuhaus traveled to Germany specifically to perform the work for Stockhausen, and, in part, to show off his inventive interpretation to the composer (which prior to Darmstadt included a version lasting up to forty-minutes).²¹¹ The composer ultimately did not approve of Neuhaus’s longer version, suggesting that he scale the work between ten to fifteen minutes. Neuhaus later produced several different interpretations of the work, including a practiced concert hall version, a totally improvised version, an audiotape-accompanied improvised version, a tape-collage version, and a

²⁰⁶ Solo percussion music was still at the time primarily an American endeavor with few exceptions, largely the result of, as discussed, the percussion works of Cowell and Cage of the 1930s and 1940s.

²⁰⁷ See John Corigliano, “Interview with Max Neuhaus,” New York: WBAI-FM, 1963. The interview is dated as 1960 but must have taken place in 1963 given its reference to the composition *Water Music* by Joseph Byrd and Neuhaus’s performance of the piece at the Pocket Theater in New York City.

²⁰⁸ Ibid.

²⁰⁹ See Max Neuhaus, “Über die Schlagzeugtechnik des *Zyklus*,” 1977.

²¹⁰ The festival was the first of what would become Moorman’s *Annual Festival of the Avant Garde*. See Appendix for Neuhaus’s participation in the festivals.

²¹¹ Corigliano is surprised at the shortened eleven-minute length of the post-Darmstadt version.

“spontaneous counter-clockwise” version. Stockhausen infamously refused to accept any of these interpretations and reportedly insulted the young performer publicly on stage just before its American premiere. The artistic and emotional tension between the young Neuhaus and established Stockhausen became a recurring source of frustration that may have inspired, at least partly, the artist’s subsequent abandonment of percussion in 1968. *Zyklus* assumed the primary role in his repertoire for five years and was the work on which he built his initial – and international – renown.

The many recordings of *Zyklus* by Neuhaus became among the most famous worldwide. His realizations of *Zyklus* are referenced by music historians, solo percussionists, and listeners of new music of the postwar era. In fact, Neuhaus developed some of the first techniques for performing the piece: he was the second person to play it live, following the composer’s preferred percussionist, Christoph Caskel. (Neuhaus and Caskel developed a strenuous relationship around the work between the years 1962-1965.) Caskel premiered the work in Germany and realized its first commercial release. Neuhaus premiered the work in the United States. The two percussionists recorded the work repeatedly and shared numerous global commercial releases on split LP records (usually with Caskel on Side A; Neuhaus on Side B). However, Neuhaus performed the work internationally between 1962-1968 (notably on a 1965 solo tour of Europe). The work was – and remains – his most accessible musical recording. Neuhaus quipped: “It’s like learning a whole new instrument... all of these instruments have to be at your fingertips... you have to know [how] to get the sounds that you want out of it.” In fact, the artist responded to a question about the large number of instruments that one must own in order to practice the piece prior to performance:

I’ve been collecting [percussion instruments] for awhile. I have quite a number. It’s a great problem, the number of instruments a percussionist has... [a percussionist], when he wasn’t a soloist, didn’t need an instrument to practice on of his own... but with this type of music, and playing solo pieces, it’s necessary to know the instrument very well. In other words, to be able to work with [the instrument] everyday. The only solution is to own [each of its pieces] and practice them like [one would] every other instrument.²¹²

Notably, the description refers to the collective instruments in singular form: instrument (plural is sublimated into singular). In fact, the language in part comes from the score which describes very clearly how each instrument element (e.g., the side-drum or bells or marimba) is aligned spatially such that the performer has easy and quick access. Unlike playing in a typical percussion orchestra, the performer of *Zyklus* is literally surrounded by a tight circle (actually, the space more closely approximates a triangle) of percussion objects in which they stand in the middle. The score takes the form of a cycle but the performer quite literally turns around, rotating their body, throughout a given realization.

²¹² Neuhaus also described a new drum he calls a “glissando drum” that can be pitched tonally by adjusting pressure on the drumhead. The instrument is apparently not in his collection – a prescient aversion to pitch and harmony that characterized his solo percussion career (as well as his development of non-musical sound installation). See John Corigliano, “Interview with Max Neuhaus,” New York: WBAI-FM, 1963.

Neuhaus's version of *Zyklus* started in the middle of the score on page [PG?]. One can only speculate why Neuhaus chose this point to begin and there is no evidence that Neuhaus ever spoke of why he began the piece here.²¹³ However, one may postulate that following the critique by Stockhausen that his forty-minute rendition was "too long," the percussionist must have been compelled to distill the piece to make it shorter, appeasing its composer. Furthermore, by starting at this point, which begins with a jagged guiro chirp immediately followed by a booming gong strike, Neuhaus reveals the extreme dynamic and tonal contrasts of the piece. The güiro is quiet, tonally limited, and must be amplified to be heard in such a loud composition like *Zyklus*, but the gong is loud, tonally rich, and does not need amplification. In contrast, the gong is exceedingly loud and needs no amplification for the listener to hear its expansive timbral range, including, as Neuhaus described to Corigiliano, its post-strike frequency resonances (i.e., when a performer strikes a gong and abruptly dampens its vibration, the instrument produces audible high-pitched overtones for several seconds). Perhaps it is also worth noting that each instrument displayed by Neuhaus was non-European (an adoption of non-Western instrumentation that characterized new percussion music, largely due to the capacity for *microtonality* in addition to *atonality*). It's also possible that Neuhaus cut-up the original score and repurposed some of its sections for maximum musical or sonic-thematic effect. In performing musical scores, especially large solo percussion pieces, it was common for Neuhaus to reassemble the score pages onto a large working surface-board (likely some form of cardboard). By pasting the pages onto a large flat surface, the performer does not need to worry about flipping pages to move from one to the next, like a pianist who is trained to quickly flick their scores with an unused hand (causing a moment of disuse for that particular phrase, a task acknowledged by kind composers who adjust the musical score at these difficult transitional passages for lighter activity).

Neuhaus performed *Zyklus* live in the WBAI studio following the Corigilano interview. He suggested that the broadcast would be just his second public performance of the work (and likely its second performance in the United States).²¹⁴ The use of the radio studio as a site for live artistic action, rather than the simple playback of records, became a component of his radio experiments beginning in 1966 (a live listener call-in sound collage *Public Supply* that was also, incidentally, realized at WBAI). Prior to playing, Neuhaus described the work:

The primary element of the form is the cycle. The title, *Zyklus*, means cycles in German. It actually a group of cycles of various lengths combined... all these cycles go on at once and it never stops. They are of different sizes – and within on cycle may be three other cycles. They interplay like this... there are cycles applying to instruments themselves.²¹⁵

Corigiliano was knowledgeable of Stockhausen's unconventional notational strategies, such as his creation of novel graphic symbols that do not exist in typical musical notation. He asks Neuhaus if he had any trouble "deciphering" the composer's "graphs."

²¹³ See Murph, 2013.

²¹⁴ Neuhaus says that his first performance was "about a month ago at Judson Hall." Given that the radio took place after the aforementioned August 26, 1963 performance at the Pocket Theater, the likely indication is his performance of *Zyklus* at Charlotte Moorman's 6 Concerts '63 on August 27, 1963 at Judson Hall. This timeline would date the interview and broadcast performance to late September or early October, 1963. See Corigiliano, "Interview with Max Neuhaus," New York: WBAI-FM, 1963.

²¹⁵ Ibid.

Neuhaus responded bluntly, sensing the host's reference to the score of Morton Feldman (which he also performed):

The music actually isn't a *graph*... it falls under the category of *graphic music*, but even so it doesn't fall into that category... it's a very precise notation that was designed for this piece [specifically].²¹⁶

Neuhaus described the graphic language and their functional meanings:

Notes or sounds are represented as dots. Time is shown by a direct relationship to horizontal space. In other words, if you have three dots representing sounds and they have an equal amount of space between, [then they will] have an equal amount of time between when they're played. Stockhausen adds a ruler onto this by dividing the page into thirty segments [that] represent about one second, which is [very] precise.²¹⁷

The segmentation of musical time was not particularly new to Stockhausen. Corigliano points out that Earle Brown and John Cage have used similar structuring of musical time:

The primary organizational factor of the piece is the dynamic scale... it's part of the cycles that run through the piece. The dynamics are very precise... [typically] dynamics are very subjective, but [here] there are twelve dynamic levels set up at the beginning of the piece. [They are represented] by the size of these dots... in that sense, it's still subjective, but in another sense it isn't because it remains constant throughout the entire length of the piece.²¹⁸

Corigliano asked: "Why not use words like *mezzaforte* and *forte*?" Neuhaus responded by giving his own explanation of visual dynamics that relate abstract forms (such as a shape) and conditions (such as the size of a shape) to concrete sonic structures:

I feel in order to get something new across you have to do it in a new way. For me, the size of the dot representing the dynamic is something that comes across immediately – it doesn't take any learning. You see a large note and you feel it loud.²¹⁹

In response, Neuhaus described what was effectively a Cowellian approach to musical time. As discussed in the previous section, Cowell's "Our Inadequate Notation" (1927) argued that conventional notation of rhythm is difficult to interpret and graphically confusing:

²¹⁶ Corigliano, "Interview with Max Neuhaus," New York: WBAI-FM, 1963.

²¹⁷ Ibid.

²¹⁸ Ibid. Corigliano also mentioned having seen the cellist Charlotte Moorman perform a Cage composition of this sort (Moorman and Neuhaus were both early adopters of graphic notation works. The composition was probably *26' 1.1499" for a String Player* (1955). Like Neuhaus with Stockhausen, Cage infamously hated Moorman's interpretation).

²¹⁹ Ibid.

In our notation of rhythm, we have different sorts of dots and ovals, some of which represent tones 256 times as long as others. Yet that difference in length is not expressed graphically in any way; one must learn the differences mechanically, by an involved system of stems and hooks. How simple to present the execution of a quarter and two eighth notes to a young student, if the duration of each were indicated by a like duration of the note itself?²²⁰

Cowell also described the sonic approach to percussion instruments: “Each instrument is capable of a few sounds... an infinitude of sounds [depending on where it’s hit and how it’s hit].” Neuhaus demonstrated how a single instrument can produce variable sonorities live on air, an analytical presentation of material acoustics that stood in opposition, conceptually, to the organization of sound in musical time. “Quite a sound,” said Corigliano in response to the three different gong bursts (high, mid, and low pitch range). Neuhaus also displayed the phenomenon of “escape tones” that are heard after a gong once struck is quickly muffled – an early encounter with acoustic resonance (the foundation of his iconic *Times Square*).²²¹

Four Systems (1953)

Neuhaus most infamously embraced electronic instrumentation in *Fontana Mix-Feed (Feed)*, in which the percussionist placed two loose contact microphones on a pair of tympani; the setup was placed near a large speaker that produced feedback noise when the microphones were turned on and up to a high level. I will discuss *Feed* in more detail shortly. The first use of amplified percussion instruments by Neuhaus was in Earl Brown’s *Four Systems*, in which the percussionist applied electronics (microphones) to acoustic materials (cymbals). As listed on *Electronics & Percussion*, the title was adapted by Neuhaus to include the phrase “For Four Amplified Cymbals,” referring to his use of miniature contact microphones placed directly on the instruments. The technique can be considered in the Cagean *prepared* or *extended technique* lineage. The microphones did not fundamentally change the tonality of the materials – that is, alter the resonant capacity and threshold, and thus timbre of the instrument, as a screw does with a piano string. However, the process of amplification alters the manner in which the sound of the instrument, which is heard at a louder volume than natural, is perceived by the listener. Cage’s *Cartridge Music* (1958) used a similar technique to amplify ‘small sounds’ that might otherwise go unnoticed, but Neuhaus amplified cymbal sounds that were quite audible already, thereby introducing amplification as a type of acoustic material of its own: rather than using microphones to peer into an unknown sonic universe, or to discover a new sound character to compose music with, Neuhaus used microphones and amplification as acoustic filters or effects that highlighted the technical process of electroacoustic listening. In a 1968 recording, the piece has long washes of amplified cymbals with very metallic, thin timbres.²²² The realization is rather high-pitched throughout with no strong attacks: every sound fades in and out. This effect is produced by his

²²⁰ See Henry Cowell, “Our Inadequate Notation,” in Higgins, Dick, ed., *Essential Cowell: Selected Writings on Music* (Kingston, NY: McPerson & Company, 2001): 244-248.

²²¹ The high-pitched frequencies, which sound somewhat like electronic feedback, continue to reverberate within the metal and through the air despite its apparent stillness and silence. Neuhaus will explore this phenomenon of bell-like resonance in later works, including *Times Square*.

²²² See Max Neuhaus, *Electronics & Percussion: Five Realizations by Max Neuhaus*. Columbia Masterworks MS 7139, 1968.

use of soft mallets and slow crescendo rolls. Brown's score uses graphic notation and no notes, only horizontal bands that differ in thickness and are overlaid throughout. Speaking of its unique scoring, Neuhaus said: "The constant thickness of each individual line stimulated me to search for and find an interesting percussion sound with a constant dynamic nature – not the usual percussion sound, with its initial burst of the attack and sudden decay."²²³ The piece can be played at any tempo, direction, and order.²²⁴ Neuhaus had a particularly loose interpretation of the score (which nevertheless stays in touch): "Rather than a strict interpretation of these patterns, during the performance I allow my eye to pick out various combinations that seem interesting or relevant to that particular moment in the piece. This produces an improvisation, but one that has a very definite relationship to the core."²²⁵ Like *Zyklus*, Neuhaus amended the title given his own contributions to the realization: "For Four Amplified Cymbals."²²⁶

Fontana Mix-Feed (1958)

Four Systems presented a form of mediated electroacoustic listening – a synthesis of the acoustic percussion instrument with electronic amplification, thereby producing a new timbre that drew from both realms. Though using similar materials, *Fontana Mix-Feed* (dubbed simply *Feed* by Neuhaus) invited the listener not to *listen to an instrument in a new way*, but rather to *listen sound listening to itself*. The basis of the work *Feed* is the original polyvalent score by Cage for his composition *Fontana Mix* (1958). Originally scored for magnetic audiotape and voice, the score is comprised of several sheets of transparent prints with indeterminate graphic information, such as lines, dots, and grids. The composer also provides measurement-making instructions for determining relations between sounds. The task of the performer is thus to interpret these symbols for each performance, ensuring that the work, whether realized for tape or another instrument (as allowed by the score), is never repeated from one performance to the next. Basically, the graphics serve as a map or guide for the performer to organize various sound events over time (in sequence) and density (in layers). The structure of the composition is not determined until the performer first analyzes and executes their interpretation, and procedural realignment, of the symbols. This process 'unlocks' a unique version of the score. Neuhaus described his interpretation of the score as such:

Fontana Mix [consists] of material (transparent sheets with dots and opaque sheets with differentiated lines) and instructions for making measurements of chance or deliberate superimpositions of this material. These measurements can be applied to anything. I used the material and instructions to make a score for four adjustable resistors, which I called *Feed*. These adjustable resistors are controlling the amount of amplification on each of four channels of feedback in the performances...²²⁷

²²³ Liner notes for Neuhaus, *Electronics & Percussion*, 1968.

²²⁴ See Earle Brown, *Folio and 4 Systems* (London: Associated Music Publishers, 1961). Score.

²²⁵ Ibid.

²²⁶ Ibid.

²²⁷ Liner notes for Max Neuhaus, *Fontana Mix Feed*. Mass Art, Inc. M133, 1966. LP.

The score contains ten sheets of paper and twelve transparencies (each numbered) that are arranged by the performer. The printed information includes: a 2x10 inch grid used to determine durations (e.g., the length of the entire composition and of internal sound events); a single straight 10 ¾ inch line; six differentiated (patterned and hued) curvilinear lines; and ten pages of randomly distributed black dots in quantities of 7, 12, 13, 17, 18, 19, 22, 26, 29, and 30.

Fontana Mix provides approximately seventeen minutes of compositional material (for audiotape) from the drawings. The performer can choose not only how to arrange the materials, but also their desired instrumentation and may run short or long in duration. In the score, Cage described how to interpret these materials to arrive at a unique structure for performance, instructing the player to: “[Place] a sheet with points over a drawing with curves [in] any position. Over these place the graph. Use the straight line to connect a point within the graph with one outside.”²²⁸ The score’s explanatory text is a further page-length description of parameters and interpretations. The artist’s estate further describes the work as such: “By superimposing these transparencies, the player creates a structure from which a performance score can be made... Horizontal and vertical measurements of intersections of the straight line with the grid and the curved line create a time-bracket along with actions to be made.”²²⁹ However, Cage allowed for modifications. For example, the textual description says that a “graph unit = any time unit,” allowing for shortening or extension of duration periods. Also, the composer offers that “this material... may be used freely” by the player to produce any works of “[musical or] theatrical] purpose.”²³⁰ Neuhaus took a liberal approach to the *Fontana Mix* score (unlike the very controlled *Zyklus*). Typically, *Feed* realizations were about twelve to fifteen minutes in length (and of course Neuhaus never used the score to produce an audiotape version). Neuhaus also realized the piece at greatly exaggerated decibel levels. Cage was interested in noise from a musical point of view, but he did not like unnecessarily loud music. Cage did nonetheless appreciate the ingenuity of Neuhaus’s unique interpretation, which he called “quite marvelous.”²³¹

Fontana Mix-Feed became a primary repertoire piece for Neuhaus by 1964, the first year in which he began performing the work publicly. The work was an important part of the artist’s repertoire for at least two years following his graduation from the Manhattan School of Music. He performed it repeatedly in studio and concert settings. However, by this point, the artist’s connection to Cage was ambiguous. Neuhaus became infamous for his noisy reinterpretation of the original score – or *relayed performance* – of the composer’s 1950s tape composition, but the proximity of Neuhaus to Cage is unclear (the two worked together at the Manhattan School of Music, but less so after graduation).²³² Neuhaus’s reinterpretation became iconic and tales of his amplified feedback became lore in the 1960s. The oral legacy was accompanied by photographs of audience members desperately covering their ears during its performance. Cage referenced the percussionist’s innovation of the textual score of a concurrent tape piece *Rozart Mix* (1965). The score consists of mailed correspondence with the composer Alvin Lucier (who, like Neuhaus, produced spatially-oriented sonic art). Cage described Neuhaus’s *Feed* as such:

²²⁸ See John Cage, *Fontana Mix*. New York: Henmar Press, 1960. Score.

²²⁹ Ibid.

²³⁰ Ibid.

²³¹ See John Cage, *Rozart Mix*. New York: Henmar Press, 1965. Score.

²³² The phrase *relayed performance* refers to the structures of variable scores that produce shared production between the composer and performer. In a relayed performance, the original work is transformed by the performer to be significantly different than the composition as written by the composer. The structures of the piece, and their meanings, are thus shared between the original score and its evolved realization.

I just recently heard Max Neuhaus' version of the *Fontana Mix* which is quite marvelous: two timpani with contact mikes just sitting on the skins (not taped-down) with two large speakers facing them. Max sits on the other side of the stage manipulating the amplifiers. It's horrendous! And exhilarating. Nothing but feedback plus mysterious other sounds that must come from the vibration on the skins of the mikes... I don't know whether [Neuhaus would] want me to be a copycat, but I'm not above asking him [to restage the work].²³³

The letter showed Cage's rare approval for an interpretation that departed so much from the original (contrasting his infamous rebukes of Moorman and Julius Eastman).²³⁴ In a photograph of a [date] performance at the Carnegie Recital Hall, the audience is seen alternately bemused with disbelief, carefully concentrated on the sounds, or – most commonly – covering their ears in protection from the extreme decibel levels. In the mid-2000s, Neuhaus described the structural elements of his own realization from both acoustical and musical points of view:

Beginning with the pickup of room sound by a contact microphone touching a percussion instrument, a loop is quickly created when the loudspeaker projects the amplified result back on the percussion instrument causing it to vibrate anew. I decided to create a realization with the mixture and interaction of four channels of these loops. The loops were created by resting contact microphones on various percussion instruments standing in front of loudspeakers. Using four loops multiplied the level of complexity enormously as each loop would, of course, interact with each of the others. It created an oscillating system which encompassed the whole room and everything in it including the audience.²³⁵

In 1966, Neuhaus described the piece as such:

The piece is in the interaction between and mixture of these feedback channels... the varying of the individual intensities of these channels [is] extremely gradual throughout the performance of the piece [and is] done according to the score, [which is] the same in each of these performances... the actual sounds which make up the piece are determined by [several factors]: the interactions of the sounds upon themselves, the acoustics of the room, [and] where the mikes are resting in relation to the loudspeakers and instruments at a specific moment.²³⁶

The feedback process used in *Feed* was not straight-forward and stable acoustic feedback (i.e., an uninterrupted and pure sine-wave tone). However, the noise was also not entirely random in its structure. Neuhaus worked between the pure sine-wave tones and random modulation with discreet control of each, in part by inserting the stilted timbres of an amplified kettle drum into

²³³ Cage, *Rozart Mix*, 1965.

²³⁴ This approval contrasted, for example, his infamous distaste for what he understood as Moorman's 'unserious' interpretations of his clock piece *26' 1.1499" for a stringplayer* (1955) (a stringed counterpart to *27'... for a percussionist*). See also Ryan Dohoney, "John Cage, Julius Eastman, and the Homosexual Ego," in *Tomorrow is the Question: New Directions in Experimental Music Studies*, ed., Benjamin Piekut (Ann Arbor: University of Michigan Press, 2014): 39-62.

²³⁵ Liner notes for Max Neuhaus, *Fontana Mix-Feed*. Mass Art, Inc. M-133, 1966. LP.

²³⁶ *Ibid.*

standing wave feedback loops that he controlled from a tabletop mixing board. Unlike randomly generated noise, which has no consistent structure, feedback loops require stable fields based on the unique acoustic interactions of pure tones in space.

Neuhaus added structural and spectral chaos into the *Feed* mix by allowing the contact mics to move freely on the drum surface, which vibrated sympathetically with the feedback in the room. In addition to the piercing feedback, the listener would also hear the scraping sounds of microphones as they moved across kettle drum surface. [INSERT CAGE TO LUCIER?] The experience would have been difficult to experience, as is evidenced by a photograph showing most members of the audience of a 1964 performance covering their ears (except for one man who, rubbing his chin, is intrigued by the acoustical display). Neuhaus discovered the amended feedback process used in *Feed*, which was basically an extension of the Cagean *prepared instrument* or *extended technique*, in 1963:

In 1963, while exploring ways of changing the timbre of percussion instruments through amplification, I had discovered a means of generating sound which I found fascinating – the creation of an acoustic feedback loop with a percussion instrument inserted inside it. Instead of the usual single screeching tones of acoustic feedback, this created a complex multi-timbred system of oscillation.²³⁷

Neuhaus described the resulting sound as something that “seemed alive,” admitting that the noise was somewhat beyond his control (contrasting *Zyklus*):

The [sonic] factors here are so complex that even if the piece were to be performed twice in the same room with the same audience, the same instruments, and the same loudspeakers, it would have completely different sound and structures each time. It seems something alive.²³⁸

Rather than fade out of the piece to provide a soothing transition from noise into silence, Neuhaus chose to cut the power supply from the amplifier, producing a “collapse” or “death” of the feedback: “These realizations end not with gradual fadeouts, but by switching off the power amplifier directly, causing the feedback loops to collapse, disintegrate and die out.”²³⁹

Feed received mixed responses from the audience. Some listeners covered their ears; some may have left the concert hall. Neuhaus was ridiculed by some and praise by others. The New York Times music critic, Theodore Strongin, called the work a “tour de force,” an enthusiastic description that contrasted his use of the words such as “terror,” “wildly tearing,” “threatening,” “shrieks,” and “bloodcurdling.” Despite this exaggerated verbiage, Strongin astutely recognized the novel integration of the listener in the work – rather than listening passively, the listener here, by nature of acoustics, was literally part of the instrument: through listening from subjective perspectives in the acoustic space, each listener heard something unique, contributing to the perception (and thus structure) of the acoustic waveforms in architectural space: “This piece was not the kind of electronic music that emanates distantly from

²³⁷ Liner notes for Max Neuhaus, *Fontana Mix-Feed*. Mass Art, Inc. M-133, 1966. LP.

²³⁸ Ibid.

²³⁹ Ibid.

the speakers. It felt as though one's own head were part of the feedback circuit."²⁴⁰ The suggestion of a human head being part of an electronic circuit would be a nice metaphor, and it is very nearly acoustically true: the positions of listeners throughout the physical space will affect the structure of the standing wave feedback interactions, if unknowingly and imperceptibly, by virtue of human bodies dampening propagation of sound waves through absorption (thus limiting the potential for feedback). Another review was terser in this regard: "The noise was literally painful."²⁴¹

Like *Zyklus*, Neuhaus recorded *Feed* many times – in fact, the percussionist featured the track on two commercial vinyl releases: *Fontana Mix-Feed* (Mass Art, Inc., 1966) and *Electronics & Percussion* (Columbia Masterworks, 1968) (E&P). The latter version contains a bold and immediate blow of feedback to the listener. Crunching feedback soon swells into layers of low, mid, and high pitch tones. Underneath these tonal layers is an indeterminate noise, an electroacoustic chattering caused by the scraping of the microphones on the drum head. Neuhaus manipulates each feedback channel in real-time to shift focus to each sublayer, bringing one forth while tucking the others below and maneuvering through each over the piece. Juxtaposition is key: the pitches are very high and then very low. Pure tones float above muddled noise. The E&P realization is quite subtle in relation to other recordings, such as those found on the Mass Art LP (a ten-minute version was released on a flexidisc with the avant-garde magazine *Aspen*, discussed in Chapter 3). Interestingly, *Feed* is the final track on *E&P*. As the album stops, the needle bounces along the interior paper label and produces a soft rhythmic noise, a live phonographic coda to the recorded (and once live) feedback.²⁴²

Daniel Belgrad has made the connection between Neuhaus and the emergent field of *chaos theory*. The field was formed concurrently with the percussionist's wielding of noise, generally speaking, and feedback specifically. In the context of Neuhaus, Belgrade discussed concepts of *feedback multiplication* and the role of feedback in unpredictable systems:

Feed embodies [the] dynamics of interaction that were being described at the same historical moment by the emerging field of chaos theory. Chaos theory developed in the early 1960s from efforts to use mathematical equations organized into feedback loops to model the behavior of complex systems like weather patterns and cotton prices. Meteorologist Edward Lorenz found [that] small differences in initial conditions caused great disparities after a few cycles of feedback. For this reason, the behavior of the system was virtually unpredictable and therefore "chaotic."²⁴³

Interpreting *Feed* as such provides a materialist focus on the piece: rather than being another work of Cagean indeterminacy or a thematization of noise in music. *Feed* functions as an experiment not only in spatial acoustics but also systems theory and a construction of semi-autonomous sonic space that interacts with the listener dynamically. Neuhaus was conscious of this systems aspect, referring to the "completely different sounds and structures" produced in

²⁴⁰ Theodore Strongin, "Avant-Garde Music Switched on Here," *The New York Times* (September 14, 1966).

²⁴¹ Donal Henahan, "John Cage: His Heart Belongs to Dada," *Chicago Tribune*. April 14, 1965.

²⁴² The phonographic noise is an incidental condition that also calls attention to the vinyl record as a repetitive and mass-produced commodity

²⁴³ Daniel Belgrad, "Democracy, Decentralization, and Feedback," in Belletto, Steven and Daniel Grausam, eds., *American Literature and Culture in an Age of Cold War: A Critical Reassessment*. Iowa City: University of Iowa Press, 2012: 68.

each realization, a rhetorical shift that recognizes “sounds” that are heard and “structures” that allow those sounds to be heard, but which are not heard themselves. This framing points to the artist’s increasing growing interest in material acoustics, or *sound itself*, and subjective/subconscious listening, or *sound perceived*. Belgrade also raises the idea of “self-similarity,” a concept that describes how “a part of the system reiterates the pattern of the whole, reproducing exact smaller copies of the larger system within it.”²⁴⁴ This process is itself similar to of *bifurcation* in which “something as small as a single photon of energy... is swelled by iteration to a size so great that a fork is created and the system takes off in a new direction [leading] to stabilize a new behavior through a series of feedback loops.”²⁴⁵ Indeed, Belgrad cleverly recognizes that Neuhaus exploited these two phenomena, as Neuhaus described his control of feedback waves in the piece along similar terms: “As the amplification controls are gradually changed, the feedback channels suddenly break into different modes of oscillation; sound seems to swing through the room.”²⁴⁶

Three versions of *Fontana Mix-Feed* were published in 2004 by the Alga Marghen record label: one version from 1964 (recorded at a solo recital at Mandell Hall at the University of Chicago) and two versions composed later in 1965 (the first venue is unknown, and the second venue was recorded at Maida Vale in London).²⁴⁷ The first performance is a relatively cool affair that is at extreme odds with Neuhaus’s more extreme performances. The realization is a consistent interplay between short flares of radio broadcasts, selected randomly, with soft percussion gestures. Specifically, we hear long scrapes on cymbals, which provide tinny tonal washes, along with short frenetic taps on both tam-tams and what sounds like a snare rim. The percussive bursts are interspersed with sounds sourced from the radio, which can be broken up into two categories: 1) popular music, mostly vocal music, both romantic ballads and dance tunes (e.g., Phil Spector); and 2) various levels of noise and amplified radio distortion. The realization is likely the most musical of the three from a conservative point of view, both in its appropriation of popular song clips, many of which utilize basic harmonic and melodic principles with a straight-driven 4/4 rock-n-roll beat, as well as its orchestral instrumentation: the performance of percussion instruments here may be avant-garde, improvised, but each instrument is generally identifiable in relation to others. The other two realizations purge the pop music as well as the clarity of percussive form. This is the only realization of the three that appears to be a live performance, which is to say performed in front of an audience. The performance took place as a solo recital at Mandell Hall at the University of Chicago on April 13, 1965. The realization, however, is referred to as the ‘Realization ‘64’, suggesting that while it was performed and recorded in 1965, the general compositional and performative strategies were in place earlier.

The second is a sparser affair. This realization also features a traditional electronic music palette more prominently. The piece appears to be live percussion performed with a pre-recorded audiotape, which has spliced and enveloped sounds from sine wave oscillators and noise generators. The sounds are chopped and enveloped to short bursts and arrhythmic flitters that reflect the electronic music studio (EMS) compositions of a German tradition, notably those of

²⁴⁴ Belgrad, 68.

²⁴⁵ Ibid.

²⁴⁶ Ibid., 69.

²⁴⁷ The solo recital at Mandell Hall, University of Chicago, Chicago took place on April 13, 1965. The Maida Vale performance took place on November 2, 1965. The unknown performance venue was held on April 24, 1965. See Alga Marghen – N 22NMN.052.

Stockhausen, Eimert, and Meyer-Eppler from the Cologne studio. The purely electronic sounds are placed frontally in the mix, below which are subtle mid-level scrapes of metal, notably on cymbals, making a tonal reference to his performance of Earle Brown's "Four Systems," another repertoire piece. What we have here then is a tape-assisted solo percussion piece, rather than the chance-based use of radio in the first performance, the sounds here are fixed onto magnetic audiotape. The only presence of chance is found in the incidental reverberation of the percussion instruments, which is to say their filtration and distortion as they travel toward and are captured by the microphone, along with whatever unique gestural movements Neuhaus improvises. The piece stands out within Neuhaus's musical output, not only for its use of EMS musical language – by 1965, a conservative style – but also in its relatively calm and calculated realization, a pensive quality at contrast with his more physical and energetic pieces, such as Stockhausen's *Zyklus* and Cage's own *Fontana Mix*. This version was recorded on April 24, 1965 at an unknown venue.

The third realization is similar to the second and still retains the studio-style character. The work is overall slightly more energetic, but features periods of silence that are more prolonged than in version two. There is also more emphasis on variation in the percussion accompaniment, notably in timbre, as Neuhaus experiments more freely with different striking methods, whether bowing or tapping. There also seems to be an addition of a snare drum head, which is softly scraped, a methodic inversion of its typical function, which is to provide short, loud, and sharp snaps or continuous rhythmic rolls. (Footnote: the use of quiet brushed snare is something widely found in jazz music, which Neuhaus specialized in before moving to NYC, attending the MSM). This version was recorded on November 2, 1965 at the British Broadcasting Corporation Studios in London. The formal similarity to the second realizations suggests they were created around the same time, if not immediately following each other. The ambiguity in date could be attributed to misidentification or, more likely, the fact that Neuhaus was using pre-recorded audiotape provided to him by Cage, or constructed himself prior to traveling to London.

There are two innovative aspects of Neuhaus's realization of *Feed*. First, the total lack of linear musical development, and second, the convergence of sound with physical space (both its inscription and production). On the first point, Neuhaus's feedback does not go anywhere in particular, but is instead managed by the artist in real-time in a series of attacks and decays of feedback flares. Neuhaus does not touch the tympani but is rather mediated through the mixing board, which he used to control the volume of the microphone signals in the speakers. The microphone would begin to feedback and before it became out of control – resulting in a continuous pure tone – the artist would pull the feed back by lowering the volume. This lowering of volume limited the feedback signal and thus prevented the noise from stabilizing into a continuous pitch. The resulting patchwork flaring of noise entropy was mixed with the sympathetic vibrations of the tympani skins, which vibrated and shuffled the contact microphones around the surface. The movements of the live microphones on the drum skin produced additional incidental scratching noises, or what Cage called "mysterious other sounds that must come from the vibration of the skins on the mikes."²⁴⁸ *Fontana Mix-Feed* was thus an electroacoustic piece – a synthesis of electronic and acoustic sound. The work did not present to the audience – many of whom covered their ears – a clear musical work or performance in a typical sense. Neuhaus did not perform the piece so much as wield it.

²⁴⁸ Cage, *Rozart Mix*, 1965.

This total lack of progression and development at first seems rather Cagean. However, we must not mistake the work as another play at indeterminacy. The use of chance is clearly a part of the piece, but the negation of musical time is thoroughly anti-Cagean. For example, Cage's understanding of musical composition was in part borrowed from Edgard Varese, who said that music was simply "organized sound." Accordingly, any sound could be used in (or as) music if it is structured in some overarching system. For Cage, one of the shared conditions of noise and pitch was the location of both in time – therefore time, rather than harmony (which excludes noise) should be the basis of musical composition. In this framework, any sound, including feedback, can be used in (or as) music. However, Neuhaus's *Fontana Mix-Feed* presents another perspective that breaks from linear musical time – and into non-linear musical time accentuated, or rather one determined, by the entropic flux of material space.

On the second point, the work points to a mode of composition in which the piece is not completed until it is in the act of being realized; much like his later installations, Neuhaus did not know what each performance of *Fontana Mix-Feed* would be until it was over. The reason for this is, on the one hand, an influence of the indeterminate compositional mode from the Cagean tradition, which allows a work to remain partially incomplete and its parts figured out, or produced, within the context of the performance. On the other hand, *Fontana Mix-Feed* does not so much use a score – in fact, it is not clear that Neuhaus actually relied on Cage's multipage transparency score all that much. Instead, the piece relies on an instinctual response to electroacoustic feedback in real time – and in real space.

The space in which *Feed* was initially performed was the Carnegie Recital Hall. In 1963, Neuhaus gave his first solo recital in the space, which artists could rent for a nominal fee and use for concerts and various performances. Neuhaus was not the only member of the avant-garde to use the staid space for unconventional art: the "Fluxus Symphony Orchestra" organized a "Fluxus Concert" in the space on June 27, 1964. The event included performances by George Brecht, La Monte Young, James Tenney, Gyorgy Ligeti, Alison Knowles, Philip Corner, Takehisa Kosugi, Dick Higgins, Joe Jones, Nam June Paik, Robert Watts, and more. It is unclear whether Neuhaus performed at the event, but given his close connection to Corner, Tenney, and Jones, and his proven knowledge of Fluxus at the time, it is highly likely. In a 1987 article on a renovation to the hall, the critic John Rockwell – who had reviewed numerous performances and artworks by Neuhaus – described the acoustical features of the space, claiming its particular propensity for distortion: "Carnegie Recital Hall was a constricted acoustical space, and became overbearing with a loud singer or pianist or percussion-laden chamber group."²⁴⁹ Though Neuhaus is not cited in this piece, Rockwell may very well be referring to his memories of hearing Neuhaus in the hall, either performing *Zyklus*, which would have been a "percussion-laden" racket, or the feedback-noise of *Fontana Mix-Feed*. In fact, a photograph of audience members covering their ears during a performance of the latter may be as much about the particular acoustic sensitivities of the space than the actual sounds produced by Neuhaus in the mixing board, further emphasizing how the work depends, and its entirely constructed, according to the physical properties of the space in which it is performed.

It is useful to consider the French composer Pierre Boulez, whose work in post-serialist electronic music offered a non-linear and de-structured response to Varese's dictum (and Cage's adoption of it). In a radio interview on the Berkley public radio station KPFA-FM on March 1, 1958, the composer explained his idea of a music without repetition, rhythm, structure, climax,

²⁴⁹ See John Rockwell, "Weill Recital Hall Opens at Carnegie," *New York Times* (January 6, 1987).

leitmotif, or memory.²⁵⁰ Boulez's theory argues that musical development is perceived through a perception of instants rather than a sequence of layered and self-referential musical events (i.e., musical themes, phrases, and structures that repeat throughout a composition).

Boulez was asked: "How can a [piece of music] develop in a series of instants [in which] one has no memory of the previous instant? How is one aware of development if one has no memory of what happened before?" The composer responded: "[Musical] development is not a question of going from one point to another... you can, in the new kind of development... stop at every point and every point is important. There are no breaks."²⁵¹ Someone else questioned his use of the phrase 'process' and asked: "How can a process take place unless one is aware of a point of origin and a sense of direction? Process implies movement, it implies growth." Boulez responded: "No growth! I don't like like the word growth," highlighting a clear point of difference. Boulez's challenger feels that music should consist of a logical structure that builds upon itself in a determined and apparent direction, "growing," as it were from its beginning to its end. This is an eschatological and homogenous music. In contrast, Boulez conceived of a music that is of continual process and sonic movement, but which does not actually "grow" by supporting or expanding established musical structures. This is a rhizomatic and heterogeneous music.²⁵² Boulez highlighted "recent works" by himself (and Stockhausen):

We try to make an approach that work – the work [can't be closed] at [just] any point but at *certain points*... you have in the works the direction the listener. [who] can choose his direction of listening... the work has to not be destroyed by this fact, you see... in classical works you have four or three movements, [and it is] homogeneous. But in our music we try to have all piece entirely, but you can make cuts yourself... time is [not] homogenous... [there is] no adagio... all the categories are broken... the structure is defined by the listener. [The composer] offers the listener a possibility and he can choose his own possibility; [and] another listener [has their own possibilities].²⁵³

Notably, Boulez characterizes the process of composition as one of listenership: the work does not exist without the listener's decision-making: first, to listen at all; second, to determine the

²⁵⁰ Alan Rich and Robert Erickson, "Pierre Boulez on Music," Berkeley: KPFA-FM, March 1, 1958.

²⁵¹ See Rich and Erickson, "Pierre Boulez on Music," 1958.

²⁵² Here I summon Gilles Deleuze's concept of the rhizome. Notably, Boulez references Heidegger as an influence for his thinking on form (also an influence to Deleuze). See Gilles Deleuze, *Difference and Repetition* (New York: Columbia University Press, 1994). See also: James Huitson Lavender, *The Call for Sonic Thinking: Gilles Deleuze and the Object of Sound Studies*. PhD thesis, Cultural Studies/Sound Studies, University of Leeds, 2015.

²⁵³ The works by Boulez at the time of this interview reflect his 1957 trip to Darmstadt, where he was influenced by Stockhausen. Boulez's solo piano works of the time, such as *Piano Sonata No. 3* (1955-1963), reflect a similar departure from musical development and harmony to that of *Zyklus*, but nonetheless bound to the pitched chromaticism of the piano. In particular, the use of post-serial atonality and dynamic variation, including total silence and lingering overtones, presents the piano as more percussive than harmonic. The result in some ways is closer to Morton Feldman's *The King of Denmark*, a composition scored for the vibraphone, a pitched instrument, but which uses pitches ambiguously and aimlessly without any clear direction or thematic development. However, the work also bares striking aesthetic similarity to Stockhausen's *Klavierstueck X* (1954/1961), a non-developmental piece that was repeatedly performed by Tudor on a shared American tour with Neuhaus and Stockhausen in 1963. A recording of the piece also split the Neuhaus/Caskel record containing each performer's version of *Zyklus*. See Robert Erickson, "Pierre Boulez on Music" (1958).

possibilities of listening.²⁵⁴ Neuhaus was familiar with the concurrent trends in experimental European music described by Boulez and referenced the composer at times in his career when speaking on music history, particularly in the creation of a non-developmental musical practice (such as *Feed*). The influence of Boulez in this sense overshadows Cage. The autonomy of the listener became a central component to Neuhaus's experimentations and is generally seen as an extension of Cagean silence. However, we might better locate Neuhaus in Boulez's concept of *non-developmental* music to frame listening as a creative process in Neuhaus's *musical, anti-musical* and *post-musical* practices.²⁵⁵

Boulez's understanding of process and of movement is greatly suited for interpreting Neuhaus's realization of *Fontana Mix-Feed* (and also to make sense of the extreme variations of duration for the piece, which can last between eight and twenty minutes). (Varese's concept of *organized sound* does not apply.) The basic premise here of non-linearity and process-sound will lead Neuhaus to developing totally non-linear sound installations, which operate distinctly from marginalized time of the performance situation, which formatted *Fontana Mix-Feed* as a musical work (i.e., the work still functioned in musical time by virtue of its beginning and ending, even if, according to Boulez, it may not have any clear thematic development).

Boulez also mentioned that "there is no thing to memorize because there is no thing" in his music, and likewise with Neuhaus, in the context of minimalism, we might also rephrase it as "there is no gestalt because there is no thing."²⁵⁶ Accordingly, *Feed* was as a composition totally dependent on the physical space in which it was realized. There was no gestalt to focus on, as in the sculptures of Morris or the compositions of Reich, because the work is built entirely built on the idiosyncratic acoustical-spatial interaction of the room.²⁵⁷ This process includes and embeds the listener in a sonic articulation of space – space an entropic, rather than stable, environment. On the one hand, the work's realized form is determined by the interaction of the microphone and the speakers in the location of the concert hall. The distance of the microphone to the speaker will fill out its capacity to produce feedback (i.e., the further away the microphone is, or the fewer sonic impediments, from the speaker, the less potential there is for noise). Choosing the correct distance for a relatively, but not completely, stable interaction is necessary: if too close, the work will collapse into a pure feedback tone, but if too far away, there will be nothing for Neuhaus to work with as a performer (i.e., Cagean silence). In addition to this process, the location of the listener will determine which sonorities, or frequencies of feedback noise modulation, that they hear. Each listener will hear something unique and different depending upon: 1) their listening position in the spatial environment; 2) the size and architecture of that acoustic space; and 3) their biological capacity for hearing. The work for the listener is thus more than a physical process, like the musical composition. For the listener, the work is psycho-

²⁵⁴ In contrast, Cage creates musical situations that, while sometimes equally non-developmental, focus more on the composition than on the listener. Even *4'33"* is between subjective listening and the formal conditions of composition.

²⁵⁵ Regarding development in classical music, Boulez said: "Development from a thematic points of view [means that] you have to memorize and understand the theme and what happens with [it]... but [for a modern musical approach] you cannot memorize a thing because there are no things. Another voice added: "[In your work], you have to understand the continuity of a process," rather than a thematic point of view. The same goes for *Fontana Mix-Feed*, a work without theme or things – just noise.

²⁵⁶ See Rich and Erickson, "Pierre Boulez on Music," 1958.

²⁵⁷ Furthermore, we may also distinguish Boulez's concept of process – as well as Neuhaus's use of process in *Fontana Mix-Feed* – from that found in early musical minimalism, in which processes and outcomes were fore-fronted but were also strictly regimented and largely predetermined, even if slightly aleatoric.

acoustical (i.e., the simultaneous triggering of both sound perception and interpretation). In this sense, *Fontana Mix-Feed* unfolds not only in real space, but also within the specific sonic conditions of their ability to 1) perceive sound physically and 2) process sound cognitively. *Fontana Mix-Feed* was the first conscious attempt by Neuhaus to construct sound in space rather than time. However, the inversion of musical time/space produces an unexpected sublimation of the sonic act into one that is both material (physical) and virtual (cognitive). Neuhaus played with this dichotomy over his career (as discussed in Chapter 3), beginning with his realization of the live radio call-in sound collage *Public Supply* (1966) (which was realized at the WBAI studios).

Couer Pour Batteur – Positively Yes (1959)

Sylvano Bussotti's *Couer Pour Batteur* (1959) one among the few non-American works repeatedly realized by Neuhaus.²⁵⁸ Much like *Zyklus*, the other European repertoire piece, *Couer...* relies on a polyvalent score that synthesizes conventional and hyper-specific notation with open-form indeterminate graphics. Also similarly, the work is co-produced between the composer and the performer, who interprets the vague signs according to their own decisions. *Couer...* also intimates how Neuhaus approached musical scores during his transitional period following his education. Instead of performing the works as written, like a conventional performer, Neuhaus totally rearranged the graphic notation himself. He produced enlarge photocopies of the graphics and re-ordered them to his own creative desires, adjusting the score dramatically from its original order. Similar to Stockhausen's polyvalent process, in which a score can be manipulated spatially, Neuhaus re-composed Bussotti's work (hence the retitling as *Positively Yes*). An archived 1965 performance score reveals the process:

Neuhaus made four enlarged negative photocopies of the original score... cut out the graphic notation, and pasted the notation to the black side of blank sheets created through negative photocopying in the order he wanted to form a performance score.²⁵⁹

The score shows an indiscriminate constellations of intersecting lines, variously sized circles, geometric patterns, and other variable graphic information that the performer navigates autonomously. The score, which was in 1970 dedicated to Neuhaus, conveys no specific information about which percussion instruments produce which sounds. The decisions are left to the performer, who constructs, or builds, the piece in real-time.²⁶⁰ The difference between an 'original' score and 'performance' score highlights the artist's

²⁵⁸ In addition to Stockhausen's *Zyklus* (1958), Roman Haubenstock-Ramati's *Liaisons* (1959) was the other European work. These three works contrast the artist's long standing support of American composition, and his implicit project, along with Paul Price, to develop and sustain a repertoire for percussion. *Couer...* was dedicated to Neuhaus in a 1970 reprint. Northwestern University has a copy of Neuhaus's personal annotated score. See: Sylvano Bussotti, *Couer pour batteur--Positively yes*. General Manuscript Collection, Northwestern University Music Library. OCLC #: 869469859/MSS 1433.

²⁵⁹ Sylvano Bussotti, *Couer pour batteur--Positively yes*. General Manuscript Collection, Northwestern University Music Library. OCLC #: 869469859/MSS 1433.

²⁶⁰ Neuhaus emphasized his ability to spontaneously improvise his realizations but, in fact, many were carefully planned and practiced.

turn toward destroying the composer/performer hierarchy, as well as the transformation of *performance* (in which a score is manifested as written) into *realization* (in which a score exists as a foundation from which to build a unique iteration). The score highlights how Neuhaus viewed his percussion practice as an artistic practice, especially in the sense that he produced, or created, the works – perhaps more than the composer, whose original composition served as a palette.

The King of Denmark (1963-64)

Morton Feldman's *The King of Denmark* (1963-64) was a conscious antithesis of *Zyklus*, a quiet and pensive answer to Stockhausen's bombastic display of technical virtuosity. Feldman openly subverted the loud sonic structures and flailing performative gestures associated with new percussion music, symbolized by Neuhaus's wild realizations of *Zyklus*. Feldman exchanged the extreme dynamics and timbral diversity of Stockhausen's landmark composition, which by 1964 was still only performed by a handful of percussionists globally, for the restrained quietness and careful articulation of dampened percussion strikes. In *Zyklus*, Neuhaus used numerous percussion mallets and invented a new holding pattern to manage the wild and difficult notation. In *The King of Denmark*, Neuhaus played quietly with his fingertips to produce near-inaudible sounds at the very threshold of audition, all of which was neatly notated in Feldman's signature graph-box style that partitioned individual pitches and pitch ranges into a minimalist grid. The grid was a controlled measurement of time and the duration of organized sound events (unlike the loose durational parameters of Cage's grid in *Fontana Mix*).

Neuhaus first performed Feldman's *The King of Denmark* on September 3, 1964. The show was the world-premiere of the piece, which took place at Judson Hall as part of Charlotte Moorman's Second Annual New York Festival of the Avant Garde.²⁶¹ In addition to premiering the composition, he had in fact commissioned the piece (or, rather, requested the piece, given that he had no money with which to pay Feldman). Neuhaus's participation Moorman's festival was among his first artistic encounters with the downtown Fluxus scene and its offshoots, including Moorman and the dancers and musicians of the rising Judson School.²⁶² *The King of Denmark* became a recurring performance piece, especially during the artist's 1965 tour of Europe as a solo percussionist.²⁶³

The score is a flattened space in which numbers, associated with particular instruments, are arranged in a linear order. The work is not polyvalent, but rather performed straight through with minimal improvisation (though substantial decisions are left to the performer). Instead of a graphic score like *Couer... King of Denmark* lays a clear framework for its interpretation, and is visually similar to the use of grids in nascent minimalist and conceptual art forms (e.g., the grids of Sol Lewitt). Discussing the score, Neuhaus said: "This work is played throughout only with

²⁶¹ Fondazione Bonotto, "2nd Annual Avant Garde Festival Flyer – Poster" and "2nd Annual... Flyer" (FXC1656). See also Klein, 1964.

²⁶² Following one year after the inaugural "6 Concerts '63" program, Neuhaus rejoined Moorman's festival as a musical performer.

²⁶² Later contributions to the festival took the forms of sonic events, such as *American Can* (1966), and unspecified 'environments'.

²⁶³ The tour included stops at institutionally approved formal concerts, such as the renowned Spoleto Festival, as well as the anti-institutional programs affiliated with the postwar avant-garde, such as the Zaj Festival (like Neuhaus, the Zaj festival and its artists, like Juan Hidalgo, were not officially a part of Fluxus).

the fingers... it is extremely soft and without attacks. The score specifies the relative pitch of each note (high, medium or low), its relative time, and in some cases the specific instruments,” but otherwise it is left to the performer to deduce final musical form. The work was written for Neuhaus by Feldman – another piece commissioned, as it were, though he did not have money, to build a new repertoire for solo percussion. The pair met in the artist’s studio over “several meetings” in the summer of 1963.²⁶⁴ Neuhaus claims to have showed Feldman a technique for playing instruments quietly by using fingers, rather than mallets, in a way to control dynamics at the threshold of audibility. The idea came from his experience as an ensemble player, practicing his percussion instruments on stage prior to a concert a level where he could hear, but the audience could not:

With Morty, at that time, it was always about finding ways to play more softly. In the second or third session, he was still insisting, 'no, it's too loud, too loud'. I suddenly remembered how, as percussion students, we used to practice our parts on stage just before a concert started. In order that the audience not hear us, we used our fingers instead of sticks. I put down my sticks and started to play with just my fingers. Morty was dumbstruck, 'that's it, that's it!' he yelled.²⁶⁵

This relation of the performer to the audience is a central aspect of the work – the concentration needed to listen – but Feldman recalled the composition differently, stating in a 1983 interview that it was his idea to be as quiet as possible and to not use mallets:

The King was a very special situation. I actually remember writing [it] on the beach on the south shore of Long Island... I can actually conjure up the memory of doing it - that kind of muffled sound of kids in the distance and transistor radios and drifts of conversation from other pockets of inhabitants on blankets... I remember that [this sense] did come into the piece... these kinds of wisps. I was very impressed with the wisp, that things don't last, and that became an image of the piece: what was happening around me.²⁶⁶

Feldman also disputed Neuhaus’s claim to have suggested using his fingers:

To fortify that, I got the idea of using the fingers and the arms and doing away with all mallets, where sounds are only fleetingly there and disappear and don't last very long.²⁶⁷

Feldman recounted his memory of the first performance of *The King of Denmark* in a conversation with La Monte Young, Francesco Pellizzi, and Bunita Marcus on March 3, 1985. The group discussed the significance of Cage and their tolerance for his concept of silence, and Feldman recounted how the use of silence in the piece, or rather the perception of silence, varied between spatial and physiological difference:

²⁶⁴ See liner notes to Neuhaus, *Electronics & Percussion*, 1968.

²⁶⁵ Ibid.

²⁶⁶ Jan Williams, "An Interview with Morton Feldman, 22nd April 1983," *Percussive Notes Research Edition* 21, no. 6 (September 1983): 9-10. See also: www.cnvill.net/mfjw1.htm

²⁶⁷ Ibid.

... when my *King of Denmark* was first performed, in the early sixties, soon after it was written, [I] was standing in the back of a hall with Lukas Foss, who couldn't hear the piece. But he liked it because it looked pretty, the way the hands were moving against the thing. But I heard it once in awhile... I would say Lukas is three years older than me. But sitting down front were three women, each one of another generation: the youngest one heard everything. The one in the middle heard it once in awhile, and the oldest one didn't hear a damn thing!²⁶⁸

Feldman does not mention Neuhaus by name and thus it is not confirmed that the performance in question was the September 3 festival at the Judson Hall. However, his suggestion that it was the first performance is corroborated by program materials for the event, which listed the piece as a world premiere. The description highlights the performative aspect of the work, which challenges expectations of the audience regarding audibility: in order to hear the work, they will need to both concentrate and arrange themselves spatially.

If a listener could not hear properly, they would have had to move closer to the performer to listen. The threshold of audibility in the piece (how loud and clear the sounds are) is just one of its variable aspects: depending on where you sit, you will hear something different (possibly nothing). The relationship between listening as a psychological and phenomenological encounter is a potent aspect of *The King of Denmark*. This duality, an apparatus of listening, also became one of the primary aspects of Neuhaus's own post-musical development: sound installation was not just about placing sound in space, but about spatial sound being heard by people in a context and in an environment.

Secondary repertoire

There were a number of works included in Neuhaus's repertoire that he did not perform regularly, but which were realized occasionally in live or recorded settings. These works, while not primary, also contributed to his interest in new percussion forms and the connection of new music to sonic research (i.e., the analytical exploration of timbral noise and electroacoustic response through the auspice of musical percussion performance). Bo Nilsson's *Reaktionen (for 4 schlagzeuger)* (1961) was a recurring if not consistent contribution to the artist's performance programs. The work is written for four players, but, as one might expect, Neuhaus often performed it solo. He achieved the density of the score, which is tightly written in conventional notation, by performing the piece over the playback of a pre-recorded audiotape. This mixing of studio recording and live performance would become a recurring aspect of Neuhaus's performance method up to 1968. (And, as the virtuoso pianist Glenn Gould pointed out in 1966, this merging of live and recorded performance signaled a total collapse of the high-spirited debate over the benefits and threats of recorded music.)²⁶⁹

The composer Malcom Goldstein – a contributor to Fluxus – wrote a review of a 1964 performance of the work by Neuhaus, saying that “[*Reaktionen*] was a pleasant kind of prelude

²⁶⁸ Feldman quoted in Morton Feldman and La Monte Young, “A Conversation on Composition and Improvisation (Bunita Marcus, Francesco Pellizi, Marian Zazeela),” *RES: Anthropology and Aesthetics* 13 (Spring 1987): 152-173.

²⁶⁹ Glenn Gould, “The Prospects of Recording,” [1966] in *Audio Culture: Readings in Modern Music*, eds., Christoph Cox and Daniel Warner (New York: Continuum, 2004): 115-126.

into the realm of percussion sounds... an elegant composition, no more, no less.”²⁷⁰ In other words, the composition provided an introduction for the audience of the various types of sound and textures available to the performer through the instrumentation, exposing the parameters and possibilities of different types of sounds and how they interact with each other live and on tape – and with the listening audience in the particular acoustic environment. Theodore Strongin of the *New York Times* had a different perspective: “[Neuhaus’s performance] was a plodding succession of puddles of sound with pauses between. Its notes were written out in detail, in distinction to the Cage and the Brown.”²⁷¹ Goldstein tacitly supported Neuhaus’s use of audiotape, an avant-gardist gesture that had limited, though some, presence in conventional concert performance; Strongin referred to the mixing of live and taped percussion as a “puddle of sound with pauses between,” casting a traditional contrast of silence and noise. During the first half the 1960s, Neuhaus performer between two worlds of musical compositions. On the one hand, he toured internationally performing solo percussion works by Stockhausen and Cage, and ensemble pieces by Pierre Boulez. On the other hand, he maintained an active local New York City performance schedule. When Neuhaus was not jet-setting across the Atlantic or traveling on the United States highway system, he performed around – and with – the downtown scene, within that of avant-garde music as well as performance art broadly.

The composer Joseph Byrd assisted Neuhaus in his exploration of percussive sonority and musical abstraction and improvisation. The work *Water Music* (1963) provided Neuhaus with an opportunity to advance his interest in acoustics research, but staying within the limits (or what Neuhaus later felt were the confines) of musical performance. In this piece, which was written for and dedicated to Neuhaus, the percussionist is asked to produce and record various percussion sounds on the given instrumentation: large gongs, high-pitched marimba, and tuned cowbells (Swiss Almglocken).²⁷² The sounds are analyzed, filtered and edited on audiotape using electronic instruments. The tape is then played back during a live performance. Neuhaus first realized the work in 1963 and through his “cessation of activities as a percussionist” in 1968. The artist once described the work as a duet with himself – in actuality, however, the percussionist used a four-track tape machine during the performance, meaning that there were five separate sound sources (one human, four mechanical) heard by the audience (as well as the player). The composition was composed for Neuhaus by Byrd at the performer’s request shortly following his completion of a Master’s degree, effectively replacing the ensemble format that he performed within during his time at the Manhattan School of Music.

The work is essentially composed in three sections with a brief introductory passage. The first part asks the percussionist – the sole performer – to perform several rolls across large gongs, which in turn produces a deep tonal wash of thick metallic sound. The following three sections are organized by tape segments that are distinguished by sonority: “rumbles,” “tinkles” and “clanks,” according to the composer.²⁷³ The three sections are separated by two brief moments of silence, allowing for a change of sonority to be noted by the audience and anticipated by the performer. The score itself is structurally fairly traditional – the live performance is more or less notated throughout the work, but the performer is asked to determine the order of sections in

²⁷⁰ See liner notes to Max Neuhaus, *The New York School: Nine Realizations of Cage, Feldman, Brown*. Alga Marghen, Milan, plana-N 22NMN.052, 2004. CD. Notes by Neuhaus, Malcolm Goldstein, John Rockwell, and Theodore Strongin.

²⁷¹ Theodore Strongin, “Concert Is Given by Percussionist,” *The New York Times* (June 3, 1964): 36.

²⁷² Liner notes to Joseph Byrd, *Joseph Byrd: NYC 1960-1963* (New York: New World Records 80738, 2013). CD.

²⁷³ Ibid. Incidentally, Neuhaus’s article on noise will use the phrase “tinkle” in its title, presumably a choice by the editors, suggesting the inability of language to describe sound. See Neuhaus, “Eek,” 1974.

response to the sound qualities heard on the tape.²⁷⁴ The performer thus has limited room for improvisation, at least within the score. Instead, they use the score as an accompanying logic to the taped sounds which they respond to in contrast or emulation.

The open structure of the score is similar to the polyvalent techniques of Stockhausen: *Zyklus* uses a similar ambiguity for its commencement, which is chosen by the performer.²⁷⁵ The shift of typical composer-performer relations is thus notable in this work, which is one step toward the ultimate negation of all hierarchy in Neuhaus's own listener-structured works like *Listen* (1966), *Public Supply* (1966-1973) and *Drive-In Music* (1967). In his 1963 WBAI interview, Neuhaus explained his process for performing the work:

I used a [marimba], which is a standard percussion instrument like a xylophone only [with] a much lower [tonal] range... five Almglocken, which are Swiss cowbells, [that ranged] from [one-foot-long] to [five-inches]. I also used a Balinese gong, a tam-tam and a suspended cymbal.²⁷⁶

What he did not mention was audiotape.²⁷⁷ The technique of performing with simultaneous live and recorded performance is largely Cagean. Byrd acknowledged the connection in 2014. In an interview at the Other Minds Festival: OM 19, the composer admitted that he viewed the 1960s West Coast music experimental music scene in which he started in the 1960s, along with drone and minimalist composers La Monte Young and Terry Riley, as a “school of experimental composers very much under the influence of [Cage]... we thought of ourselves as the next [Cagean] generation. [The idea of chance], in many of its forms, shows up in [my work].”²⁷⁸ Byrd recalled how his Cagean work intertwined with his experience with Fluxus, which was just emerging during his first trip to New York in 1962-1963: “It was the beginning of Fluxus... [composers used] other composers to perform their music chiefly because [nobody else could].”²⁷⁹

However, at the same moment that Byrd envisioned himself as a recipient of the Cagean avant-garde, he also worked as a commercial record producer for Capitol Records.²⁸⁰ Byrd describes his conventional profession as a studio music arranger as a commercialist endeavor that was unpopular among his more experimental and anti-music industry colleagues such as Young who moved with Byrd to New York City from San Francisco in 1959 (with Steve Reich, Terry Jennings and Terry Riley).²⁸¹ Nonetheless, Byrd's access to a professional recording studio provided the composer with materials and techniques that he did not have otherwise, such as tape manipulation (pitch alteration) and splicing (collage). The Capitol studio gave Byrd his “first access to four-track recorders,” which allowed for the production of a pre-recorded studio mix

²⁷⁴ For details on Byrd's score and the linear structure of Neuhaus's performance see: Murph, 22-24.

²⁷⁵ The method of having players choose the order notated sections became a defining feature of Riley's *In C* (1968) (suggesting the latter was influenced by his friend Byrd).

²⁷⁶ Corigliano, “Interview with Max Neuhaus,” 1963.

²⁷⁷ David Grubbs has noted that the use of recorded media, especially in live avant-garde music, was a contentious issue in the 1960s. See Grubbs, 2014.

²⁷⁸ “Interview with Joseph Byrd,” Other Minds Festival: OM 19. February 28, 2014. Web.

Accessed May 14, 2017. https://archive.org/details/OMF_2014_02_28_c1

²⁷⁹ Ibid.

²⁸⁰ Ibid. See also Murph, 23.

²⁸¹ Young and others premiered Byrd's chance-based ensemble percussive drone-pulse piece *Animals* (1961). See “Interview with Joseph Byrd” 2014.

and simultaneous tape playback over Neuhaus's live realization. Byrd was able to experiment with tape overlay on his composition *Water Music* (1963), which Neuhaus performed. Byrd described his first encounter with Neuhaus:

There was a percussionist, the preeminent avant-garde percussionist at the time, Max Neuhaus, who [sort of] commissioned *Water Music*. He didn't come to me with money but he said "Could you [compose] a piece that has sound on tape [and] percussion? I had him choose the instruments that he wanted to use and I recorded those instruments... and because I was a [studio] arranger, I had access – not official access, but I had [engineer] friends – to get in and get free time and process the sounds that he recorded, and make them into the background for the piece that he ultimately did. It's actually very virtuosic when you hear it – it may seem as though it is improvised, [but] it is only improvised in that the player has the opportunity to choose which order he plays things in, which I don't think is really very chance-oriented... it's simply every performance will be a little bit different."²⁸²

Speaking with musicologist Megan Murph, Byrd recalled the grandiose bombastic character of Neuhaus: "It was Max who approached me. He was, as you know, doubtless, intense, articulate, and ambitious. I was all those myself, and we got along very well."²⁸³

Byrd points out the novelty of the composition and, specifically, the relatively rare use of audiotape within Fluxus-oriented music. Indeed, while there are Fluxus pieces that utilized microphones and amplification it was much less common for pre-recorded tape to be utilized (with some exceptions, such as the poetic-pieces of Jackson Mac Low). Byrd underscores what made *Water Music* stand out in 1963, when magnetic audiotape was still a relatively uncommon outside of university and commercial music studios and used by few composers (although Steve Reich was another artist experimenting with tape in the early 1960s): "The four-track multitrack version of [*Water Music*] [was] slowed down and processed and filtered... all of these things that we as a group of composers [around Fluxus and in California] did not have access to." In fact, Byrd's first concert in New York was curated by Young at Yoko Ono's loft, and featured a selection of non-verbal sound poetry manipulated and presented via audiotape. The description also refers to the original performance as using a four-track machine rather than a simple stereo – in fact, stereo, nonetheless was in the 1960s still a novelty within the recording industry that preferred mono recordings for public release. Stereo as we know it today had not yet been codified as a listening standard and was at the time very much a form a 'spatialized' virtual sound – the use of four tracks, then, only doubles down on there left-right panning afforded within the emerging stereo format. In this sense, *Water Music* can also be seen in relation to Neuhaus's realization of spatialized sound in the works of Stockhausen (but from an anti-academic viewpoint that was more aligned with post-Cagean and Fluxus methods).

Neuhaus continued to experiment with live tape music after *Water Music*. In his 1965 realization of Cage's *27' 10.554" for a percussionist* (1956), Neuhaus used a recorded practice version of the piece, produced in his studio, as a backing soundtrack.²⁸⁴ Neuhaus experimented

²⁸² These statements were made prior to the performance of the work by Alan Zimmerman at the Other Minds Festival: OM 19. See liner notes to Byrd, 1960-63, 2013.

²⁸³ Joseph Byrd email correspondence with Megan Murph, July 21, 2012. See: Murph, 21.

²⁸⁴ See *WBAI Folio* 4, no. 20 (September 30-October 13, 1963): 11-12.

with this recorded/live acoustic layering in versions of *Zyklus*, dubbed *Super Z*, too. In particular, he collaborated on an expanded cinema performance with the filmmaker and composer Phill Niblock. Niblock's *Environments* (1968) series included a screening of Niblock's film of Neuhaus performing *Zyklus*, simply titled *Max*, which included a soundtrack but was additionally accompanied by a live version by the percussionist, who performed in front of the screen.²⁸⁵ The experiment apparently had mixed results for the artist (and notably occurred in the year that Neuhaus "ceased activities as a percussionist").²⁸⁶ Neuhaus also used tape in a 1965 realization of Jackson Mac Low's *The text on the opposite page...* (1961), in which he presented an electronic manipulation of the word "listen" (created at the University of Illinois Experimental Studio).²⁸⁷

Byrd moved to Los Angeles to attend UCLA for music composition in 1963 and his psychedelic rock band, The United States of America, became the artist's focus by the late 1960s. Byrd used the avant-garde techniques, especially of electronic music, and applied them to an experimental rock vocabulary. Incidentally, the group's self-titled album was released by Columbia Records in 1968 – the same year that the company released Neuhaus's *Electronics & Percussion*.²⁸⁸ In fact, the connection of Byrd's post-Cagean avant-gardism in New York, as exhibited in *Water Music*, was more associated with the emerging counterculture movement, and with Fluxus than with Cagean experimental composition from the classical tradition (i.e., the so-called New York School of composers). In a promo for a radio show on WBAI that broadcast a recording of a performance at the Pocket Theater, the station referred to program as a "raucous concert" and a "far-out extravaganza."²⁸⁹ The following works were staged:

1. Joseph Byrd, *Water Music* (for percussion solo and electronic tape) (performed by Neuhaus)
2. Byrd, *Densities 2* (for violin solo and accompaniment) (performed by Malcom Goldstein, violin; Arthur Layzer, clarinet; La Monte Young, soprano saxophone; Max Neuhaus, marimba; Philip Corner, conductor)
3. Philip Corner, *High Contrast* (for amplified harpsichord) (performed by Corner, harpsichord)
4. Joseph Jones, *Percussion for Five* (for self-playing instrument)
5. James Tenney, *Ergodos 2/3* (electronic tape)
6. Malcom Goldstein, *Ludlow Blues* (for wind instruments and electronic tape) (performer by Layzer, clarinet; Young, soprano saxophone; Corner, trombone)²⁹⁰

²⁸⁵ See Abigail Nelson, "Who's Who in Filmmaking: Phill Niblock," *Sight Lines* 7, no. 3 (1973/74): 21-23. See also: <http://www.vasulka.org/archive/Artists4/Niblock,Phil/general.pdf>. Nelson paraphrases Niblock as suggesting "Using a dancer and a film simultaneously in a live concert piece seemed to muddle the action and disperse the energy."

²⁸⁶ Nelson also states: "Using a dancer and a film simultaneously in a live concert piece seemed to muddle the action and disperse the energy." Nelson, 22.

²⁸⁷ Possibly the first and only time that Neuhaus presented electronic music in the traditional 'fixed tape music playback' format of the 1950s. The word holds significance in that Neuhaus will realize his first *Listen* (1966) piece the following year.

²⁸⁸ See The United States of America. *The United State of America*. Columbia – CS 9614. Vinyl. LP. 1968.

²⁸⁹ *WBAI Folio* 4, no. 20 (September 30-October 13, 1963): 11-12.

²⁹⁰ Goldstein said of the work: "I was working with the spatial sense of the instruments. The melodic sense was masses of instruments, and a contrast with distinct instrumentation. There was an improvisation section at the end of that... It was named Ludlow Blues after the town in Colorado where striking miners were machine gunned by the army reserves. But it wasn't meant to represent that." See Sally Banes, *Democracy's Body: Judson Dance Theater, 1962-1964* (Durham: Duke University Press, 1993), 161.

The concert displayed a great diversity of composition methods and musical styles: solo percussion (Neuhaus), prepared-instrument keyboard music (Corner), computer music (Tenney), group free improvisation (Goldstein), and Fluxus anti-music (Jones). The concert is also notable in its display of a shifting musical paradigm: the transformation of musical authorship and experience. One clear recurring trope was a question of not only composition but also of performance and the listening experience. What does it mean to compose music? What does it mean to perform music? What does it mean to listen to music? We can use this Pocket Theater concert – and works such as *Water Music* and others – to assess the paradigm shift in the composition, performance and spectatorship of music. In particular, we can understand the use of tape music, improvised performer-composer methods, computer technology, and automated sonic constructions as a basis for thinking about sound and new musical practice, but also its direct relation to the visual and soon dematerialized arts. In this assessment, we can find a pre-minimalist theory of the phenomenology of space – and in turn of site-specific environment. First, the use of audiotape was featured prominently in three of the six works and presents a conflict between the role of recording media in live performance. Audiotape accompaniment was a popular technique for forward-thinking musicians in the early 1960s (a transitional moment between the paradigm of 1950s fixed electronic music studio composition and that of live improvised electronic music of the late 1960s and 1970s). The subversion of a storage format into a performance medium coincided with the rise of *live electronic music* at a moment just prior to the accessibility of portable (and playable) synthesizers.²⁹¹ The performer or composer – or performer-composer (a new subset) – made their electronic accompaniment separately from the live performance.

Tape music had been presented at speaker-concerts for some time by 1963, but it was less common for it to be used as an instrument or accompaniment.²⁹² Neuhaus's realization of *Water Music* and Goldstein's *Ludlow Blues* each position the live performer, who makes in-the-moment decisions based on their musical knowledge, tastes and experience, with pre-recorded sounds that are fixed on audiotape. The exceptions to this live tape accompaniment model were Tenney's *Ergodos* pieces, which were presented on tape in the manner of the 1950s speaker-concert (i.e., played back to the audience as a fixed electronic composition). However, the works were also transitional: they were made using digital computers while he was in residence at Bell Labs between 1961 and 1964. Tenney is among the first artists to use computer technology to compose and theorized electronic music, and here the results were presented in an outmoded fashion as a fixed tape presentation.²⁹³ The works were thus more aligned with the *elektronische musik* of the 1950s than recent developments in improvised music, but also pointed to a future of computer-generated electronic music that did not yet exist. Tenney explained his understanding of electronic music and computer music in terms of a gestalt psychoacoustic theory of listening and composition, which explained the historical development of computer music.²⁹⁴ Concepts of

²⁹¹ Such as the Buchla and Moog.

²⁹² There are exceptions, including works by Stockhausen, Cage, Otto Luening and Vladimir Ussachevsky. See Karlheinz Stockhausen, "Electronic and Instrumental Music," [1958] in *Audio Culture: Readings in Modern Music*, ed., Christoph Cox and Daniel Warner (New York: Continuum, 2009), 370-380; Vladimir Ussachevsky and Otto Luening, *Tape Music: An Historic Concert*. New York: The Museum of Modern Art, 1968. LP.

²⁹³ Tenney published much on computer music very early in his career. See James Tenney, "Sound generation by Means of a Digital Computer," *Journal of Music Theory* 7/1 (1963).

²⁹⁴ See James Tenney, *Meta + Hodo: A Phenomenology of 20th Century Musical Materials and an Approach to the Study of Form*. New Orleans: Inter-American Institute for Musical Research, Tulane University, 1964.

gestalt theory, physical entropy, and materialist phenomenology will dominate minimalist sculptural discourse, arguably beginning in 1966 with Robert Morris's "Notes on Sculpture" series in *Artforum*. Morris's articles appeared four years after Tenney's theory was written in 1961 (and two after its publication in 1964).²⁹⁵

The use of automation was not limited to Tenney's computer music.²⁹⁶ The automated percussion constructions and engineered music of Fluxus artist "Joseph Jones" – usually referred to as Joe Jones – reveals the artist's unique place among the Fluxus composers. Jones largely ignored the boundaries and conventions of musical experimentation, and instead basically created non-performative noise-making machines. The work included on the Pocket Theater concert program, *Percussion for Five*, uses the language of new music (and especially percussion music) but otherwise totally disengages with any recognizable mode of performance. In fact, the work was not so much 'performed' as it was 'presented' – an echo of the fixed composition presented by Tenney, but without the tape. The piece also was entirely acoustic. Some pieces on the program eschewed conventional performance by amending the typical human-instrument interaction with tape. Jones removed the human altogether. Instead of conceiving of some composition that needed to be written (i.e., notated or described in text) and interpreted (i.e., played on tape or performed live), the artist created a static situation within which the listener to experience automated sound, or rather could experience of sound in space rather than sound in time (and without the distraction of a performer).

Percussion for Five (1963) is typical of Jones's music-machines in the early 1960s, who even built a music-making bicycle that he rode around SoHo, bringing Fluxus theater to the public space using a semi-autonomous sound machine. Indeed, the WBAI folio broadcast description refers to both "self-playing machines" and "self-playing musicians," making a clear distinction (if ironically) between manmade and machine-made music. In fact, the work comes at a time when the cultural and professional status of the live musician was very much in question. As Gould notes in his 1966 article "The Prospects of Recording," there was very much a fear among performing musicians, and composers, that the rise of sound recording technology and the commercial market of the LP record could have signaled the demise of the live music. Jones's "self-playing machines" were not electronic but they did participate in a cultural and professional fear of the supposed destruction of the live concert, and thus also of the live performer, to its logical conclusion: the complete automation, and erasure, of live music altogether, including the performer and the composer.

Byrd pushed the boundaries of musical composition and performance by using tape and Tenney challenged the compositional methods and resources of the composer by using computers. However, each were bound, even if loosely, to traditional understandings of music. Byrd's composition though it used tape also had a clear beginning, development and ending and its performer, Neuhaus, made clear musical choices in relation to the automated tape playback. Tenney was pre-recorded and totally non-performative but it still utilized a basic structure of

²⁹⁵ Is there a basis for minimalist discourse, and thus also a theory of site-specificity, in the history of electronic music rather than Cagean silence? See Branden Joseph, "The Tower and the Line: Toward a Genealogy of Minimalism," *Grey Room*, No. 27 (Spring 2007): 58-81.

²⁹⁶ The historical evolution of computer music for Tenney had two personal sources: the compositions and musical ideas of Webern and Varese. As Tenney explained in 1969, the composer "arrived at the Bell Telephone Laboratories in September, 1961, with the [musical and intellectual baggage of] Webern and Varese." In other words, for Tenney the development of computer music consisted of a struggle, and a breaking-free from, the compositional lineages of post-serialism and atonal percussion. See James Tenney, "Computer Music Experiences," in *Electronic Music Reports 1* (Utrecht: Institute of Sonology, 1969).

linear development taken from the *elektronische musik* and *musique concrete* of postwar European composers: the works were fixed but they were definitely musical compositions that explored interrelations of tone, noise, timbre and a morphology of sonic experience. In contrast, the sound machines of Jones were neither composed nor performed in any relation to the traditions of music, experimental or otherwise. The machines were simply turned on or turned off – like an electronic circuit.

Thirdly, the use of free group improvisation in Byrd's *Densities 2* and Goldstein's *Ludlow Blues* highlight the emerging interest in collective music-making, typically seen in jazz and folk but less prominently in relation, or contrast, to classical concert music. Whereas jazz and folk utilize basic guidelines for musical direction that are modulated and improvised in a group (such as a jazz score containing only the chord changes or a melodic fragment), the classical tradition is thoroughly based on the group interpretation of a set and notated score. The former allows individual musical voice and decision-making into the composition and performance of a work (in which both are bound to each other), while the latter denies individual musical voice and decision-making in order to preserve an objective reading of the score (in which the composition and performance are placed in a hierarchy with the composition on top).

Finally, *Water Music* has an obvious counterpart in the work of Cage, who was vastly important to both Byrd and Neuhaus.²⁹⁷ The title, as well as the general theme of water, refer to Cage's infamous clock-time piece *Water Walk* (1959). *Water Walk* was one of Cage's first full leaps into using the sounds and gestures of everyday life rather than conventional instrumentation. Among the sound sources used in the work beyond a prepared piano (prepared with a vibrating plastic fish) are: a bathtub, a seltzer bottle, a steamer, a rubber duck, a blender full of ice and a watering can. The composition clearly instrumentalized its aquatic sound sources and sonorities that existed in different physical states: liquid water (still water), carbonated water (seltzer), solid water (ice) and vaporized water (steam). The piece has a certain affinity to the Neo-Dada kitchen-sink aesthetic of Rauschenberg and the mixing of art and life in Kaprow's *Happening*, but to frame the work as an absurdist appropriation of the popular vernacular is just one aspect of the work.²⁹⁸

It is true that the piece partakes in an image of postwar consumerism – also included are five radio receivers, instrumentation that referred to the emerging home electronics market as well as the composer's use of indeterminate radio signals in *Imaginary Landscapes No. 4* (1951).²⁹⁹ However, the work fits squarely within Cage's experimentation with acoustics in addition to (or as a manner of) musical form. *Water Walk* was not so much an 'anything can be music' composition, but rather of particular acoustical-materialist research into timbre, overtone structure and aqueous sonority. Composers since the Romantic era had long been fascinated with imitating water in their music (usually in the piano) but Cage sought to literally use water as a material basis for an 'experimental' and research-oriented composition. Indeed, Byrd took this approach quite literally too, whether in composing music compositions with traditional instruments but which are played in various spatial arrangements around the audience (such as his 1962 concert at Carnegie Hall, which critic Eric Salzman complained was "on the threshold of audibility").³⁰⁰ Byrd nevertheless held a severely materialist approach to sound and musical

²⁹⁷ The work also has an ironic relationship, and a shared title, to the renowned Classical composer Handel's famous *Water Music* (1717) orchestral suite.

²⁹⁸ See Diaz, 2015.

²⁹⁹ Radio presents a different type of radiophonic fluidity. See Militus, 1996.

³⁰⁰ Eric Salzman, "Joseph Byrd Works Played in Concert," *New York Times* (March 10, 1962).

composition, saying: “[The] obligation – the morality, if you wish – of all the arts today is to intensify, alter perceptual awareness and, hence, consciousness. Awareness and consciousness of what? Of the real material world. Of the things we see and hear and taste and touch.”³⁰¹ This analytical perspective – especially that of perceptual awareness – is brought to the forefront of Neuhaus’s artistic practice, rather than a background condition of percussion, within works like *Water Music* and Cage’s *Fontana Mix-Feed*. Indeed, Neuhaus began performing the latter after the former, indicating that his interest in microphone feedback as filtered by Byrd’s fascination with four-track recording and an analysis of percussion timbre, an analytical framework became a basis of *sound installation* (after sound as an artistic material was separated from the preconditions of musical performance).

Maximusic (1965)

Tenney also wrote *Maximusic* for Neuhaus (one of several written for the percussionist by avant-garde composers). The title refers to the percussionist’s name, a reference that many would have understood given Neuhaus’s reputation, domestically and internationally. The title also refers to the score’s basic compositional structure, which describes a slow development of washed cymbal noise that over time flares into a frenetic full-percussion improvisation, capped by a strong single beat on a tam-tam that commences a reprise of inverse cymbal decay, which lasts until total instrument silence is achieved. Hence, the title ‘maximusic’ refers to ‘Max Neuhaus’ and the ‘maximum’ intensity of an improvised percussion swell – soft-loud-soft – which characterizes the piece. *Maximusic* presented an antithesis to the difficult *Zyklus*, which requires a virtuoso percussionist for both interpretation and performance. The work also outlines the difference between *performance* and *realization*. The former refers to the concrete recitation, or translation, of musical notation into sound. Despite differences between each performance), the basic ideas of the work and the necessary technical proficiency are consistent and can be objectively judged (by the composer or the audience). The score remains the paramount object to the secondary performance. The latter refers to the potential realization, or interpretation, of a musical prompt (in graphic or verbal language) into sound. The prompt as such incites novel realizations of its core concepts, but the compositional framework remains largely open-ended from both structural and musical perspectives. The performance remains the paramount object to the secondary score – or, at the very least, the score and performance are of equal importance, both artistically and conceptually.

Tenney produced a number of ‘swell’ pieces following *Maximusic*. In particular, two years later the composer wrote *Swell Piece* (1967). The piece was dedicated to Fluxus artist Alison Knowles, a close friend of Tenney and an occasional collaborator with Neuhaus. *Swell Piece* follows a close structural trajectory to *Maximusic*. The work, as expected, involves a slow rise of musical activity, a moment of maximum intensity, and a subsequent fall. There are two big differences between the two pieces. Firstly, the instrumentation of *Maximusic* is for percussion while that of *Swell Piece* is for “any instrument” that can produce a determinate tone. The result is a difference of noise versus pitch and harmony (whether consonant or dissonant). The instruments and specific pitches of *Swell Piece* are chosen by each individual who plays in the group, which is the second difference: *Swell Piece* is scored for multiple players while *Maximusic* is scored for a solo performer. Notably, this contrast defines the collaborative

³⁰¹ Liner notes to Byrd, *1960-63*, 2013. See also Kostelanetz, *The Theatre of Mixed Means*, 52.

practice of Knowles against the solitary practice of Neuhaus, two characterizations that will span the careers of each (and which Tenney, a friend of both, was clearly able to observe at the time). Indeed, Neuhaus had a reputation for working alone.³⁰²

Tenney also composed the work *Having Never Written a Note for Percussion* (1971) for percussionist John Bergamo, a mutual friend with Neuhaus and student at the Manhattan School of Music under Paul Price). The work follows the same structure as *Maximusic* and *Swell Piece* with the surprising use of clear musical notation. The score is notated graphically but it is done so ambiguously. The swell is graphically described with the basic dynamics instructions for two sections of *pianissississimo* (*pppp*), which means *as quiet as possible*, that are separated by a middle *fortissississimo* (*ffff*), which means *as loud as possible*. These dynamics instructions are both fairly rare in standard classical music notation, and their use refers to the acoustic thresholds of conventional musical instruments. The dynamics symbols are separated by *crescendo* (<) and *decrescendo* (>) markings, which indicate a continuous transition from one state of loudness to another (though they say nothing particular about tempo, meaning the performer could rise in loudness at an equal rate, or rise slowly, fall quickly, etc.). The score also includes a fermata – ♯ – with the phrase “very long” added above an unidentified whole note, apparently conveying, rather than notating, the moment of maximum intensity).

Four realizations at the Carnegie Recital Hall

Generally, Neuhaus preferred the phrase *realization* to *performance* – in fact, the rhetoric of realization became a core facet of Neuhaus’s formulation of spatial sound as a methodology and sound installation as an artistic practice (i.e., the idea that the composition of his sound installations were never fully known until each was completed *in situ*). Neuhaus did not invent the concept, which has a rich history in improvised, electronic, and electroacoustic music, but his works do point toward a novel use of it as an interdisciplinary operation. The concept, in lieu of performance, emphasized the creative contributions of the performing artist to the completed work, who has amended the original composition of the composer. For this reason, many of Neuhaus’s concerts and recordings list the works in modified titles: Cage’s *Fontana Mix* became *Fontana Mix-Feed*; Bussotti’s *Couer Pour Batteur* became *Couer Pour Batteur – Positively Yes*; Stockhausen’s *Zyklus* was, on non-formal occasions, shortened to *Super Z*. Neuhaus said the following of the relations of the audience, performer, score and composer:

I have always felt that the musical experience does not lie within the realm of technical questions, such as – What is the type of notation used? How much of what happens during a concert is the composers doing and how much is the performer’s? Does the performer make his decisions before playing the piece, or does he allow them to come about during the performance?³⁰³

The questions posed by the artist in the liner notes to *Electronics & Percussion*, which ask the listener to reserve preconceptions about how music is composed, performer and experienced. In short, Neuhaus has asked them to redefine their standards of musical value and habits of musical listening – and, ironically, to not think about the very questions that he has just posed. Neuhaus

³⁰² For more on his relation to Fluxus, see Chapter 2.

³⁰³ Liner notes to Neuhaus, *Electronics & Percussion*, 1968.

admits in the liner notes that he had “previously avoided the use of program notes [in an attempt] to keep people from using these questions as a basic criterion for listening.”³⁰⁴ How else should they listen? For Neuhaus, ideally they will simply figure something out on their own – much as the performer ‘figured out’ or ‘realized’ the score to which they are listening.

It is unclear exactly when Neuhaus began using the phrase “realization.” However, the phrase was recurrently used following his graduation from the Manhattan School of Music in 1963, and picked up especially around 1964-1965. Concert programs from this period reveal the phrase being used by Neuhaus to refer to his performances, which were increasingly listener-oriented and improvised rather than the straight-forward interpretation, practicing, and performance of a scored piece. For example, the March 22, 1965, performance at the Carnegie Recital Hall was publicized on a poster as “Four Realizations by Max Neuhaus.” If read in print, the poster is unclear. However, it is joined by a photo-collage of Neuhaus, a mirror-image of himself playing *Zyklus*. The split image conveys the dynamism of his realization and emphasizes his bodily action. The performance was his third solo recital at the Carnegie Recital Hall, a space that marked several notable shifts in his artistic career, including both the beginning of his virtuosic career as a percussionist. In 1965, the recital marked a shift in the type of music he performed – and his new interest in listener-oriented music and anti-musical activity. The performance was reviewed by the *New York Times*. The music critic, Theodore Strongin, noted Neuhaus’s peculiar language, and techniques, with the title, “Artist ‘Realizes’ Taped Music and Plays Piano from Inside.”³⁰⁵ The performance was also his final appearance in New York prior to his tour of Europe in the summer of 1965. Indeed, multiple works on the Carnegie Recital Hall concert were performed on the European tour, making the concert a sort of test-run for his first official introduction to a European audience. (Neuhaus attended the Darmstadt school in 1962 but his work was not observed publicly.) The 1968 album *Electronics and Percussion* is typically cast as the moment Neuhaus “ceased activities as a percussionist,” but the cessation appears to have emerged shortly after his return from Europe in 1965

Neuhaus in Europe, 1965-1966

Neuhaus first visited Europe in 1962 for the summer program at Darmstadt, where he met *Zyklus* composer Stockhausen. Neuhaus also traveled with friends, specifically John Bergamo, who was also a student at the Manhattan School of Music. During the Darmstadt program, Neuhaus likewise met Christoph Caskel, who premiered *Zyklus* and was more or less the only other percussionist to regularly perform the work. This is all to say that in 1962, Neuhaus was not alone, but surrounded by friends and colleagues, despite any bitterness (coming from the composer or his chosen acolyte, Caskel). Neuhaus completed his Master’s degree shortly after his Darmstadt visit. In the spring of 1963, he was no longer a student, but a full-fledged musical professional. In 1963, Neuhaus toured the United States with Stockhausen (joined by David Tudor, Frederic Rzewski, and on occasions, Caskel). Neuhaus also spent part of 1964 touring the United States with Pierre Boulez. During his 1965 tour of Europe, Neuhaus was entirely alone. During his tour, Neuhaus was also routinely hassled by customs officials, who “could be persuaded only with difficulty into believing that young Mr. Neuhaus actually needed to carry with him a full ton of percussion instruments,” according to a 1965 newspaper clip.³⁰⁶

³⁰⁴ Liner notes to Neuhaus, *Electronics & Percussion*, 1968.

³⁰⁵ Theodore Strongin, “Artist ‘Realizes’ Taped Music and Plays Piano from Inside,” *The New York Times* (March 23, 1965): 34.

³⁰⁶ “Poets Applauded at Spoleto Fête,” *The New York Times* (June 27, 1965).

The schedule of the 1965 summer tour was as follows: Spoleto, Italy; Cologne; London.; Madrid; Barcelona; Munich; and Amsterdam. Neuhaus returned in late 1965, but shortly returned in January 1966 to play in Stockholm, followed by a second appearance in Spoleto (both Spoleto visits were for the annual Spoleto Festival). Fortunately, there is documentation from a few stops on this tour, including a few programs, audio recordings, and a short film. Together, these items reveal Neuhaus in transition away from the conventions of musical performance, just prior to his embrace of Happenings, Fluxus, and ultimately sound installation. I will briefly go over a few of these concerts, including the percussionist's stop in Madrid for the Fluxus-inspired Zaj Festival and his 1966 appearance at the Moderna Museet via Fylkingen in Stockholm. As Fluxus swelled in New York City, there were counterparts in continental Europe. In particular, the Spanish group Zaj offered a similar approach to open compositional forms in visual art, performance, and especially music. Of the Madrid performance, one reviewer noted the lack of percussion instruments used by Neuhaus, who was then experimenting not only with amplification but feedback: "Masses of cables, amplifiers, mixer and contact microphones have taken the place, in the Madrid concert, of most of the percussion instruments."³⁰⁷ The review, of course, referred to *Feed*, a staple repertoire piece that symbolized to Neuhaus, and his audience, a disdain for musical conventions. In a film of the concert, audience members, like those in New York, are seen plugging their ears. Regardless of cultural difference and geopolitical boundaries, Neuhaus's noise had the same effect. At the end of 1965, Neuhaus returned to New York City. However, the homecoming was short and by January, 1966, the artist was abroad again. The occasion was an invitation to play by the Fylkingen Concert Society, an experimental art and music organization based in Stockholm, Sweden with ties to American artists like Cage and Rauschenberg.³⁰⁸ One might expect a warm welcome for a kindred spirit, but in reality, Neuhaus unknowingly entered a transnational firestorm surrounding the collaboration, or lack thereof, between American and Swedish artists. As Hiroko Ikegami has shown, the years of 1965-1966 revealed a minor wave of anti-American sentiment within Stockholm's art communities.³⁰⁹

Fylkingen was the country's leading institution for new music that "through public concerts [promoted] the general public's interest in and knowledge of [contemporary music]... not considered elsewhere in concert life."³¹⁰ Fylkingen was successful in large part due to its annual Fylkingen Festival, which provided generous support to Nordic, European, and American artists, especially, 1950-1975.³¹¹ The Fylkingen Festival was itself also supported by the Moderna Museet, which had a larger budget.³¹² In 1964, the Moderna Museet and Fylkingen staged the Stockholm program *Five New York Evenings*, which featured Cage, Tudor, Rauschenberg, Robert Morris, and Yvonne Rainer. The program brought to Sweden avant-garde American music and performance art, specifically Happenings. In fact, the occasion predated the famous *9 Evenings* program in New York City by two years and started a long conversation between American with Swedish art institutions. In 1964, Morris and Rainer returned to headline

³⁰⁷ Liner notes to Neuhaus, *Fontana Mix-Feed*, 1966.

³⁰⁸ See Sanne Krogh Groth, "The Fylkingen Concert Society, 1950-1975," in *A Cultural History of the Avant-Garde in the Nordic Countries 1950-1975*, eds., in Orum, Tania and Jesper Olsson (Leiden: Brill Rodopi, 2016), 122-134.

³⁰⁹ Hiroko Ikegami, *The Great Migrator: Robert Rauschenberg and the Global Rise of American Art* (Cambridge, MA: The MIT Press, 2010), 139.

³¹⁰ Groth, 123.

³¹¹ Ibid.

³¹² Amnika Oehrner, "The Moderna Museet in Stockholm – The Institution and the Avant-Garde," in *A Cultural History of the Avant-Garde in the Nordic Countries 1950-1975*, eds., in Orum, Tania and Jesper Olsson (Leiden: Brill Rodopi, 2016), 118.

the Fylkingen festival and by 1966 there was mutual expectation of bringing more Americans back to Stockholm. Kluver and Rauschenberg had been collaborating for several years by this point and wanted to pursue more seriously the connections between artists and engineers. The two proposed a large program on the theme of art and technology that would make up the majority of the 1966 festival (as it had done in 1965).

However, as Ikegami has explained, there were serious disagreements about the budget that derailed the collaboration and soured the Swedish-American relationship: “The art and technology project required a much grander budget, which became a problem. Although Fylkingen sent three thousand dollars to New York as part of the agreed-upon budget of ten thousand dollars, it refused to pay the rest when the American group demanded additional payment without explaining how the initial money had been spent. Eventually, the conflict over funding... led to the cancellation of the 1966 [festival].”³¹³ The split was a bitter affair with the Swedish lamenting: “You Americans seem to expect us in Fylkingen to pay large amounts of money... for your own future work in the USA, and... we have to be content with any crumbs of fame that may fall from your table.” Responding, a lawyer for the Americans wrote: “Unlike Fylkingen, we have the courage of our convictions.”³¹⁴ The aborted collaboration spurred the formation of E.A.T. in 1966, which presented *9 Evenings: Theater and Engineering* in October that year. Neuhaus inadvertently entered Stockholm during this so-called “anti-American turn,” and to perform, no less, music by Cage.

Neuhaus performed on January 28, 1966.³¹⁵ The works performed were mostly repertoire pieces that had made up his 1965 tour: *Fontana Mix-Feed*, *The King of Denmark*, *Couer Pour Batteur – Positively Yes*. However, notably missing was *Zyklus*. There are multiple reasons why Neuhaus left off the piece, which was arguably his most famous work. First, the piece required a massive amount of percussion equipment, whereas the other works chosen required much more manageable instrumentation. As Philip Corner remembers, Neuhaus often complained about having to travel with his many percussion instruments, which were heavy, numerous, and cumbersome, especially when traveling on airplanes and trains – in fact, the program for the concert included a note about his purported two tons of instruments (which he subsequently sold to the music department at SUNY Buffalo after returning home).³¹⁶ There was strong practicality in simply not playing the piece, despite its popularity. Secondly, *Zyklus* was likely being overshadowed in popularity, or infamy, by Cage’s noisy *Fontana Mix-Feed*. *Zyklus* symbolized the epitome of *new percussion music*, but *Feed* operated on an entirely different order of *live electronic music*. *Feed* required only one (or two) kettle drum(s), microphones, and an amplifier system, unlike the complicated *Zyklus*. Neuhaus needed to travel with just a few of small contact microphones and request the organizer to procure the rest of the materials. Thirdly, Neuhaus attempted to distance himself from traditional music performance – the *proscenium situation* – and felt *Zyklus* was old-fashioned in its conventional composer-performer-audience structure. *Feed* and *The King of Denmark* dynamically invited audience interaction in ways that *Zyklus* could not, whether by producing shrill noise (*Feed*) or operating on the threshold of inaudibility (*The King of Denmark*).³¹⁷ Ultimately the lack of *Zyklus* seems to have been that Neuhaus simply wanted to move on to other works. He had performed the work near constantly for over two

³¹³ Ikegami, 140-141.

³¹⁴ Ibid., 142.

³¹⁵ *Fylkingen Bulletin* 1. Stockholm: Fylkingen, 1966.

³¹⁶ Neuhaus in an email to Dasha Dekleva. March 30, 2004.

³¹⁷ Notably, it is the latter in which sound installation for Neuhaus will ultimately pursue.

years and was actively commissioning new pieces, such as *The King of Denmark*. Indeed, the percussion setup used in this work is somewhat substantial, as seen in a photograph from the Fylkingen show printed in the Fylkingen Bulletin. However, in addition to his repertoire pieces, the program also featured entirely new works, including those by Philip Corner, Robert Moran, and James Tenney, all of whom Neuhaus knew from New York City.

Included was Corner's *Beforehand*, *Afterward*, and *C Major Chord* (the only piece of minimalist music that Neuhaus ever performed); Moran's *Ceremony*; and Tenney's *Maximusic*. Three of the works were composed specifically for Neuhaus: *Beforehand*, *Afterward*, and *Maximusic*. The program made for the evening was itself experimental – and nearly illegible. Taking the form of a graphic score, or potentially an electronic circuit schematic, the document presents little information to the audience other than the names of composers and composition titles. All of this information is deduced by viewing the program and following directional lines, which only barely confirm suspicions about which composers made what piece. For example, the phrase “The King of Denmark” reveals the first three words of the title underlined; following that line brings the viewer to a block arrow pointing toward the letters “MORTON,” which is itself the middle part of a nonsensical jumble of letters that reads “PHILIPMORTONJAMES.” Below that phrase is “CORNERFELDMANTENNEY.” A knowledgeable attendee might decode the work as a jumbling of the names Philip Corner, Morton Feldman, and James Tenney. On the program's verso, the phrase “COUER” points toward “BUSSOTTI,” the “Y” in “CEREMONY” points to “ROBERT,” and “FEED” points to “CAGE.” However, there are also false leads: “YES” is technically party of Bussotti's *Couer*, but its line ultimately points to “MAX,” which is the first name of Neuhaus, but also the first half of Tenney's compositions *Maximusic*. The phrases “BEFOREHAND,” “C MAJOR CHORD,” and “AFTERWARDS” point nowhere but are each the work of Philip Corner.

Why would Neuhaus stoke this confusion? On the one hand, Neuhaus wanted to further disrupt the composer-performance-audience hierarchy. By organizing the program in an unclear, potentially incomprehensible, way Neuhaus provided the audience with their own compositional activity: they had to decode the order of the works before, during and after the concert. This task was especially difficult given the general lack of recognizable forms in avant-garde music. Furthermore, the generally continuous structure of the performance (i.e., likely no clear pauses for applause according to performance tradition) also would have confused the separation of one work from another. Neuhaus, it seems, hoped to invite the audience to a durational sound event, in which no one work was valued as more significant or important than another. The reverse side of the program reads:

In the program is a scheme of the order o the pieces to be performed [tonight]. One can try to follow that scheme, figuring our which piece by which person is [being] performed at which time... or one can forget about it and spend this time listening and watching; knowing full well that it is [a] concert of pieces by Sylvano Bussotti, John Cage, Philip Corner, Morton Feldman, Robert Moran, and James Tenney played by Max Neuhaus.³¹⁸

The egalitarian structure of the event leveled the playing field on numerous fronts: between the composer, who cannot be appreciated as a sole genius because their their work is not highlighted; the performer, who does not stop for applause and invites the audience to simply “spend this

³¹⁸ Program text for the January 28, 1966, solo recital at the Moderna Museet in Stockholm, Sweden.

time listening,” rather than celebrating the percussionist’s virtuosity and keen interpretive skills; and the audience, who is able to make their own determinations about musical structure and form, not bound by the limitations or preconceptions about the composer or the performer (i.e., musical intention). The three young composers (Corner, Tenney, and Moran) are also treated as artistic equals with their established composers (Cage, Feldman, Bussotti).

Exiting the concert hall, 1965-1966

Upon returning to the United States following his Stockholm debut, Neuhaus developed more extreme egalitarian works, such as *Listen*, *American Can*, and *Public Supply*. These works posed a radical departure from the concert hall setting and its audition structures. Accordingly, one might see the Fylkingen concert as something of a breaking point, as Neuhaus exited the concert hall by destroying its methodological and ideological structures from within. Neuhaus’s musical tastes quickly evolved around 1964. This is the year in which he began regularly performing *Fontana Mix-Feed*, an indeterminate and materially unwieldy realization that was at musical and conceptual odds with the difficult and highly-controlled *Zyklus*. *Fontana Mix-Feed* was an antithesis on the sort of percussive virtuosity with which he became famous. Through Cage, rather than Stockhausen, Neuhaus encountered a freer sense of musical composition, and in turn non-musical artistic practice. However, Neuhaus retained an interest in spatial sound through Stockhausen, eventually synthesizing the two in his practice of sound installation. Between 1964 and 1968, Neuhaus experimented with spatialized sound outside of the score, opening his practice to places outside of the concert hall in a variety of musical, anti-musical, and ultimately post-musical artworks. Effectively, the 1965 tour was the beginning of the end of Neuhaus’s musical performance career, and, particularly, his dependence on the concert hall, or the “proscenium situation.” In fact, in much of 1966 Neuhaus did not perform typical musical works, instead preferring the Happenings and Fluxus-inspired events and situations like LISTEN and *American Can* (discussed in Chapter Two). However, some musical performances did take place, but they were increasingly in unusual spaces, including public sites like Central Park.

The first time that Neuhaus ‘performed’ in Central Park was for the 4th Annual Avant Garde Festival, organized by Charlotte Moorman. However, the work, *American Can*, was more of a Happening than a typical musical performance, a new area of anti-musical art that Neuhaus referred to as “music for non-concert hall situations.”³¹⁹ (These activities represent an early stage of *sound installation*.) Elsewhere in 1966, Neuhaus realized works such as *Byproduct*, a proto-sound installation, at non-concert hall spaces like the Park Place Gallery, an environment closely associated with the visual arts (despite the particular gallery’s focus on new music and performance). I will return to these activities in Chapter Two. I would like to end by considering one of the last public musical performances by Neuhaus: a New Years Eve concert of *Fontana Mix-Feed* in Central Park. The special performance of *Fontana Mix-Feed* was set up by the Department of Parks in New York City, which invited Neuhaus to perform the piece leading up to midnight and continuing an hour-and-a-half passed. The event was organized by the Parks Department’s artist-in-residence Phyllis Yamplosky and was billed as a “musical happening.” The program effectively rounded out the department’s family-friendly program of “summertime happenings,” which it sponsored in order to, presumably, bring more people into the park as a

³¹⁹ See The Museum of Modern Art Archives. MoMA PS1. Series I: Curatorial and Exhibition Records. IA.4. “Max Neuhaus 1973.”

public communal space. In a press release announced by the department's commissioner, Thomas Hoving, the event was described as such: "Max Neuhaus, a young musician, will conduct the performance [of *Fontana Mix-Feed*] on a series of microphones, speakers and amplifiers which cause a feedback effect and which can best be described as "the sound of sound."³²⁰ The Parks Department clearly had not thoroughly researched the project, given that their public press release implies a decidedly non-avant-garde audience, or, more likely, a misalignment of Neuhaus with the Happenings and Fluxus performances that characterized Moorman's Annual Festival of the Avant Garde. In 1965, Moorman's festival was kicked out of its original home at Judson Hall following a raucous version of Allan Kaprow's *Push and Pull*, in which participants were invited to push and pull various objects in the Happening space – in this case, bringing a lot of unwanted materials into the hall upset the management, which banned the festival from taking place in the space in the future. Instead, Moorman petitioned the city to use the public space of Central Park, a bid that was successful and realized in September of 1966. Thus the invitation of Neuhaus, through Yamplosky, was somewhat of an extension of the popular summer festival.

In an attempt to lure people into the middle of a wintry Central Park, in lieu of going to a party or to Times Square, the city eagerly offered refreshments: "Hot toddy, hot wine punch, coffee, cocoa, frankfurters and bratwurst sandwiches will be sold at the refreshment kiosk at Bethesda Terrace from 11:30 PM. New Year's Eve until 1:30 AM."³²¹ The piece was one of the first in which Neuhaus engaged a raw public audience, following his realization of the listener-oriented call-in radio composition, *Public Supply*, earlier that year. However, the work was an anti-climactic ringing-in of the new year – a blast of amplified feedback to prepare a clean slate is not what the general New Yorker, who is already barraged with noise in their daily routine, desires. The family-friendly environment of Moorman's festival was not really a part of *Fontana Mix-Feed*, which was a piece that remained antagonistic to the audience. While this noisy work was one of the artist's first encounters with a general public, he would tame and refine the sonic encounters going forward and leave behind the 'extreme' theoretical baseline of his background in new and avant-garde music. Neuhaus later worked with the NYC Department of Parks on another Happening in 1967: *American Can* (1967) was advertised as part of the "Sno-Or-No-Sno Ball," which took place at Clove Lakes Park on Staten Island.³²²

Incidentally, the work was joined by another happening: Kaprow, Claes Oldenburg, Gerd Stern, and Ken Dewey organized *Hovering*, which entailed the hovering of a helicopter over the Central Park Mall at midnight in celebration of the new year. The helicopter projected a light show down to the audience in "tribute to Commissioner Hoving" for supporting the arts.³²³ Ironically, the official "curator" of Central Park, Henry Hope Reed, did not approve of the so-called "Hoving Happenings" that marked 1966. Despite the fact that the commissions drew thousands of people into the park, Reed complained of the "grotesque travesties" supported by the commissioner.³²⁴ No doubt Reed would have been suspicious of Neuhaus adding noise to the

³²⁰ See "New York City Department of Parks Press Release #199." December 29, 1966. See also: http://home2.nyc.gov/html/records/pdf/govpub/42581966_press_releases_part4.pdf

³²¹ NYC Department of Parks Press Release #199. December 29, 1966.

³²² "Sno-Or-No-Sno Ball To Be Held at Clove Lakes Park on Sunday." New York City Department of Parks Press Release #222. February 2, 1967. http://home2.nyc.gov/html/records/pdf/govpub/42591967_press_releases_part1.pdf

³²³ NYC Department of Parks Press Release #199. December 29, 1966.

³²⁴ See Rosenzweig, Roy and Elizabeth Blackmar, *The Park and the People: A History of Central Park*. Cornell University Press, 1998: 498-492; Joseph Viteritti, *Summer in the City: John Lindsay, New York, and the American Dream*. Baltimore: Johns Hopkins University Press, 2014.

din of the city, particularly the park as a space of respite. The Central Park event highlights the transition of Neuhaus away from the concert halls of New York City and its public space. In particular, the years 1964-1968 show Neuhaus engaging with non-musical paradigms, including the late Happenings scene, the emergent Fluxus artists, and the community forming around Judson Hall performers and Judson Church dancers. It is useful to ask *where* Neuhaus went after the concert hall – but first one might ask, *how* did he exit?³²⁵ The next chapter explores the explicit connections between Neuhaus and emergent postwar artists, specifically those affiliated with Happenings, Fluxus, and the Judson Church.

³²⁵ For a similar question of the ‘artist-percussionist’ dilemma, see Justin DeHart, *Tap Routes: The Changing Role of the Contemporary Artist-Percussionist*. Dissertation. Music. UC San Diego, 2010.

CHAPTER TWO: MATERIAL

‘But is it Music?’ Fluxus, Happenings & Anti-Musical Performance

I have been accused of desiring nothing less than the destruction of all musical instruments and even of all performers... Our new liberating medium – the electronic – is not meant to replace the old musical instruments... Electronics is an additive, not a destructive factor in the art and science of music.³²⁶ [Edgard Varese]

[Percussion] music’s future is precisely in areas which [are] its failure... the whole notion that percussion music has to do with percussion *per se* is [a problem].³²⁷ [Morton Feldman]

[Electronic circuitry] is the most flexible material that I can work with as a musician.³²⁸ [Max Neuhaus]

Defining the musical, anti-musical, and post-musical

Max Neuhaus soon moved against his musical training. Neuhaus received his M.A. in music, specializing in percussion performance, in 1962. By 1963, Neuhaus was working around, if not as part of, the emergent Fluxus movement.³²⁹ These diverse connections and experiences, such as his role as an accompanist for the Judson Church dancers and performing in Karlheinz Stockhausen’s *Originale* (1964), influenced directly his artistic output. By 1963, Neuhaus’s performance practice was thoroughly engaged with the postwar *avant-garde*. The works that he realized and eventually composed, despite his rejection of the term, sought to negate, challenge and subvert the conventions of musical composition, performance, and spectatorship.

Specifically, Neuhaus was no longer interested in standard performance which he viewed as limited to the confines of the “proscenium situation.” He began to explore musical activities that existed beyond the musical, social, institutional, and even political conventions of Western music. Many of the works by Neuhaus discussed in this chapter, as well as those by other artists such as Philip Corner, Jim Tenney, and Alison Knowles, actively threatened the integrity of music as a refined, and isolated, discipline. Such works were in part or entirely *anti-musical*, a category defined by its conscious negation of musical materials, forms, and concepts. In 1968, Neuhaus rejected percussion music, and musical performance, altogether, instead entering a

³²⁶ Varese, 1966.

³²⁷ John Cage and Morton Feldman. “Conversation with Morton Feldman.” Res 6 (Fall 1983): 122.

³²⁸ Neuhaus quoted in *Radio Net* (NPR, 1977). Video.

³²⁹ A Fluxus advertisement dated to 1963 is found in the artist’s personal effects in the MNP, along with concert programs from the same year. Neuhaus likely encountered Fluxus between 1962 and 1963, a period when he also began collaborating with Philip Corner at the Judson Church. See MNP, Box 7, Folder 2.

realm of *post-musical* sound art largely symbolized by his creation of a continuous and non-performative paradigm of *sound installation* (a primary theme in Chapter Three).

In relation to Fluxus, and the immediate wake of Happenings from which it first sprung, Neuhaus questioned the artistic and social values of the concert hall (after four years of studying with Paul Price). Neuhaus repeatedly refer to the concert hall setting as a “proscenium situation,” referring to an architectural and social condition. The word ‘situation’ orients the idea of musical performance not as the simple *performance of music*, but rather the *performativity of music*. In particular, this performativity inscribes “proscenium situation” as the concrete hierarchy of composer, performer, and audience. The musical score is the glue that binds the composer, performer, and audience. The score contains the sonic architecture for a performance, but it also circumscribes the actions and meanings of the listeners, including the performer. One of the defining features of Neuhaus’s practice is his demise of the score as an artistic foundation. In addition to leaving the concert hall, and the proscenium situation, the rejection of scores altogether opened new artistic territory to Neuhaus, especially one that is not only indeterminate (after all, scores can be indeterminate) but also non-developmental, generative, and social.

There are two notions of the score to consider here through the lens of musical semiotics: the first aligns with Saussure’s binary of signifier/signified while the other aligns with Pierce’s tripartite system of signifier/signified accentuated by time (and change of meaning).³³⁰ In the first, a musical score represents a coded relationship that is stable and verified over time: a performance of a Bach cantata will change minimally from performance to performance, possibly for over a century or more. In contrast, the second model presents a type of score that, adjusted by an unstable recoding of meaning, will shift drastically from one performance to the next, even possibly between two realizations on the same program. Neuhaus found respite from the conservatory in three paradigms: the late Happenings scene that developed from the practice of Allan Kaprow (an extension of Cagean performance); the anti-music practices of the Fluxus group; and the dance-oriented sonic theatrics of Judson Hall and the Memorial Church. Neuhaus synthesized Kaprow’s Happenings, Higgin’s *intermedia*, and George Brecht’s *event score*, with expert musical experience to arrive at a new model of sonic art. As such, Neuhaus engendered sound as a *musical*, *anti-musical*, and *post-musical medium*. This chapter considers the anti-musical work of Neuhaus as he leaves the concert hall, encounters artists around the Happenings, Fluxus, and Judson Church scenes, and develops an idiosyncratic and *post-musical* practice of circuit-based sound installation and continuous sonic environments. The chapter follows the transition of sound from musical to material medium.

Against music

Electronics & Percussion (1968)

By 1968, Neuhaus was one of the leading solo percussionists in the world.³³¹ There were few others that could have performed the increasingly complicated solo percussion works with the physical dexterity and enthusiasm of Neuhaus. Neuhaus became famous for his realization of compositions by Cage and Stockhausen, but he also premiered many others works by the New York School group, specifically Morton Feldman and Earle Brown (and their young protégé

³³⁰ In this perspective, I am indebted to the scholar Seth Cluett.

³³¹ See DeHart, 2010.

Robert Moran). He also performed works from the emerging class of Fluxus composers, such as Philip Corner, and their counterparts such as Joseph Byrd and the ONCE Group (in Ann Arbor).³³² I have so far focused on his various live performance activities – and his “activities as a solo percussionist” – and studio recording sessions. Neuhaus often was the first person to premiere these difficult works, many of which utilized new methods of graphic notation, which changed from score to score (a dynamic and vector oriented methodology that Neuhaus later adopted for his sound installation practice, never composing the work outright prior to its on-site realization). Those who did match the success of Neuhaus, such as David Tudor in the United States and Christoph Caskell in Germany, were rare and often shared the stage with Neuhaus, metaphorically and literally. Neuhaus was quite actually one of the best percussionists in the world and between 1962 and 1968 he toured within the U.S. and throughout Europe with the likes of Cage, Stockhausen and also Pierre Boulez. These three composers were of the most famous internationally and Neuhaus was a regular feature in the production of their anticipated works. Neuhaus, still in his mid-20s and at the height of his career up to that point, stopped performing. Like Neuhaus, Caskell was protégé of Stockhausen. He repeatedly studied with the composer at Darmstadt and also gave the world premiere of *Zyklus*. Caskell performed the work live throughout his career and recorded it repeatedly.

The infamous album *Electronics & Percussion* – usually referred to in some variation of ‘the one with the shirtless hippy on the cover’ – is a seminal recording of live improvised electronic music. The record was also described by Neuhaus as his last musical work. We have, then, a tension: the record represents the culmination of Neuhaus’s musical career, toward which he had devoted his adult life up to that point, yet it also symbolizes a very real departure from the world of music, both the concert hall and the recording industry. From this point onward, Neuhaus immersed himself in the world of the visual arts, finding home within the burgeoning New York City avant-garde scene. I have already discussed many of the compositions on this album, but here I want to focus on the album from a social, and sociological, point of view. How did this album symbolize Neuhaus’s departure from music? Did it actually achieve this departure – or was this a retroactive assignment of meaning that followed the establishment of his non-musical career? How did it come to being in the first place? Why did Columbia have any interest in live electronic audience – and who was the audience?

Neuhaus publicly claimed that the year 1968 was the moment when he “ceased activities as a solo percussionist.”³³³ The occasion, as discussed in this chapter section, was capped by the release of *Electronics & Percussion*.³³⁴ The album was released by Columbia Masterworks as part of their new series *Music of Our Time*. The series was a short-lived (but extensive) project to showcase contemporary music by American composers. The series, which featured works of experimental and electronic music, was overseen by the composer David Behrman, another artist that developed homemade electronic circuits and circuit systems. Behrman, who had worked in publishing, said of the project:

³³² For more on the ONCE Group, see: James, Richard. “ONCE: Microcosm of the 1960s Musical and Multimedia Avant-Garde,” *American Music*, Vol. 5 (Winter 1987): 359-390.

³³³ This phrase was used repeatedly by Neuhaus on his biographical documents, artist statements and CVs.

³³⁴ It’s worth pointing out too that Walter Carlos’s seminal *Switched-On Bach* LP was released by Columbia Masterworks in 1968 as well. This album was one of the first commercially successful album of electronic music, composed entirely on the Buchla synthesizer. The difference between Carlos’s and Neuhaus’s approach to electronic music is striking. See Walter Carlos, *Switched on Bach*, Columbia Masterworks – MS 7194, 1968. Note also the close proximity of their catalogue numbers: MS - 7139 (Neuhaus) and MS - 7194 (Carlos).

I happened to join Columbia Records at an opportune moment in the mid Sixties. Goddard Lieberman, the president, was a man who knew the arts very well... and cared about much more than profits. Music was changing fast and it was clear that unexpected new things would emerge, but nobody knew from where. John McClure, the director of Columbia Masterworks, gave me the go-ahead to produce some albums of new music, provided that they weren't too expensive.

There were over fifty artist-centered albums released in the series: Neuhaus's *Electronics & Percussion* (1968); Stockhausen's *Mikrofonie* (1967); Conlon Nancarrow's *Studies for Player Piano* (1969); Terry Riley's *In C* (1968); Harry Partch's *The World of Harry Partch* (1969); Morton Subotnick's *Touch* (1969); Jacques Lasry's *Chronophage* (1969). There were also a few compilations, such as *Extended Voices* (which featured works by Pauline Oliveros, Alvin Lucier, John Cage, Robert Ashley, Toshi Ichyanagi, and Morton Feldman). In this same year, Columbia also released the seminal album *Live/Electric Music* (1968) by minimalist composer Steve Reich. Behrman continued his recollection of the project, emphasizing the first recording:

The ones I was able to do ended up as part of a series called 'Music of Our Time'. The Terry Riley 'In C' recording came about because there was a group of musicians in Buffalo who were close to Terry, loved the piece and were performing it anyway. It wasn't too difficult to arrange some recording sessions on one of the Buffalo group's frequent trips to New York. Recording and producing that piece was wonderfully enjoyable. It was the first time we'd had the chance to work with multitrack recorders. 'In C' was beautifully suited to multitrack recording.³³⁵

Neuhaus's release was viewed – by the artist's own intention – as his departure from the musical realm, specifically of percussion performance. Neuhaus claimed that the album represented his “cessation of activities as a percussionist,” which was the focus of his career, and artistic fame, for a decade.

The general interpretation of this decision was that he somehow abandoned music or totally stopped performing altogether upon the release of *Electronics and Percussion*. This sentiment has retroactively informed our knowledge of early performative pieces like *LISTEN* (1966) and *American Can* (1966), which, being transitional, were at the time still considered as works of music (whether *anti-musical*, as we will see, or otherwise). For example, *American Can* pursued a percussive quality through its emphasis on metallic timbres, which were produced by literally kicking commercial aluminum cans on the ground. Neuhaus's trained percussion practice was undermined by a consciously deskilled practice, a condition of both *post-Cagean aesthetics*, as defined by Liz Kotz, and the general rejection of modernist form by many postwar artists. The *anti-musical* content is derived from the artist's direct negation of his own musical expertise and the audience's presumption of musical intention. Nevertheless, the work remained explicitly connected to musical ideas, techniques, and materials. (For example, the German word for *drum* is *schlagzeug*, or, literally, *beating thing*. Likewise, the use of a metallic material gave a *timbre* similar, yet different, to the cymbals of a typical percussion setup.) However, the exact relationship of Neuhaus's “cessation of percussion activities” and concurrent career as a solo

³³⁵ See Gross, Jason. “Interview with David Behrman.” *Furious*. 1997. Web. Accessed May 10 2016. <http://www.furious.com/perfect/behрман.html>

performer raises chronological questions that this chapter seeks to address. When did Neuhaus truly stop being a solo percussionist? Did that cessation also include ensemble percussion? Or concert music performance? Performance entirely?

Electronics & Percussion, one of the earliest recordings of both *live electronic* and *noise* music, assaulted the Western musical traditions. The five recordings on the disc provided a rich introduction to new electronic music, opening up this once niche field of musical activity to a broader commercial audience. The album featured electronic-oriented compositions by leading avant-garde composers including Stockhausen, Earle Brown, Morton Feldman, Sylvano Bussotti, and John Cage. The compositions realized on this album were at the time innovative for their use of live electronics, as the field of electronic music had until the 1960s been composed in the studio and “performed” via fixed media audio recordings.³³⁶ These works also circumscribed the artist’s primary repertoire (as discussed in Chapter One). Incorporating electronics into the realization of these works – some of which did not require them – provided a more visually and sonically engaging performance. The formal and timbral openness afforded by the electronic instruments, many of which were customized or specifically designed for the piece, revitalized musical performance and provided Neuhaus an early encounter with custom electronic circuitry (the technical basis of later *sound installation* works). For example, the five works on the album, such as Stockhausen’s *Zyklus* (1958), utilized a mixture of acoustic and electronic instrumentation, referred to as *electroacoustic*, to produce a modified form of partly-improvised composition and performance. Through this electroacoustic realization, the works became less about reproducing a particular score and more about the human-instrument interaction, especially the perceived unwieldiness of electronic media (and in Neuhaus’s realization of Cage’s *Fontana Mix*, the deliberate use of feedback noise).³³⁷

Most of the recordings were produced by Neuhaus in live concerts. The only track that was recorded in the Columbia Records studio was *Zyklus*, which was at once the piece for which most people knew Neuhaus and which first gave him international fame.³³⁸ However, Neuhaus was publicly ridiculed by the composer over the piece. Stockhausen told the audience at its U.S. premiere that he ultimately had no control over what “this young American” would do to his famous composition.³³⁹ One critic who attended the concert – which was supposed to be a lecture called “The Development of Musical Form Since 1951” – recalled that the composer ominously told the audience prior to the performance: “I’m as curious to hear what he does with the piece as you are.” In Neuhaus’s own words:

I went to Darmstadt [in 1962] where Stockhausen was teaching and started to talk to him about [*Zyklus*]. He was interested in the fact that I had done so much work on it. When he decided to do this tour in the U. S. he asked me to perform the piece. He had just had some arguments with [Christoph Caskel]. He was probably

³³⁶ The concept of ‘fixed media’ refers to such concerts of electronic music from the 1950s. Such works came from the German and French traditions of *musique concrete* and *elektronische musik*, and were presented as fixed sonic documents, captured on a storage medium, which was simply played back to the audience rather than re-performed. The live performance of electronic music was not technologically or culturally available until the mid-1960s, following new portably audio technologies and post-Cagean acceptance of noise and improvisation.

³³⁷ Northwestern University archival description. https://www.worldcat.org/title/couer-pour-batteur-positively-yes/oclc/869469859&referer=brief_results#borrow

³³⁸ Neuhaus made at least two recordings of Cage’s *Fontana Mix-Feed* in April and June of 1968, but neither ended up on the finished album. See Appendix.

³³⁹ Neuhaus, Max. “Notes on Place and Moment2.” Unpublished digital text file. 2000.

just interested in getting two percussionists to play it, working us against each other. Anyway he came over to New York to hear me play it, but he wasn't satisfied that my improvised forty-minute version; it was too long... he was such a bastard about it [and] made me mad enough that I was determined to teach myself how to do it for this tour. I had six months. I got it down to seven minutes and I was improvising it; I wasn't writing out a score. I'd done it both ways.³⁴⁰

Incidentally, Caskel was in New York for this concert and even performed on Stockhausen's Refrain (and possibly Kontakte), though he did not stay with the composer for the duration of his 1964 American tour. Despite Neuhaus's persistence and obvious talent in performing the piece live – he was the fourth person in the world and the only American to do so at this point – the artist still felt unappreciated by the composer:

Stockhausen still had this doubt that I could ever play [*Zyklus*] really well. The first concert was in New York at Hunter College. I was the first piece on the program. He walked out on the stage; he essentially disowned me. He said: "I have one musician here who is a young American; this piece is very difficult; it's not my responsibility; it's up to you." And I was backstage and I heard him do this. I was just livid. And this piece took a tremendous amount of energy and control. It was just what I needed; all that adrenalin came in there. I went out there [and] played the shit out of it.³⁴¹

Stockhausen greatly disliked Neuhaus's version of the piece, which he thought was too loose in technique and too long. Neuhaus first played for the composer a forty-minute version, which the latter disallowed him to perform on their American tour.³⁴² Stockhausen also did not publicly direct people to Neuhaus's 1963 studio recordings.³⁴³

In a repress of these recordings by Wergo in 1977, the first on the label to not be paired with Caskel, the liner notes by Stockhausen do not mention the artist by name. Instead of Neuhaus, the composer referred to Caskel, even including a reference to a "long version" of twenty-four minutes (which was synchronized to film, much like a similar experiment by Neuhaus with Phill Niblock). Callously, Stockhausen could not even speak of Neuhaus's version on the artist's own release. Is there any significance to Neuhaus re-recording *Zyklus* for *Electronics & Percussion* in 1968 at the twilight of his career? Did he know of the 1977 re-release on the Wergo label (which partnered with Columbia Masterworks for international distribution)? What does it mean that the version on his album – which symbolized his departure from music – included his improvised and "spontaneous" version instead of the practiced repertoire version? Was this recording meant to make amends with, or provoke, the composer)? The album represents not only Neuhaus's departure from the concert hall, and Western music broadly, but specifically the hierarchies and power structures that circumscribed the field of *new* and *avant-garde music*. The free-spirited attack on the musical conservatory, which for Neuhaus also included Stockhausen and Cage, reflected the artist's view of *new music* as an artistic prison.

³⁴⁰ Neuhaus, Max. "Notes on Place and Moment2." Unpublished digital text file. 2000.

³⁴¹ Ibid.

³⁴² Ibid

³⁴³ Ibid.

Neuhaus symbolized his newfound sense of freedom not only in the extreme music that filled the album, but also depicted it visually on its cover. The cover features a photograph of the shirtless Neuhaus, long-haired and engulfed by his percussion instruments, consciously placed behind three large speakers. The speakers are topped with electronic boxes, the power cords and audio cables of which hang loosely and uncontrollably downward (visually recalling the patch-bay aesthetics of modular synthesizers and the formless *post-minimal* sculptures of Eva Hesse and Robert Morris). The photograph is cropped in a tight series of concentric circles, rendered in thick black lines that burble outward as an acoustic wave (or radiation blast). This bombastic cover contrasts more common art direction found on classical music releases, which by the late-1960s featured tepid Impressionist paintings, austere modernist typographic design, or Abstract Expressionist vignettes. The psychedelic design of *Electronics & Percussion* tapped into a visual language of 1960s counter-culture. *Electronics & Percussion* was described by Neuhaus, and nearly every person who writes about his work, as his final musical statement – a fatalist death knell to *new music* as a field, and, personally, years of strict conservatory training and jet-setting international performance. By the time of its release, Neuhaus was one of the world’s leading solo percussionists (a modality of new classical music that, as discussed, was niche despite a flourishing of activity at the onset of the 1960s).³⁴⁴ Neuhaus was an early purveyor of the genre and among few musicians who were technically skilled enough to realize the incredibly difficult, or interpretive, scores (many having been written for him). Yet upon the release of his LP – an ultimate musical statement – Neuhaus was already finished (and had not performed consistently for over a year). Neuhaus was by then already deep into his transition, having realized pieces such as *Listen*, *American Can*, *Drive-In Music*, *Fan Music*, and several versions of *Public Supply*. Neuhaus never released another commercial album following *Electronics & Percussion*. The artist instead aligned his practice with the explicitly anti-corporate aesthetics of Happenings, Fluxus, postmodern dance, and performance art. Neuhaus also believed that audio recording was useless in service to new sonic art. He characterized it as an unfaithful reproduction that could not provide a genuine experience of the live, and durational, sonic events that he created. Indeed, the works that Neuhaus produced at this time were bound to the specific characters or contexts of their site of location (and, later, became consciously *site-specific*). As argued by David Grubbs, Neuhaus’s critique of the vinyl record was embraced by similar artists who operated in the wake of Cage. These figures, including Cage himself, compared audio recordings to photography: a mediated experience – something *representational* rather than *actual*.³⁴⁵ (As I discuss in Chapter Four, Neuhaus’s encounter with electronic mediation, including the vinyl record and radio, was a complicated and contradictory endeavor.)

In addition to *Electronics & Percussion*, the year 1968 had other notable albums in the history of electronic music, such as Reich’s *Live/Electric Music* (Columbia Masterworks); Wendy Carlos’s *Switched on Bach* (Columbia Masterworks); and Paul Beaver & Bernard Krause’s *The Nonesuch Guide to Electronic Music* (Nonesuch). In the context of visual art and museum practice, the Institute of Contemporary Arts printed a LP/catalogue for the exhibition *Cybernetic Serendipity*. The album provided a non-commercial venue for electronic music and sound experimentation. There were many major and independent labels that produced electronic music records, many of which fall beyond the scope of this research, but Columbia Masterworks

³⁴⁴ Solo percussion itself was a rare musical form, making Neuhaus an early purveyor of the genre, which is still relatively niche today.

³⁴⁵ See Grubbs (2014).

was a key institution in the commercialization of electronic music. Behrman used Music of Our Time to commission and release music by friends and colleagues, providing studio and financial resources to artists whose work was difficult to market and thoroughly anti-commercial. As Kenneth Goldsmith noted in his short essay, “David Behrman: Composer as Record Producer,” Behrman exploited the economic successes of the Columbia Records roster, such as The Byrds and Bob Dylan, to support the musical *avant-garde*.³⁴⁶

Carlos’s *Switched On Bach* was also released by the major label subdivision Columbia Masterworks and shares a close catalogue number with Neuhaus’s album. Each came out within months of the other, and these two records pose radically different perspectives on the artistic creation and the market orientation of electronic music in the late 1960s. By this year, electronic music was not new. Concert hall “performances” of electronic music were staged since the early late 1950s via audiotape, but it was not until the mid-1960s that *live electronic music* was technically feasible.³⁴⁷ The habituation of electronic music – recorded or live – took time in the public sphere.³⁴⁸ The difference between *Electronics and Percussion* and *Switched on Bach* is obvious: one is an anti-commercial album of *live electronic music* situated at the extreme borders of musical composition and performance, especially in its use of noise, while the other was an overt attempt to make market-friendly album of pre-recorded electronic music by transposing the compositions of J. S. Bach for the Buchla.

The hesitation toward electronic music was also felt among the institutions of visual art. For example, let us consider an album of tape music, also released in 1968, by the composers Vladimir Ussachevsky and Otto Leuning. The composers worked at Columbia University and established the famed Columbia-Princeton Electronic Music Studio (EMS), one of the earliest electronic music studios in the United States.³⁴⁹ The record, *Tape Music: An Historic Concert*, featured recordings of works featuring mixed orchestral and pre-recorded electronic sound. The concert took place at the Museum of Modern Art in 1952 (over two decades before Neuhaus was himself invited to the museum). One review of the concert began with a terse and dismissive claim: “The stage was cleared of musicians for a time last night at the Museum of Modern Art,” a challenge to the notion that electronic music, produced by machines, could in fact be music at all.³⁵⁰ The reviewer continued: “All one can say... is that at odd moments [the] patterns of sound were striking or amusing,” a belittling statement followed by cynicism on “tape recorders” and “magnetic tape” that produced a “doodling in sound.” These sounds, the reviewer argued, wasted “the time and nerves of performers,” and likely also for the writer, the audience.³⁵¹ If Neuhaus desired to enter the domain of visual art, it could not be through electronic music.

However, the envisioned market for *Electronics & Percussion* was not the academic composers of *new music* (who may have actually liked Ussachevsky’s and Leuning’s “doodling in sound.”). The record no need to convince those who were already interested in the *new music* scene. In contrast, Music of Our Time series intended to widen the popularity of *new music* to an unfamiliar audience. As such, depicting Neuhaus shirtless with long hair, bound by psychedelic

³⁴⁶ See Kenneth Goldsmith, “Don’t Quite Your Day Job.” *New Music Box* (April 1, 2000). Web. Accessed April 20, 2016. <https://wfmupopular.org/~kennyg/popular/articles/behрман.html>

³⁴⁷ See Stockhausen, “Electronic and Instrumental Music,” 1958.

³⁴⁸ Despite the fact that today electronic music is one of the leading musical paradigms, both within and beyond the commercial market

³⁴⁹ Along with those at Mills College, the University of Indiana, York University and SUNY Stony Brook.

³⁵⁰ See Howard Taubman, “U.S. Music of today Played at concert – Two Works Presented on Tape Recorded Provide Novelty – Stokowski is Conductor,” *New York Times* (October 29, 1952).

³⁵¹ Ibid.

imagery, was also a marketing tactic employed by the label to draw in the counter-culture youth of 1968, including the rising rock-and-roll market. Ironically, Neuhaus did not even own a record player.³⁵² Nonetheless, his album presented *new music* in a youth culture package, despite the fact that the composers whose works are on the album were established composers. In order to make up for this age and cultural difference, Neuhaus was transformed into a youthful jolt that could revitalize classical music sales, specifically the dwindling percussion market.

Furthermore, some editions of the album included a second complimentary disc.³⁵³ The seven-inch insert included six excerpts of music, none of which was realized by Neuhaus. The miniature album, *The Wild Sounds of New Music*, was a compilation disc that included works by two young composers of the emerging minimalist genre, Terry Riley and Steve Reich, along with four works by established figures: Luciano Berio, Conlon Noncarrow, Harry Partch and a group called Lasry-Baschet.³⁵⁴ While Berio was a celebrated composer of *post-serial* electronic music, Noncarrow, Partch and Lasry-Baschet were relative outsiders from conservatory and academic perspectives. The latter three also built their own instruments and original musical styles. Partch appropriated non-Western music, using semitones (rather than the Western well-tempered scale) to write percussive and rhythmic music on customized instruments. Noncarrow modified a automated player piano, an outmoded domestic instrument, to produce mechanically fast-paced atonal music. Lasry-Baschet designed new instrument constructions that used metal and glass to redefine existing methods of performing the classical music repertoire (much like Carlos had done with their synthesizer rendering of Bach). The pieces (and their approximate durations) included on the miniature album are:

- C1 –Terry Riley A Rainbow In Curved Air 3:20
- C2 –Structures Sonores Lasry-Baschet Chronophagie 1:30
- C3 –Harry Partch Castor & Pollux 2:36
- D1 –Luciano Berio Sinfonia: Section III 2:46
- D2 –Steve Reich Violin Phase 2:04
- D3 –Conlon Nancarrow Study # 7 2:22³⁵⁵

These durations highlight a total shortening of the original music, a condition of the vinyl record format that, as Grubbs argued, was a defining argument against recorded music. The distrust of the LP was particularly held among composers and performers of improvised music who worked with long durations. The true nature of durational piece, especially one that is spatially oriented, cannot be preserved on one side of a forty-minute LP (and much less a fifteen-minute 7").

For example, consider Riley's "A Rainbow in Curved Air," which is a canonical example of 1960s musical Minimalism. The excerpt on the promotional disc, which was clearly an early advertisement for the full length album, was cut to three minutes. The full recording was later released by Columbia Masterworks in 1969 and lasts just under nineteen minutes (taking up the majority of one side of the LP). Similarly, Reich's "Violin Phase" was cut to just two minutes. The original recording, released on his 1968 album *Live/Electric Music*, lasts nearly twenty-four minutes. The purpose for such cuts were not artistic, but commercial and proprietary: the record

³⁵² Oral interview with Alanna Heiss. See Appendix.

³⁵³ Exact edition is unknown.

³⁵⁴ Lasry-Baschet was a four-person group made up of two brothers, Bernard Baschet and Francois Baschet, along with the wife-and-husband Yvonne Lasry and Jacques Lasry.

³⁵⁵ See Various Artists, *The Wild Sounds of New Music*, Columbia Masterworks - BTS 17, 1970. Vinyl (7").

label owned the recordings and could release, or license, them as desired, regardless of artistic intentions. The promo disc exploited Neuhaus's LP to build a consumer base.

Using musical excerpts only seeks to build a market audience among listeners who are not already informed of recent developments in *new music* (and, specifically, the *avant-garde* strain). The promotional record had two clear purposes. First, the album redefined the public perception of classical music by including perceived outsider artists. Secondly, the album cast contemporary avant-gardism as an extension of studied genealogies (e.g., musical Minimalism stood at odds with conservatory music because it flirted with both psychedelic rock music in its use of amplification and contemporary visual art in its focus on repetition and process). The label leveraged diverging potential audiences as a market for both existing and future music from their classical holdings and commissions.³⁵⁶ Notably, the only pieces to include electronic instrumentation are Reich and Riley; the others are acoustic (with the exception of the electricity needed to power Noncarrow's automated piano). The positioning of Riley and Reich (60's avant-garde) with Partch and Noncarrow (40's avant-garde) poses an alternative path for understanding contemporary musical practice, particularly to link contemporary electronic practices with older acoustic music. Furthermore, casting the album as "wild" (and portraying a scrappy Neuhaus on the cover) further highlights the advertising schema of Columbia Masterworks, which sought to harness an emerging youth market to which it could rebrand electronic music as a new form of psychedelic (rather than its actual stuffy origins in engineering, academic music, and telephone research).³⁵⁷ Depicting orchestral instrumentation and musical scores behind the artist – *Zyklus* is visible – also nodded to the existing classical music market, and oriented the album as a bridge between canonized and contemporary experimentalism. By pitching the album to two diverging markets, the label positioned itself to move back-stock from older composers while promoting, or exploiting, their young descendants.

As an example of a popular reaction to electronic music, we can briefly consider Jon Appleton's *Appleton Syntonic Menagerie* (1969).³⁵⁸ The album used *musique concrete* techniques, such as tape loops and sound collage, to appropriate commercial advertisements and clips from radio and television. The comedic tone of the LP, which featured a Dr. Demento-style cartoon on its cover, positioned electronic music as accessible rather than counter-cultural. The record was nevertheless produced in the Bregman EMS at Dartmouth College, a staid model of electronic music composition similar to what was established at the Columbia-Princeton EMS (where Appleton studied in 1965).³⁵⁹ The composer and record label clearly anticipated the market resistance to electronic music. *Appleton Syntonic Menagerie* courted both popular and academic audiences and consciously highlighted the challenged status of electronic music in postwar American culture: electronic music was often heard as a consumer marketing gimmick, as an inquisitive sci-fi cinema or psychedelic wonder, or else it was the serious work of academic

³⁵⁶ Interestingly, the others artists included are of a similar generation to Stockhausen, Cage and Cowell, but were never institutionalized or canonized in the same way.

³⁵⁷ See Sterne (2012).

³⁵⁸ In actuality, the introduction of electronic music to the wider popular audience, aside from its recurring role in sci-fi and horror films, was largely by The Beatles. The band's self-titled album *The Beatles* (1968) (otherwise known as the *White Album* due to its blank cover) contained a long-form sound collage interlude, "Revolution 9." The penultimate track on the fourth and final side of the album that was perhaps the first introduction of the band's many fans, and Americans in particular, to electronic music. See Jon Appleton. *Appleton Syntonic Menagerie*, Flying Dutchman FDS 103, 1969. LP.

³⁵⁹ Appleton founded the Dartmouth studio, where he was a faculty member at the time. See <http://www.appletonjon.com/>

composers grounded in scientific research (an image that recalls the 1950s paradigm of white-coated German technologists and electrical engineers). On “Newark Airport Rock,” the taped voices of people in public were spliced together to form a consistent stream of chatter (layered over collaged jazz and dance music accented with electronic sound). Each person was asked the question: “Have you heard new electronic music?”³⁶⁰ The following responses appear on the recording:

“I haven’t the faintest idea.”

“I’ve never heard of it, I’m sorry.”

“It sounds very good, it’s relaxing... [but] what is ‘new electronic music’?”

“I like it very much, but I wish I could understand it completely.”

“Well, it isn’t particularly disturbing... I rather enjoy some of it, but some of it gets a little loud, and gets on your nerves.”

“You talking about taped music? I have a tape machine. It’s excellent.”

“The ‘new’ what?”

The responses reveal a wide array of popular impressions of electronic music in the 1960s, from the vantage of a broad public to which Neuhaus and other postwar artists engaged.

Appleton’s research was done in the context of an artistic composition and not an objective study, but the ideas expressed give an evocative picture of how this music was perceived outside of the world of *new music*. At the end of the piece, the final comment, “I think it’s a beautiful thing... I think it’s really nice” is repeated thrice, while the phrase “I don’t like concert music” is repeated twice. The track ends at with a slow rhythm section breakdown with a plodding bass line, as if it were a live performance. The joke being, of course, that the composition was clearly artificial. The sentiment celebrates the artistic (and commercial) potential of popular electronic music (as the pianist Glenn Gould prophesized in his 1966 essay “The Prospects of Recording,” which predicted the rise of electronic music and the death of concert hall performance).³⁶¹ The repetition of “I don’t like concert music,” functions as a critique of conventional classical music and the concert hall (and thus Neuhaus’s newly abandoned “proscenium situation”).

Neuhaus, Happenings and Fluxus

The *anti-musical* Neuhaus narrative continues, as discussed in this dissertation, along the path of sound installation (Chapter Three) and extends to his networked sonic media practices (Chapter Four). The works produced within these artistic areas are today primarily the work for which Neuhaus is celebrated, leaving both the early quasi-musical experiments behind and, largely, the explicitly musical output is silenced. The oversight, as addressed in this chapter, was partly Neuhaus’s own fault. As the artist developed his later sound installation practice, first

³⁶⁰ The question suggests firstly that there is a *new* electronic music, as opposed to an *old* electronic music, and positions itself as separate from the studio compositions of the 1950s. One distinguishing feature of new electronic music is its capacity to be performed and composed live, rather than only being pre-recorded and played back on audiotape. Stockhausen predicted live electronic music in his 1958 essay “Electronic and Instrumental Music,” and as we have seen the genre flourished in the 1960: the first half with homebuilt circuit devices and instruments, such as those used by Tudor and Neuhaus, and in the second half with non-commercial (and then commercial) synthesizers, such as the Buchla and Moog.

³⁶¹ See Gould, “The Prospects of Recording,” 1966.

materialized in the subway work *Walkthrough* (1974), his earlier body of anti-musical work was cast aside or rewritten. In aligning his transitional works in their move toward sound installation, rather than a lingering connection to a music, the artist gave contemporary historians a license to look and listen elsewhere. In fact, however, the musical tradition of Neuhaus did not actually end with *Electronics & Percussion*. The musical lineage of Neuhaus continued along an unexpected tangent somewhat parallel to the development of *site-specific* and spatial sound environments. These latter works became his central brand – the artist often claimed to have “invented” sound installation – but it was in fact not singular. The musical specter followed Neuhaus over the subsequent decades. On the one hand, the musical frame was rhetorical fodder for Happenings and Fluxus-inspired artworks in which the musical traditions, and his musical education, were dialectically opposed to new forms of *anti-musical* composition. Notably, his emergent concept of sound installation came from these activities.

The musical paradigm too persisted in his work in much clearer, even traditional ways. However, today the artist’s 1960s works such as *Drive-In Music* and *Fan Music* – supposedly the foundation of *sound installation* – contradict their status due to lingering connections to musical forms, concepts, cultures, and institutions. We can better understand the original context of these works in their connection to Happenings and Fluxus, two paradigms that adopted Neuhaus as he began to question, but had not yet abounded, the concert hall (and eventually performance). These works also situate Neuhaus’s concept and practice of sound installation not as a sole act of artistic genius, but within the explicit contexts of existing and alternative conversations on materiality, composition, and spectatorship.

Emerging Fluxus

In the same year that *Electronics & Percussion* was published, Neuhaus also partook in a radical Fluxus performance: Dick Higgins’s infamous “Danger Music,” an absurdist event score that requires a quick, seemingly violent, straight razor shaving before an audience.³⁶² Neuhaus’s hair was cut, his head was covered in shaving cream, and then entirely shaved, leaving behind, like his musical career, a freshly blank surface for new growth. Neuhaus later stated that he volunteered for the performance was to simply receive a haircut, as he shortly thereafter joined the recently established Bell Labs artist residency program. Neuhaus was concerned that his long ‘hippy’ hair would be too off-putting to future scientist colleagues, and might interfere with his research in electronic circuitry. Ironically, in the end the scientists at Bell Labs were apparently surprised when a clean-shaven short-haired man, and not the wild countercultural animal on the record cover, ultimately walked into the laboratory:

I [cut my hair] to give myself a fresh start so to speak, but I also thought it might be a useful disguise at Bell Labs where I just about to go. Little did I know that they had been carefully preparing everyone there (they were still dressing in the [styles of the] ‘40s) for their first ‘researcher’ with hair down to his shoulders. Open mouths upon my arrival.³⁶³

³⁶² Confirmed by photographs in an oral interview with Alison Knowles. See Appendix.

³⁶³ Neuhaus in an email to Dasha Dekleva. March 30, 2004.

A tripartite photographic portrait of Neuhaus before and following *Danger Music* was published in the magazine *Source: Music of the Avant Garde* (*Source*) in 1969.³⁶⁴ The editorial contribution by Neuhaus, “A Max Sampler,” described several works by the artist up until that point: *Listen*, *Public Supply*, *Bi-Product*, *American Can*, *Drive-In Music*, and *Telephone Access*. The publication of the sampler included photographs and other documentation and marked a transitional moment for the artist, as he consciously departed from his musical (i.e., percussion) activity. *Source* was mostly an avant-garde music magazine that featured graphic scores and text pieces by composers of *avant-garde* music. However, the magazine (ran out of the University of California, Davis) was open to *anti-musical* works that defined Fluxus.

For example, included in the same issue as Neuhaus’s “A Max Sampler” was an essay on the concept of boredom in Fluxus event-art by Dick Higgins. Titled “Boredom and Danger,” the artist described how the concept of boredom situated Fluxus as an environmental movement, one that challenged distinctions between spectator and artist:

During the 1950s many artists and composers felt a growing dissatisfaction with the conventional relationships between the spectator and the work, and it became increasingly important to them to experiment with the possible relationships... [Fluxus] performance arose from a feeling that the best of the performing arts should not be entertaining, nor should they inherently even be educational. It was felt they should serve as stimuli which made one’s life and work and experience more meaningful and flexible... This, then, was the way boredom was used in the event pieces associated with Fluxus. The environment would become part of the fabric of the piece and vice versa... environmentalism was implicit in most of the work.³⁶⁵

In this context, Fluxus events are shown as less conceptual and performative – as they are often described in art history – and more environmental and physical. Indeed, Higgins, as described in the introduction, desired art that sounded and looked the same.³⁶⁶

The characterization of Fluxus as an environmental practice is a good frame for thinking about Neuhaus’s earliest *anti-musical* activities. In turn, a consideration of Fluxus from the view of Neuhaus makes a strong case for Higgins’s own perspective. For example, Neuhaus’s *Public Supply* (1966), *Fan Music* (1967), and *Drive-In Music* (1966) do not necessarily fit in established art historical perspectives on Fluxus, which favor performative gestures over environmental art piece. Furthermore, works like *Listen* (1966) and *American Can* (1966) lay somewhere between musical performance, Fluxus events, and theatrical Happenings. Neuhaus’s art provides a clear connection between these activities and the early environmental art movement, despite the reality that the works of Neuhaus, Robert Morris, Alison Knowles, La Monte Young, and Walter De Maria were commonly grounded in Higgins’s concept of boredom. The emergence of the non-didactic focus of Neuhaus is also in this context, given the artist’s lack of interest in teaching or

³⁶⁴ See *Source: Music of the Avant Garde*, no. 5 (January 1969). Neuhaus later published information on *Water Whistle* in *Source: Music of the Avant Garde*, no. 11 (1972).

³⁶⁵ See Dick Higgins, “Boredom and Danger.” In *Source Magazine*, no. 5 (January, 1969).

³⁶⁶ For example, when Nam June Paik raises a violin above his head and smashes the instrument on a table, the audience are prompted to think about the material and conceptual structures of musical composition and its relation to performance and visual art. However, during the performance they are more likely to shield their eyes and bodies, fearful of being harmed by flying bits of wood, metal, and other materials flying off the instrument. In the moment, their position within a dynamic, and in this case potentially harmful, environment is heightened.

guiding listeners explicitly. Works such as the above, as well as the subaquatic *Water Whistle* (1971-1976) discussed in detail shortly, provided an open aesthetic environment in which to maneuver as a listener, not a particular event to witness (or a structure to be learned). These works provided an opportunity for people to “listen for themselves.”³⁶⁷

Happenings

Allan Kaprow’s Happening was also an informative model for Neuhaus, among other postwar visual artists who sought to expand their work beyond the painted canvas or sculpted object. The Happening was especially popular during the emergence of the Fluxus scene of the early 1960s, though the two paradigms are understood as distinct. Happenings were temporary groupings of bodies engaged in a common action, usually banal in nature, such as sweeping the floor of a university hallway.³⁶⁸ The significance of such work, which has a clear connection to theatrical performance, is located in its immateriality, specifically regarding the notion of impermanence. According to Kaprow, Happenings rejected concrete artistic forms for ephemeral formlessness:

The physical materials used to create the environment of Happenings are the most perishable kind: newspapers, junk, rags, old wooden crates knocked together, cardboard cartons cut up, real trees, food, borrowed machines, etc. They cannot last for long in whatever arrangement they are put.³⁶⁹

However, the role of the body is of considerable importance in this context as well, particularly as it assumes the role of medium. This is reflected by Kaprow, who states that Happenings were primarily “a moral act, a human stand of great urgency, whose professional status as art is less a criterion than their certainty as an ultimate existential commitment.”³⁷⁰ In this sense, the notion of dematerialization is evident, and the material nature of the work is understood as fleeting, non-descript, and altogether unfixed to any clear traditions of formal composition. To this end, the phrase “professional status of art” is also significant, particularly in that it reflects a widespread distrust of an exhibition complex that was understood to commodify the work of art, to exchange its use-value for surplus value, and to lower it to the status to that of a fetish object. As discussed by Richard Kostelanetz, Happenings were at first more explicitly theatrical than Fluxus performances.

The latter were less consciously scripted and involved more audience collaboration in producing the work. For example, Brecht’s *event scores* provided a general type of activity that a performer, or audience, might help realize. In contrast, Kaprow’s Happenings were largely pre-planned with specific actions dolled out to participants who realize the artist’s intentions. While the former engendered a model of engaged collaboration, the latter effectively instrumentalized spectators as actors. As Douglas Kahn has noted, these two paradigms are often conflated, but

³⁶⁷ See Max Neuhaus, “Listen.” In *Sound by Artists*, eds., Dan Lander and Micah Lexier (Toronto: Blackwood Gallery, 1990): 63-67.

³⁶⁸ Henry Sayre. *The Object of Performance*, Chicago: University of Chicago Press, 1989. 92.

³⁶⁹ Allan Kaprow, *Essays on the blurring of art and life*, Berkeley: University of California Press, 1993. 20.

³⁷⁰ Quoted as in Philip Ursprung, *Allan Kaprow, Robert Smithson, and the Limits to Art* (Berkeley: University of California Press, 2013): 88.

the amount to which a spectator contributes to the authorship of the experience is a determining factor: “collaboration entails contributing authorships.”³⁷¹ In the former, authorial contributions are understood to be relatively equal, placing the author and spectator on similar ground. In this sense, a genuine model of collaboration can be engendered, resulting in a work co-authored by a number of contributors. However, the degree to which the spectator actually contributes to the work in the latter is ultimately limited by the directions authored by the artist. Such is the case with majority of Happenings (and some *event scores*), which fall into this latter category of *participation*. Kahn claims such works ultimately “entail the input from what would otherwise be an audience.”³⁷² To this end, a genuinely collaborative method of production is disavowed, despite rhetorical gesturing otherwise. In this context, Neuhaus’s works after 1966 operated somewhere between these two paradigms, affording the listeners a great amount of determination in how they experienced a work, which ultimately utilized a form, or a frame, that was pre-planned by the artist. These early works, such as *Listen* and *American Can*, operated in the parameters of both *musical* and *anti-musical* performance (yet resting in neither).

Happenings provided a theatrical component, an off ramp, to the post-painterly artists of the late 1950s and 1960s. Rather than produce static paintings and sculptures, artists such as Kaprow, Jim Dine, and Red Grooms produced time-based theatrical environments, or situations, where boundaries of artist and spectator were challenged, or entirely erased. Happenings, according to Kaprow, merged “art and life.”³⁷³ In the 1960s especially, young visual artists like Carolee Schneemann and Claes Oldenburg took up the Happening to invigorate their artistic practices. Neuhaus approached Kaprow with similar hopefulness, but from a musical point of view rather than the painterly or theatrical tradition. In the Happening, a term that Neuhaus never actually used, the constraints of the musical score and performance were loosened, allowing the artist to create fluid sonic environments in public space. The sonic Happening for Neuhaus was a transitional step toward sound installation in its location of sound in physical space and listening in subjective time. This sentiment was also reflected in the work of George Maciunas, whose self-appointed direction of the Fluxus movement made the political undertones of Kaprow’s practice explicit:

Fluxus objectives are social (not aesthetic)... They are [concerned with the gradual] elimination of fine arts (music, theater, poetry, fiction, painting, sculpt— etc. etc.). This is motivated by the desire to stop the waste of material and human resources... and divert it to socially constructive ends... Fluxus is definitely against [the] art-object as non-functional commodity.³⁷⁴

This was done by creating works of art that were inherently reproducible, which were thus believed to work against (and perhaps defeat) what was considered a fetishistic notion of originality – a symbolic order from which works of art traditionally attained authenticity, and, in turn, market value.

³⁷¹ Dzuverovic, Lina. “The Politics of Sound / The Culture of Exchange.” Online panel discussion (January 31-March 23 2005) with Douglas Kahn, Kenneth Goldsmith and John Oswald. 29. http://www2.tate.org.uk/intermediaart/discuss/d_culture/politics1.shtm

³⁷² Ibid., 29.

³⁷³ See Kaprow, 1993.

³⁷⁴ Julia Robinson. “Maciunas as Producer: Performative Design in the Art of the 1960s.” *Grey Room* 33 (Fall 2008): 58.

For Maciunas, the work of Fluxus artists – such as George Brecht, Alison Knowles, Ay-O, and La Monte Young – was able to engage with (and engender) “socially productive” practices, thus allowing the artist to become “politically useful.”³⁷⁵ Neuhaus did not work with Kaprow or Maciunas directly as he did with John Cage, but he did encounter Happenings and Fluxus events between 1962-1963 (more or less immediately following his graduation from the Manhattan School of Music). Neuhaus was interested by the formlessness of such practices, from the perspective of postwar post-painterly art, especially the new realm of *intermedia*. Neuhaus sought to develop a similar rupture of artistic form within the context and materials of new music, and to displace sound from the traditions of music.³⁷⁶

American Can

American Can (1966-67) was among the earliest of Neuhaus’s Happenings-inspired activities which were realized beyond the concert hall. The work, like its counterpart *LISTEN* (1966), eschewed academic training for sonic intuition. Instead of performing a piece – realizing it from a score – the work was provided as a situation, or an environment, to the audience. The listeners controlled and composed the piece, which was given to them by Neuhaus as an opportunity to make sound. *American Can* existed to reorient the audience as a dynamic group, comprised of individuals, that played an active rather than passive role. The piece subverted centuries-old hierarchies of composer, performer, and audience by subjecting each to the listener. Neuhaus said of the desired acoustics and structure of *American Can*: “The ground upon which the product is distributed should be hard enough to insure that a sound is made when the product is bounced or slid along it.”³⁷⁷

Notably, the artist’s description above emphasizes the populist source of the material, tin cans, as well as its role in American commerce. In asking the attendees to ‘distribute’ the cans among the ground, Neuhaus also referred to the distribution of tin cans in economic trade, both physically via highway networks and manufacturing facilities, but also the movements of their food-product contents. The cans are equally a source of acoustic and economic noise. Furthermore, the notion of distribution had specific local context. The original pieces used cans purchased from the American Can company, a leading manufacturer of tin cans that succeeded during World War II (because of its large government contract). The company had facilities all over the United States, but its headquarters were in Manhattan and it had numerous facilities in Brooklyn and New Jersey. Neuhaus seems to have lived almost exclusively in Lower Manhattan – with an exceptional period of boathouse-living on the Hudson River and in the Florida Keys in the 1970s – but spent some time in Brooklyn and New Jersey. His expeditions are evidenced by his utility of subway lines into New Jersey in some versions of the sound walk piece *Listen* (1966). Indeed, Neuhaus also took up studio space in Jersey City in the late 1970s and started some of the *Listen* realizations underneath the Brooklyn Bridge. In regards to Brooklyn, the American Can Company had a facility on Verona Street in Red Hook, sharing the manufacturing facility with its competitor, the American Stopper Company.³⁷⁸ Neuhaus likely acquired his cans

³⁷⁵ Robinson, 78.

³⁷⁶ Archival evidence suggests that Neuhaus first encountered Fluxus in 1962. See MNP Box 7, Folder 2.

³⁷⁷ Flyer for *American Can*. See *Source: Music of the Avant Garde*, no. 5. January 1969.

³⁷⁸ “The American Stopper Co. – The Largest Makers of tin Boxes Outside the Combination,” *The Pharmaceutical Era*, Vol. XXXI, No. 19 (May 12, 1904).

from this facility. There were at least two versions of *American Can* realized by Neuhaus between 1966 and 1967.

The first version of *American Can* took place in Central Park. The work was a part of Charlotte Moorman's 4th Annual Festival of the Avant Garde. The festival was held in the late summer on September 9, 1966. There are no extant photographs of the work, but a planning illustration by Moorman indicates that Neuhaus's work was placed in a relatively central location, not far from Central Park's frog pond, and situated between Happenings and Fluxus artists: Allan Kaprow, Jackson Mac Low, Shigeo Kubota, Geoffrey Hendricks, and Nam June Paik. Next to Neuhaus was Billy Kluever (who founded Experiments in Art and Technology (E.A.T.), a collective of artists and engineers with which Neuhaus worked between 1966-1967. The MIT art and technology collective PULSA placed an assortment of strobe lights, video projectors, and lasers next to Neuhaus's anti-musical percussion piece, prefiguring his later turn electronic circuits. Likewise, a nearby work by Fluxus artist Geoffrey Hendricks, "Earth Art," signals the direct relationship of performance to a nascent *earthworks* and *land art* sphere. Further down, to the bottom-left, one sees that the pianist and composer Frederic Rzewski was nearby.³⁷⁹ Shortly after his European tour, Neuhaus found himself in the center, literally, of New York's avant-garde. In fact, music was always a central part of the festival, which started with the concert series, "6 Concerts '63," featuring Neuhaus.³⁸⁰ The connection of new music, especially the avant-garde music played by Neuhaus (and Moorman), was shown among the Happenings and Fluxus artworks of Kaprow, Paik, and Alison Knowles. The transition from the world of music to art, broadly framed, was easy for Neuhaus initially. The open-form perspective of 1960s art, such as the intermedia art of Dick Higgins, folded in Neuhaus's eccentric musical practice, which was no longer interested in the materials, forms, or concepts of conventional music.

The second version of *American Can* took place in 1967, about six months later, on a dirt pathway in Staten Island's tree-filled Clove Lakes Park. The work had a much different energy than its inaugural realization, given that it took place on February 19, a chilly mid-winter day. A photograph from this version shows substantial snow fallen on the ground and the participants wearing thick coats, including a scarfed Neuhaus. The work was commissioned as part of the "Sno-Or-No-Sno Ball," a "snow happening" commissioned by Thomas Hoving and the NYC Department of Parks with artist in residence, Phyllis Yampolsky.³⁸¹ The "winter spectacular," as a press release dubs the event, included:

The world's biggest snow ball fight; snow shoe egg races ("If you don't know what that is, come and find out," urged Commissioner Hoving); three igloos made of Dorvon by Dow Chemical with various events going on within; Broadway star of "Wait a Minim", April Oelrich, modeling totem pole designs and leading the cast of her show in Alaskan drum and song fights; costumes for Snow Bunnies designed by Tiger Morse in Dupont fibers; and much more.³⁸²

³⁷⁹ Rzewski was also a student of Stockhausen

³⁸⁰ Moorman book

³⁸¹ "Sno-Or-No-Sno Ball To Be Held at Clove Lakes Park on Sunday." New York City Department of Parks Press Release #222. February 2, 1967.

http://home2.nyc.gov/html/records/pdf/govpub/42591967_press_releases_part1.pdf

³⁸² Ibid.

In addition to these popular corporate-sponsored events, the program also included experimental works in sound. In addition to American Can – here called the “American Can Symphony” – the program asked visitors to contribute to the “‘Sound Glen’ by bringing empty tin cans and other tinkling, jangling objects to be hung from tree branches. The trees will then be ‘turned on’ by wind, snow balls and sticks.”³⁸³ In this context, Neuhaus not only engaged with Fluxus but also the popularization of Happenings as a social spectacle. In turn, his move away from music and to visual art was circumscribed by his negotiation with city agencies and private companies.³⁸⁴ Neuhaus’s continued de-structuring – rather than a Fluxus destruction – of spectatorship paired well with many of the works shown at the festival in 1966, including Kaprow’s public tire roll, which has a similar form structurally to *American Can* regarding audience participation. However, *American Can* has a tenuous relation to didactic or instructional forms: the work ostensibly allowed the audience to produce the piece, broadly be conceived as percussion music, but there are clear limits. The sounds produced are predetermined by virtue of the can being chosen as a material (i.e., the timbre is limited) and the number of cans (i.e., density). The ground surface also poses sonic limitations (e.g., grass and asphalt provide different reverberations). In 1966, the audience-turned-composers (and performers) was bound by the circular zone staked out by Moorman’s curatorial vision. Future works by Neuhaus, such as the ambulatory *Listen*, did not retain such physical constraints, and reveal the artist’s slow move away from the theatrical influence of Kaprow.³⁸⁵

Listen (1966-1979)

Moving beyond the confines of musical spectatorship, Neuhaus sought an immanent of aesthetic experience, not bound to theatrical performance. The works of Neuhaus at this stage cultivated, according to Lynne Cooke, an activated form of listening “freed from the filter of the authorial voice.”³⁸⁶ In 1966, Neuhaus began conducting a series of walking tours, collectively known as *Listen*. In these pieces, Neuhaus would invite individuals, often friends at first, to a specific location at a specific time. Sometimes he would announce the work with a word-of-mouth campaign and others with a public poster or mailed letter. Once the participants arrived to the location, Neuhaus stamped the word “LISTEN” on their hands and then walked away, saying nothing. The listeners here had to make the choice to listen – they were not trapped in their seats as in the concert hall. Neuhaus silently directed the attention of listeners to the incidental sounds of their urban, and sometimes suburban, environments. Growing weary of the “insertion of everyday sounds into the concert hall,” as in the music of Cage, Neuhaus sought instead to engage sounds according to their own terms. The site of sounds in particular became the dominant paradigm for listening. *Listen* poses not only “Who is listening?” and “Is this music?” but also “What is sounding?” and “Where is listening?”

“As a percussionist,” Neuhaus said, “I had been directly involved in the gradual insertion of everyday sounds into the concert hall... I became interested in going a step further [and

³⁸³ See New York City Department of Parks Press Release #222. February 2, 1967.

³⁸⁴ The “American Can Symphony” was sponsored by the “courtesy of the American Can Company.” Ibid.

³⁸⁵ Neuhaus and Kaprow interacted directly in 1967 for a version of *Public Supply* at SUNY Stony Brook, discussed in Chapter Four.

³⁸⁶ Cooke, 29-30.

instead] of bringing these sounds into the hall, why not simply take the audience outside?’³⁸⁷ Neuhaus initiated the *Listen* project in the Lower East Side neighborhood. He would later present it internationally through the mid-1970s. *Listen* was foremost understood as a non-verbal ‘lecture’ on sound and its relation to physical and social space.

Listen was also his first work to consciously frame sound not as something to artificially create, or seek out, but to incidentally perceive. The work was also conceived as a form of collective music-making – an environmental composition to which one listens but which was neither composed nor performed. Instead of a musical composition, which is notated and performed by specialists, the *Listen* sound walk is ‘composed’ by the listening participants, who find form and meaning in an indeterminate acoustic environment. The first realization of *Listen* on March 27, 1966, operated on quasi-musical terms. Neuhaus invited his friends, and possibly a few strangers, to meet him at a predetermined location: the corner of East 14th Street and Avenue D.³⁸⁸ Upon arrival, the guests were greeted by a silent Neuhaus, who stamped the word ‘LISTEN’ onto their hands. He then silently walked away. He later described the work as such:

The first performance was for a small group of invited friends. I asked them to meet me on the corner of Avenue D and West 14th Street in Manhattan. I rubberstamped LISTEN on each person's hand and began walking with them down 14th Street towards the East River. At that point the street bisects a power plant and, as I had noticed previously, one hears some spectacularly massive rumbling. We continued, crossing the highway and walking along the sound of its tire wash, down river for a few blocks, re-crossing over a pedestrian bridge, passing through the Puerto Rican street life of the lower east side to my studio, where I performed some percussion pieces for them.

The gesture – a silencing of his own performative body – signaled to the crowd that they could follow him as he wandered throughout the streets of the Lower East Side. The listeners, of course, were not obligated – each decided to follow and thus their agency was established at the beginning of the piece. They walked through the streets, along the river, near warehouses, and under bridges. Whereas Cage invited outside noise into the concert hall to be heard by concert-goers, Neuhaus brought listeners outside of the concert hall altogether.

Rather than a specialist performer realizing a composer work, which the concert-goer passively appreciates, *Listen* allows the listener to become an active collaborator in both the composition and realization of the piece. Neuhaus directed them to general sonic areas of potential interest, but does not tell them what to listen to – or how to listen. The piece not only breaks down the artistic forms of musical composition, but so its social values (e.g., such as the ‘good taste’ of an educated music aficionado, who here would hear only silence). *Listen* was realized at least fifteen times between 1966 and 1976. In addition to its New York City locations, *Listen* was realized at university campuses and other sites in the U.S. Neuhaus realized the work in the Lower East Side (NYC), outside the Town Hall music venue (NYC) (leaving a concert), along the Hudson River Pier (Pavonia, New Jersey), which included a subterranean subway ride, the Niagara Falls Power Plant (Buffalo, NY), the Brooklyn Bridge, and campuses of Bryn Mawr

³⁸⁷ See <http://www.max-neuhaus.info/soundworks/vectors/walks/>

³⁸⁸ The location was, and remains, the site of a Con Edison power plant – the source of an electricity public supply for New York City.

College, Rutgers University, Farleigh Dickenson University, and the University of Iowa. Describing the Pavonia trip, one of the (nineteen) guests said:

I entered the tubes at 9th Street and Sixth Avenue... looking for his concert called “Listen.”... I found Max and the audience on the platform and started listening from then on. Train for Hoboken pulls up.... I’m all ears for talk, squealing brakes, anything.... [we] are deposited at a closed railroad station... which is a few feet from a deserted pier... which is where [most] of the aural action was... Max passed out blankets and scotch. I took myself to [the] water’s edge. I heard the water, a boat, some wind, and my teeth chattering... I sneaked occasional looks at the moon, at the water, at the Manhattan skyline, at the Mafia graves.³⁸⁹

The description portrays how the work was encountered by listeners, in this case a music critic, and the interrelation of the work to the broader cultural landscape.

There were likely several other locations unknown. Between 1966-1976, especially after 1968, the work provided Neuhaus with consistent income. The realization of *Listen* at universities was typically funded by music departments, which brought Neuhaus in to talk about percussion. On one occasion, Neuhaus described the dismay of the faculty when he abruptly walked out of the building, followed by “hundreds” of music students:

The faculty must have thought I was actually going to give a talk. They were nonplused when I told the students to leave the hall, but fortunately not quick-witted enough to figure out a way of contradicting the day's 'guest lecturer'. The students were more than happy to escape and take a walk. Several hundred of us formed a silent parade through the streets of this small town – it must have been Ames. The faculty was so enraged that, to a man, they boycotted the elaborate lunch they had prepared for me after the lecture.³⁹⁰

In fact, Neuhaus did eventually refer to *Listen* as “lecture demonstrations,” wherein the “rubber stamp was the lecture and the walk the demonstration.”³⁹¹ Speaking on the social anxiety built into the piece, Neuhaus said:

I would ask the audience at a concert or lecture to collect outside the hall, stamp their hands and lead them through their everyday environment. Saying nothing, I would simply concentrate on listening, and start walking. At first, they would be a little embarrassed, of course, but the focus was generally contagious. The group would proceed silently, and by the time we returned to the hall many had found a new way to listen for themselves.³⁹²

However, Neuhaus was not quite yet willing to let go of the musical domain in 1966. The first *Listen* was described in clearly musical terms (as “traveled and traveling music,” according to a hand-typed paper invitation) and was end-capped with a musical performance.

³⁸⁹ Carmen Moore, “Listen Max,” *The Village Voice* (May 25, 1967).

³⁹⁰ Neuhaus says that the “Iowa experience had blacklisted me as a university lecturer.” See Neuhaus, “Listen,” 65.

³⁹¹ Ibid.

³⁹² Ibid.

The work began near the Con Edison power plant on 14th Street in the Lower East Side, but ended ceremoniously at the artist's loft in the emerging SoHo district. In addition to being the final destination along the sound walk route, the studio also served as an impromptu concert space. Neuhaus performed a works for solo percussion, which was then still his focus, placing the incidental soundscape in contrast to the indeterminate music of Cage, Bussoti, Feldman, Corner, and Tenney.³⁹³ About ten people attended the March 27 walk (as evidenced photographs of the post-walk performance). Generally, *Listen* was conceived as a small and intimate work and with few exceptions, the audience was likely limited to fifteen to twenty people. Neuhaus wanted to provide an optimal subjective listening experience, unlike the listening context found in large concert halls that can fit hundreds of people and enforce rigid social behaviors. *Listen* was about tuning into a soundscape and forming a musical composition through sounds that were not only indeterminate, but entirely unknown. However, the piece also desired, conceived, and inscribed a consciously democratized audience, which encountered sound on terms other than those of a performer or composer. Later versions of *Listen* took on more mediated forms. One version produced in 1979 by the artist's private company, HEAR, Inc., was a postcard with a sticker decal: the remote listener, joined via postal service, was meant to send the card to a friend, or perhaps a stranger, as a prompt to listen to their environment, and anyone who handled the card, such as a mail delivery person, received the prompt. This mediated *Listen* is similar to *postal art* pieces by Tenney, whose *Maximusic* was first delivered through the mail, as well as works by Fluxus artist Ben Vautier.

In 1978, Neuhaus published a *Listen* decal in an addition of *Artforum*. Neuhaus paid for it as an advertisement, sending it directly to subscribers. Four years earlier in 1974, Neuhaus published an op-ed in the *New York Times* lamenting the rise of noise abatement legislation. He considered this work to be a textual realization of *Listen* in its function as a prompt for inviting people to listen and think about their soundscape. These three works show the artist's concurrent appropriation of media forms, whether material (such as a decal or a vinyl record), or virtual (such as the radio broadcast). (The concept of mediation is the focus of Chapter Four.) Neuhaus described *Listen* as his "first independent work as an artist."³⁹⁴ The primary reason for this was the work's anti-performative structure (which, as discussed, was complicated by his performance of percussion music). Neuhaus viewed the "insertion of everyday sound in the concert hall, from Russolo through Varese [and] Cage," as a distraction for listeners, who he believed were distracted and "more impressed with the scandal than the sounds."³⁹⁵ In a concert hall context, he argued, "few were able to carry the experience over to a new perspective on the sounds of their lives."³⁹⁶ Neuhaus provided a new context, spatially and socially, for auditive experience, one unmarred by a "proscenium situation." *Listen* provided an opportunity, not a lesson, in listening. Neuhaus did not determine how each person should approach the piece, but rather allowed them to create their own experience and meaning.³⁹⁷

³⁹³ The bill was similar to his 1965 European tour (including the lack of Stockhausen). The pairing of soundscape with music merged *non-performative/anti-musical* with the *performative/musical*.

³⁹⁴ Neuhaus, "Listen," 63.

³⁹⁵ *Ibid.*, 63.

³⁹⁶ *Ibid.*

³⁹⁷ Like *American Can*, *Listen* has been reinterpreted by many people in the past decade. The work has become one of the artist's most well-known pieces, second only to *Times Square*. The work is typically compared to Cage's 4'33" due to its focus on silence, despite the works having drastically different approaches to musical form, composition, and audience participation. As of November, 2016, there are nearly twenty versions of the piece created and uploaded by users of the video sharing website Youtube. <http://www.youtube.com>. Search query: "Max

Genealogy of the sound walk and the subjective listening body

Listen manifested concurrently with other engagements in postwar art with the subjective listening body. The rise of sound coincided with an interest in movement and mobility in performance, broadly speaking. This is especially true for artists who employed time-based and experiential practices, including the widespread use, or reference, to sound. Neuhaus was among the first to utilize the urban soundscape as an artistic frame and the sound walk as a post-Happening medium. However, he was not alone in framing public space as a site for listening. The composer Pauline Oliveros in 1968 gave a lecture at the Electric Circus in New York City that was titled “Some Sound Observations.” The essay was written for a 1968 issue of *Source: Music of the Avant-Garde*, an experimental journal for new music from the Bay Area that included both writings on new music and sound art practices as well as actual scores (many of which dealt with questioning the nature of musical notation and performance). The essay was conceived as a work of performance too and Oliveros staged a reading that was performed over “amplified [ambient sounds] from the streets directly outside.”³⁹⁸ The work takes from Cage’s 4’33” in appropriating the incidental soundscape as a musical form, but in this case Oliveros presents sound as much more polemical than a formal interruption:

As I sit here trying to compose an article for *Source*, my mind adheres to the sounds of myself and my environment. In the distance, a bulldozer is eating away a hillside while its motor is a cascade of harmonics defining the space between it and the rock and roll radio playing in the next room. Sounds of birds, insects, children’s voices and the rustling of trees fleck this space.³⁹⁹

Like Neuhaus – and unlike Cage – Oliveros does not approach noise as a new musical material, but as a didactic tool to frame new methods and theories of listening. Specifically, subjective and environmental listening. Cage would have the listener analyze environmental sound as a musical inscription, but Oliveros and Neuhaus point to sound as environment itself, beyond music and the hierarchies of composition, but also performance and spectatorship.⁴⁰⁰ The sonic lecture is another trope worth exploring considering Cage’s own contributions to the genre with *Lecture on Nothing* (1949-1950) and *45’ for a Speaker* (1954), and expounded upon by works like Alvin Lucier’s psycho-architectural piece *I Am Sitting in a Room* (1969).

The composer Philip Corner, a friend and Judson collaborator to Neuhaus, published a text composition called *I Can Walk Through The World As Music* in 1980, but has elsewhere

Neuhaus Listen.” November 29, 2016. In October, 2016, this author participated in the production of an adaptation of *Listen* with the born-deaf sound artist Christine Sun Kim, who took the work’s original location in the Lower East Side and created a new sound walk based on her own memories of living in the neighborhood as a non-hearing person.

³⁹⁷ The work, titled (*LISTEN*), was not a re-performance, but a twenty-first century adaptation of the original to register how listening has changed in technologically and culturally.) In addition to the formation of knowledge via audio recordings as David Grubbs has shown, one might also question how re-performance affects our knowledge of historical sound works.

³⁹⁸ See Pauline Oliveros, “Software for People,” in *Audio Culture: Readings in Modern Music*, ed., Christoph Cox and Daniel Warner, 102-103. New York: Continuum, 2009; Pauline Oliveros, “Some Sound Observations,” in *Software for People: Collected Writings 1963-1980*. Baltimore, MD: Smith Publications, 1984.

³⁹⁹ Oliveros, “Software for People,” 102-103.

⁴⁰⁰ Neuhaus claimed that he was invited to schools to talk to students and faculty “about playing percussion – a cheap way for them to get a [musical] concert.” Neuhaus in an email to Dasha Dekleva. July 26, 2001.

placed the original date as 1966.⁴⁰¹ The 1966 date would make Neuhaus and Corner equally pioneering of the artistic genre of the sound walk, a mobile participatory form popularized recently by sound artist Janet Cardiff.⁴⁰² However, there are discrepancies in the dating of the work, which appears to have instead occurred in 1970. In the 1980 publication, Corner includes a map with the annotation “Thursday, April 30” and “late ‘60s.” However, no years between 1965 and 1970 include April 30 falling on a Thursday. In 1970, April 30 did fall on a Thursday, making this the probable date for the April 30th walk included in the 1980 book. If done in 1970, the piece came four years after Neuhaus’s *Listen*, which Corner was certainly aware of (and likely attended). Nonetheless, a second version of the walk titled *You May Walk Through the Sound as Music* (emphasizing the listener’s experience over the Corner’s) is dated to “Summer 1966,” which would date it to just a few months after *Listen*. Elsewhere, the composer enigmatically says: “A concert – at Town Hall – in the ‘50s or ‘60s – took the audience on a walk around the block.”

Disregarding the exact dates of each composition and first realization, the two works pose a striking similarity to one another in their emphasis on subjective listening and the preexisting soundscape. Like Neuhaus, Corner was dismayed with the Cagean tradition, which bound itself to musical composition and performance, asking himself retroactively: “Why didn’t John (Cage) go this far?” He also criticized Allan Kaprow without naming him, referring to *I Can Walk...* as “The ultimate convergence of art-as-life.”⁴⁰³ This characterization is a rebuke of Kaprow’s synthesis of “art and life” in *Happenings*, which remained bound to theater, inadvertently preserving the traditional composer-audience hierarchy and exploiting life in the service of art (rather than a genuine encounter with life itself). Indeed, Corner added (in his stilted and poetic tone): “How to take a step beyond the use of life for art – this is what I started to do - Just listen to sounds as given as if at a concert (with that attention).” However, Corner conceded that the piece was not as successful as he hoped: “I never knew how to really make it a class, a program, out of it... it became more for myself.”⁴⁰⁴

The book published in 1980 is effectively a memory log of his experiences with the piece, specifically the first occasion: “This is a record of... that first time I went out... that morning I decided no museums no other art, but belief in this reality to act it and to spend a day within that other place where everything from this one turns to pure meaning.”⁴⁰⁵ Corner’s prose can be hard to parse and interpret, but here the composer clearly amplifies his dual Fluxus and Judson Church influence, particularly his focus on acoustic materiality and the artwork-as-environment. By focusing on sound itself – i.e., not composed or arranged by musical thought – he sought to disrupt the preference in Western art music traditions of privileged sonic forms, or what he described as “music theory as mind over matter.”⁴⁰⁶ Corner highlights his ongoing distrust of museum curatorial ideology, as well as parallel structures in the concert hall. He implores the listeners who might realize his piece to pay close attention to “art as life” in their own walk, as quoted directly:

⁴⁰¹ I have not been able to confirm the original date of the piece. Emails to the composer went unanswered. The 1970 date would place the work four years after Neuhaus’s *Listen*, which Corner was certainly aware of and likely attended. See Philip Corner, *I Can Walk Through the World as Music (First Walk)* (Barrytown, NY: Printed Editions, 1980).

⁴⁰² Corner, *I Can Walk Through the World as Music (First Walk)* (Barrytown, NY: Printed Editions, 1980), 7.

⁴⁰³ *Ibid.*

⁴⁰⁴ *Ibid.*, 8. All typographic emphasis is Corner’s.

⁴⁰⁵ *Ibid.*

⁴⁰⁶ *Ibid.*, 49.

When you go into it ,keep your own being in to it.
Footsteps (my own) make very precise arithmetic with others met : i might alter my own
paces then in chosen ratios.

A Leaf Fall suddenly
stand, but to follow that cars sound
turn, go with now (crescendo) or
away (different musics)

obviously one **can not** be marching
all those sounds - can be seen, as causes

Some Things
that we work to listen
to⁴⁰⁷

The description poses a model for listening rather than suggesting any particular sounds to listen for, asking the listener to allow their experience to be structured by unique sound events (“different musics”) that occur in the environment, and to realign one’s listening patter according to extreme adjustments in the soundscape (“follow that cars sound”).

Corner suggests that listening to soundscapes is a concerted effort – something to “work to listen to.” Corner recalls specific sounds that he heard during the walk: crickets, birds, airplanes, and “the hush of secret tip toes steps [and] klompy boots.”⁴⁰⁸ He also discusses several formal potentials that he navigated as an observant listener, such as that “the crickets stop [their sound] when I come [close].” He also questions if he should avoid conventional music during the piece, reminding himself: “I [had] to choose whether to go towards or away from the classical flute.” As for when to end the piece, Corner has a meditative, if grammatically confused, suggestion: “If you love the soundings your cycle going then perhaps you’ll can accept when it stops.”⁴⁰⁹ The original piece took place in Central Park, an iconic public space (much like Times Square). The area has a diverse soundscape: natural, animal, and human sounds interact with commercial noise. However, the sounds are colored by social space: the sounds of Central Park, as with Times Square, are as much informed by acoustical features as much as they cultural meaning (i.e., the ‘sound of New York’). Corner viewed the piece as non-bounded by any particular duration or schema, as when he discussed the sounds of the subway: “[People find] the subway screech on curves painful to the ears... [others] seem undisturbed... I always listen to [the] (lovely loud!) [sound]... and notice others screwing up their faces. Many of the noises of the world [are] pure music... acoustic definitions in musical space.”⁴¹⁰

Similar to Corner, the composer Benjamin Patterson, another Fluxus influence, created work called *Tour* in 1963. The basic premise of the work provided a foundational method for the Listen compositional structure. The work is a text composition (thought not quite an event score) that provides a simple first instruction: “Persons are invited and meet at designated time and

⁴⁰⁷ Corner, 9. Quoted as appears in text.

⁴⁰⁸ Ibid., 16.

⁴⁰⁹ Ibid.

⁴¹⁰ Ibid., 27.

place to commence [the] tour.”⁴¹¹ The work continues: “After methods and general conditions of [the] tour are explained, participants are fitted with blindfolds or similar devices and led through any area or areas of guide’s choice(s). Duration exceeds 45 minutes.”⁴¹² Like Oliveros, Patterson was interested in art as an educational paradigm. In a 1965 essay, “Notes on PETS,” Patterson described art as a ‘tool’ for proposing, analyzing, and transforming human perception of the world. The composer specifically referred to the aesthetics of ‘environments’ (which he considered both psychological and phenomenological, as well as, in turn, equally social and political). Describing the PETS (Perception Education Tools) theory, Patterson referred to the artist as a dualistic entity that functions a “discoverer and educator.”⁴¹³ According to Patterson:

[The artist is a] discoverer of the varying possibilities for selecting from environmental stimuli specific *percepts* and organizing these [percepts] into significant *perceptions*, and concurrently, as an educator, training a public in the ability to perceive in newly discovered patterns.⁴¹⁴

The relation of discovery and education is not only dualistic, but dialectal: through a discovery of ‘significant’ perceptions of organized percepts (i.e., meaningful artistic composition through the formal structuring of perceptive media), the perceiver (spectator) is educated on the nature and conditions of their phenomenological and psychological experience. In other words, the experience of meaningful art (discovery) provides a contextual and behavioral learning environment about art as a meaningful experience (education). Patterson claims that the process of discovery is limited to the artist and that education is experienced by the “an outsider,” who views the art after-the-fact and “through the exhibition of ‘art objects’.”⁴¹⁵ However, in works such as *Listen* there is no art object and the listener is also a composer (in turn, collapsing artistic power boundaries and in turn Patterson’s duality).

Patterson’s public walking tour was not his only influence upon Neuhaus. The idea of discovery also seems to have been an inspiration, or at least an affect, upon the composer. Through the late 1960s and 1970s, Neuhaus repeatedly described his sound installations as “discoverables” that listeners encountered incidentally (for example, Neuhaus used the phrase in reference to the works *Walkthrough*, *Times Square* and *Underground Chamber*).⁴¹⁶ The phrase both emphasizes the discrete nature of the works, which were increasingly unmarked, but also the authority of the listener to ‘find’ or ‘claim’ the work as their own – a basic premise in his advanced sound installations such as *Times Square*.

Neuhaus and Fluxus

Despite his connections to figures like Knowles, Patterson, and Corner, Neuhaus was never a Fluxus member. However, he was actively involved with many Fluxus artists. Generally

⁴¹¹ Benjamin Patterson, “Appendix from Methods & Processes,” *The Four Suits* (New York: Something Else Press, 1965), 55.

⁴¹² Ibid.

⁴¹³ Patterson, Benjamin. “Notes on PETS,” *The Four Suits*. New York: Something Else Press, 1965: 49.

⁴¹⁴ Ibid.

⁴¹⁵ Ibid.

⁴¹⁶ See Patti Reilly, “The World Is Alive with the Sound of Music, and Some of It Is by Composer Max Neuhaus,” *People*, Vol. 13, No. 26 (June 30, 1980).

speaking, Neuhaus was by all accounts a part of that scene both artistically and socially – except for the moments that he definitely was not. For example, one such moment that distinctly set Neuhaus apart was when the Fluxus founder George Maciunas, along with his young acolyte, musician Henry Flynt, protested a performance of Stockhausen’s *Originale* in 1964.⁴¹⁷ Neuhaus was the sole percussionist for the performance and, as we have seen, a longtime performer of works by Stockhausen. Maciunas and Flynt unabashedly and publicly dubbed the composer as a fascist and an imperialist, suggesting that they likely felt the same about those who performed his work, including Neuhaus (who certainly would have known of their protests).⁴¹⁸ In this moment, Neuhaus was certainly not a part of Fluxus (oriented toward Maciunas). The Fluxus protest of Stockhausen was a prescient moment for the group: several long-time members, including Nam June Paik, quit over the apparent slight at a composer whose work was quite central to the movement, along with the general artistic spirit of new music and postwar performance. The protest also highlights the divisive nature of Fluxus but also, for our purposes, the manner in which this division has portrayed the movement, particularly the lack of focus on Fluxus-oriented music and sonic art, beyond the typical references to Corner’s *Piano Activities*, Higgins’s *Danger Music* and Young’s *Compositions 1960* series.⁴¹⁹

Nonetheless, Neuhaus worked around Fluxus artists frequently. When did Neuhaus first encounter Fluxus ideas? There is archival evidence that suggests that the young percussionist engaged the movement between 1962-1963, shortly after he completed his Master’s degree at the Manhattan School of Music (but prior to his European tour). In his effects, Neuhaus owned a copy of the 1962 Fluxus sales sheet, which described a number of completed works, and many more unrealized works (as was typical of Maciunas). During this time, Neuhaus still performed traditional music. For example, around the time that he was given (or found) the Fluxus sales sheet, Neuhaus performed as a concert percussionist in a production of the American Broadway musical *My Fair Lady* (1956).⁴²⁰ He also routinely performed concert pieces by Hector Berlioz and Ludwig van Beethoven.⁴²¹ In contrast, Neuhaus simultaneously and dutifully practiced *Zyklus* by Stockhausen and *Fontana Mix* by Cage, going as far as to create new technological devices, such as a silent metronome, to aid him in the realization of these difficult pieces (many of which were never performed and premiered by the young musician).⁴²² Around this time, he also moved downtown: various sources place him in Chelsea, Tribeca, and the Lower East Side (as well as nearby Jersey City). As Cooke has argued, Neuhaus operated in a shifting geopolitical and social context of postwar New York City. His works, and engagement with Fluxus, were tinged with the emerging ‘Downtown scene’ that characterized Happenings, Fluxus, performance art, and Minimalism. Neuhaus remained distinct from these groups to pursue his own artistic practice at once informed, yet contrasting, adjacent movements in visual art.

⁴¹⁷ See Benjamin Piekut, "Demolish Serious Culture!" Henry Flynt and Workers World Party," in *Sound Commitments: Avant-Garde Music and the Sixties*, ed., Robert Adlington (Oxford University Press, 2009), 37-55.

⁴¹⁸ See Joseph, "An Implication of an Implication," in *Max Neuhaus: Times Square / Time Piece: Beacon* (Beacon, NY: Dia Art Foundation, 2009), 59-81.

⁴¹⁹ The 1964 realization of *Originale* was organized by Moorman, another Fluxus affiliate, as part of her 2nd Annual Avant Garde Festival. Like Neuhaus, Moorman was a new music performer who became known among the New York City new music scene for her outlandish interpretations of works by Cage and Stockhausen. See Joan Rothfuss, *Topless Cellist: The Improbably Life of Charlotte Moorman* (Cambridge: The MIT Press, 2014).

⁴²⁰ See Max Neuhaus Papers. Box 7, Folder 1.

⁴²¹ Ibid.

⁴²² Oral interview with Jan Williams. See Appendix.

However, there was often limited contact between the Fluxus composers, or non-musicians making sound, and the larger New York School of composers that Neuhaus was more familiar with as a percussionist. Neuhaus not only merged the musical methods and concepts of Stockhausen and Cage, but also those of the downtown and uptown scenes, which were largely based on academic and anti-academic boundaries. For example, the composer Richard Maxfield was quite critical of the Fluxus composers – and especially those whose knowledge of *new music* was impressed only by Cage (handed down from artists like George Brecht and Robert Morris). In Young's *An Anthology*, Maxfield offers a biting critique of Fluxus anti-musical expression:

Well-meaning artists who have an extensive training in the standard repertory but no understanding of new music sometimes believe that it is their duty to introduce contemporary fare (which it is not!) and dutifully offer with equal probability something of good or vulgar taste and perhaps play it with style, but in greater probability not to an audience with their minds elsewhere dutifully sitting it out; and this is a disservice. Composers might do well to avoid these embarrassments.” He continues, apparently mocking Brecht's event score, by adding that “Artists don't publish directions for painting their paintings or sculpting their sculptures except in the form of children's coloring books and toys,” lamenting his previous contributions to the “variety show” concerts.⁴²³

The harsh words of Maxfield point to the ambiguous and groundless area in which Neuhaus operated in the 1960s, no longer part of the established uptown musical scene, yet nevertheless distanced from the aesthetics of his downtown counterparts.

‘Concerts of Dance’ – Neuhaus at the Judson Church

The basic understanding of Neuhaus is that he was a student of Cage. The specter of Cage hangs over art history and, even in the 1960s, it hung over new music. Neuhaus was no exception and his work is still today seen as effectively Cagean. Neuhaus worked with Cage – or at least Cage's music – substantially as a percussion student. However, the artist's social and artistic association with the emerging Judson group of dancers was equally important to his self-extrication from the domain of music. The open-form dances and soundscape accompaniments provided Neuhaus the opportunity to *construct sound* instead of *perform music*. Nonetheless, the boundaries of the performance apparatus will eventually prove to be too constricting, whether the concert hall or the church basement. Around the time that Neuhaus encountered the Judson Church artists, he was becoming known for his raucous interpretations of *Fontana-Mix-Feed*. However, Neuhaus was not the first to experiment with the indeterminate notation of *Fontana Mix* and its variable score. The choreographer Robert Dunn, who studied with Cage the New School, used the piece in his experimental dance composition courses (along with works by Satie). The score of *Fontana Mix* was repurposed by many of his students, including postmodern dancer Yvonne Rainer. Dunn used the piece in his choreography courses as early as 1960. Rainer

⁴²³ See Richard Maxfield, “Composers, Performance and Publication.” In *An Anthology*, ed., La Monte Young and Jackson Mac Low. New York: La Monte Young and Jackson Mac Low, 1963.

publicly presented her version as early as 1962.⁴²⁴ How did Neuhaus's Judson experiences guide the artist to depart from the concert hall in 1966 – or the total “cessation of activities as a percussionist” in 1968?

Neuhaus became intertwined with the emerging Judson school dancers in 1963. Through Judson, Neuhaus met dancers and composers such as Yvonne Rainer, Simone Forti, Robert Morris, Steve Paxton, Carolee Schneeman, Philip Corner and James Tenney. The first known encounter between Neuhaus and the Judson group appears to have been the April 15th performance program at the apartment of Corner and Beverly Schmidt. The cellist Charlotte Moorman performed a number of solo and ensemble works at their 2 Pitt Street address, an artist loft regularly hosted performances of dance and music.⁴²⁵ Neuhaus had just several months prior to the performance been in Darmstadt with Stockhausen, and, later in 1963, toured the United States with the composer and Tudor. Like Neuhaus, Tudor became a protégé and early performer of Stockhausen's works (in addition to those of Cage). Tudor may have invited Neuhaus, just out of graduate school, to perform on the program. However, the program did not highlight Neuhaus and was titled: “Charlotte Moorman with David Tudor.” At the concert, Moorman debuted an interpretation of version of Cage's *26'...*⁴²⁶ Neuhaus did not perform a solo work but rather assisted as a percussion accompanist. Neuhaus played the marimba on Moorman's interpretation of Barney Childs's *Interbalances III* (1962), a group work despite his distaste for ensemble performance. The program included pieces by Cage, Corner, La Monte Young, Morton Feldman, Earle Brown, Joseph Byrd, and Anton Webern (a European serialist that stands out from the avant-garde composers of New York City). Many of these names – especially Brown, Feldman, and Byrd – became staples in Neuhaus's solo performance repertoire (as discussed in Chapter One). Indeed, Neuhaus did not perform works by many of these composers during his time as a student, which was overwhelmingly centered on ensemble music, in part at least because several works did not yet exist. Corner, Feldman, and Byrd each composed pieces with or explicitly for Neuhaus in 1963. Many of these were premiered in alternative spaces, including artist lofts and, eventually, the Judson Church. Indeed, the Moorman program expanded Neuhaus's social and artistic circles and brought him into the Fluxus and Judson scenes. In particular, the program introduced the percussionist to musics, that extended well beyond Paul Price and the conservatory styles of the Manhattan School of Music. Contemporary percussion music was new, but it was written and performed within the context of the conservative conservatory and concert hall situations. The April 15th event was thus a substantial and potentially paradigm-shifting moment in Neuhaus's artistic career.

Rather than finding artistic support from Cage – a person inspiring to Neuhaus but not always a close contact (though the percussionist did correspond with the composer during his first European tour) – the percussionist found his first post-graduate home within the emerging Lower East Side loft scene and the Judson Memorial Church. Both Corner and Schmidt were by 1963 very much involved with the Judson group, which started to use spaces inside the Judson Memorial Church in 1962.⁴²⁷ More than likely it was through these two, especially the composer Corner, who would later compose several pieces for Neuhaus. Neuhaus also performed several of Corner's compositions between 1963 and 1968, partaking in several early Judson programs. Neuhaus performed at three of the “Concerts of Dance” programs (the title of which challenges

⁴²⁴ Banes, 13-15.

⁴²⁵ Ibid.,

⁴²⁶ Piekut, 144.

⁴²⁷ Banes, 107-110.

the distinction between a dance and music performance, an interdisciplinary perspective which welcomed the percussionist's own disciplinary questions). In 1964, Neuhaus aided Philip Corner in a realization of *Rope Pull Sounds* during an "improvisation" period of the 14th Concert of Dance event. The dance historian Sally Banes recounts a "tug of war with a rope loaded with bells, slates, chains, cans, and balloons," a noisy work that is conceptually and materially similar piece to Schneemann and Tenney's *Noise Bodies* (1965), and which may have inspired Neuhaus's subsequent *American Can* (1966-67).⁴²⁸

Through these occasions at Judson church, Neuhaus developed a strong friendship with Corner and Tenney. Tenney at the time was an artist resident at Bell Labs – and it was probably through Tenney that Neuhaus knew to contact the engineers for assistance on his installations *Byproduct* and *Fan Music* in 1967. Tenney, an electronics specialist, also likely assisted Neuhaus in his early circuitry experiments, such as his *Max Feed* device in 1966 (a portably noise box that the percussionist sometimes used in live realizations of *Fontana Mix-Feed*). Tenney, Corner and Malcolm Goldstein formed the Tone Roads performance series. The group was dedicated to the performance of new music, especially that of the contemporary avant-garde. However, it is notable that the group was made up of three well-trained musicians, rather than the semi- or totally untrained musicians that characterized some Judson and many Fluxus performers. Indeed, the Tone Roads group began by performing works by American modernist composers like Charles Ives and Carl Ruggles. The group also played works by the slightly younger New York School composers, including Cage and Feldman, and occasionally works by Europeans like Edgard Varese. However, the group maintained connections to contemporary practices through Judson and rising Fluxus activities. The Tone Roads concerts were a meeting-ground for the reserved and non-reserved – academic and non-academic artists and audiences. Speaking to the emphatically multidisciplinary efforts of downtown scene, which included bebop and free jazz musicians such as Cecil Taylor, Corner told Banes:

None of these worlds was incompatible [from others]. All of these people were around, and if you were at all interested in painting, poetry, or dance, you met [lots of these people]. People would use each other in their works. The barriers were breaking down; everyone brought in special qualities.⁴²⁹

For example, consider Schneeman and Tenney's *Noise Bodies*, which was performed a year after *Rope Pull Sounds* at the Judson Concert Hall as part of the Annual Avant Garde Festival in 1965.⁴³⁰ The work entails the duo covering their bodies with noise-making instruments, such as bits of metal and other refuse that clanged with their body movements. The relation of body to sound, as Higgins desired to "look and sound the same," was the focus of this work, which had a close timbral similarity to Neuhaus's subsequent *American Can*. In fact, Schneeman says it was "a duet for myself and James Tenney, or a trio with the inclusion of Max Neuhaus."⁴³¹ Moorman also performed the work and created an array of noise-making instruments, including empty beer cans attached to loose pieces of metal, chains, and other objects.

⁴²⁸ See Banes, 197.

⁴²⁹ *Ibid.*, 84.

⁴³⁰ See Carolee Schneemann, *Correspondence Course: An Epistolary History of Carolee Schneemann and her Circle*, ed., Kristine Stiles (Durham, Duke University Press, 2010), 100.

⁴³¹ *Ibid.*

Out of Bounds: Spatial Music, Sonic Systems and Environmental Sound

Spatial music

In the late 1950s, several works by composers such as Stockhausen and Varese were presented on multichannel systems.⁴³² Such systems were able to orient the amplification of sound dynamically within a given space, meaning that the audience was not necessarily bound to the concert stage-audience format. In many of such works, the audience was quite literally enveloped by speakers, which could be positioned in any direction around, below or above their seats (and bodies). In turn, composers began to experiment with incorporating these spatial potentials within their compositions, whether discretely scored (Stockhausen, Varese), marginally implied (Cage), and improvised (David Behrman, David Tudor). The most famous examples of spatial music are likely performances by David Tudor and Stockhausen at the 1970 World's Fair in Osaka, Japan (known as *Expo '70*). Tudor performed improvised live-circuit works for a thirty-seven-channel system. Stockhausen performed works such as *Spiral* (1968) and *Poles* (1970), which distributed electronic sound through fifty speakers positioned around the audience. The sounds were mixed and distributed through the geodesic dome (similar in form but separate from the Pepsi Pavilion that hosted Tudor and E.A.T.) with a custom rotary device, a ten-channel mixer similar to the rotating loudspeaker the composer used to spread sound in *Kontakte*. (Fig) Listeners experienced these works in a convergence of time and space, as sound moved around the body and environment to provide a unique acoustic experience dependent on one's position in a spatial network of speakers.⁴³³

Stockhausen outlined his theory of *spatial music* ("Musik im Raum") in 1958.⁴³⁴ In this foundational essay, the composer describes the methods and concepts of composing sound in the spatial dimension in addition time (i.e., musical time). He refers to the process in several ways: Raum-Musik (Space Music); Klaenge im Raum ("Sounds in Space"); and Electronic Space Composition ("elektronischer Raum Kompositionen").⁴³⁵ Stockhausen also pioneered the live presentation of electronic music. Pre-recorded tape music that comprised *Gesang der Junglinge* (1956) was typical of the 1950s experience of electronic music. Until the 1960s, electronic music was entirely a studio practice – it was simply too difficult, and perhaps too new, to perform live. Instead of having a live performer on stage to interpret the score, like an orchestral performance, electronic music composers simply played back works on audiotape. Replacing humans on the stage were machines – usually a reel-to-reel tape machine and loudspeakers. This model was also entirely anti-performative, disregarding the standards of the concert hall. Viewing Neuhaus, and a work like *Fontana Mix-Feed*, in this context situates the visual shock of seeing a percussionist on stage with piles of electronics.

The concert hall has a very particular social and artistic history. There are correlating established norms and values of performance and spectatorship: the audience members arrive to the concert hall (dressed in formal clothing), locate or choose their seat, sit down and casually banter among themselves until the performing musicians arrive on the stage, followed by the

⁴³² See Kotz, "Max Neuhaus: Sound into Space," 96-98.

⁴³³ Tudor's works were: *Pepsibird* (1970), *Anima Pepsi* (1970), *Pepsillator* (1970), *Microphone* (1970), and *Pulsers* (1970). See Hiroko Ikegami, "World Without Boundaries"? E.A.T. and the Pepsi Pavilion at Expo '70, Osaka," *Review of Japanese Culture and Society* 23, Expo '70 and Japanese Art: Dissonant Voices (December 2011): 174-190.

⁴³⁴ See Karlheinz Stockhausen, "Musik Im Raum," [1959/61] *Die Reihe* 5 (1961): 67-82.

⁴³⁵ *Ibid.*

conductor, whose presence demands silence among the crowd, allowing for the signaling and commencement of the musical performance to which the audience remains witness (silently) until its very completion, at which point the conductor ‘releases’ the performers from their last-held positions, and finally turns to the audience with a bow or other gesture to solicit the expected applause. This ritual of the concert hall is confounded, and upended, when the audience is only witness to loudspeakers, which sit silently until activated by an unseen technician off stage. Loudspeakers threatened the audience by upending their expectations of concert performance and spectatorship well before the electronic music is actually presented (i.e., not performed). How does one applaud a machine?

Cage highlighted the fragility and reality of this situation – the concert situation, or “proscenium situation” according to Neuhaus – by upending such norms in his silent composition *4’33”* (1952). The score uses three sections of determined silence – however, the work is still performed, even though the pianist does not play any key on the instrument. The sole notational mark in the score are three *tacet* symbols. The *tacet* sign indicates a prolonged and total cessation of sound for the performer (unlike the *fermata*, which indicates a temporary and dynamic cessation, or pause, of silence in between two moments of sound-making). The composition drew attention away from the musician’s performance, which could not be heard in sound but visually seen and interpreted conceptually, to the incidental sounds of the audience and the intruding sounds of spaces inside and outside of the concert hall. It is notable that Cage’s *4’33”* is well-known to art historians, but tape music, such as Stockhausen’s *Gesang der Junglinge*, which eliminates all human intervention, is rarely known outside of musical circles. Both correspond to the 1950s challenge of spectatorship and interpretive meaning. In *Gruppen* (1958), Stockhausen experimented with spatialized sound in both the score and in the orchestral orientation. The work features three separate orchestras (Fig #) that perform simultaneously. The performers surround the audience to the front, left, and right, forming a semi-circle around the concert hall. The simultaneity not only diminishes listener focus to one particular group, but rather spreads the sound around the space dynamically: typically, the concert hall space is designed, architecturally and socially, from one direction: the stage toward the audience. The distribution of sound around the space challenges this structural and psychological, and acoustical, framework of the concert hall.

There is little question that Stockhausen’s spatial music influenced Neuhaus in his swift transition from percussion performance to environmental practice. The two practices overlapped for at least two years, 1966-1968, following the realization of *Listen* (1966) up until the release of his vinyl record, *Electronic & Percussion* (1968), and later his collaborative work with Alison Knowles on the architectural public art project *House of Dust* (1968-1970). However, there was a secondary, lesser known, source for spatial music: the composer and conductor Ralph Shapey, director of the University of Chicago Contemporary Players.

Following an introductory period of Fluxus experimentation and open-form mixed media performance, Neuhaus returned briefly to the formal concert setting in the spring of 1965. He joined the Chicago Contemporary Players under Shapey as a percussion resident at the University of Chicago: the last breath of his academic training. In this group, Neuhaus toured the United States – making occasional trips back to New York City to play with Fluxus artists like Jackson Mac Low and Philip Corner – and played works by Webern, Milton Babbitt, Elliot Carter, and others associated with the *new music* scene (which is to say, composers decidedly not *avant-garde*). Neuhaus performed as an ensemble musician, mostly, with few exceptions from works by Cage and Carter. In fact, the 1965 residency and tour with Shapey became a testing

ground for his subsequent 1965 tour of Europe – in addition to conservative works of ensemble percussion music, Neuhaus publicly performed *27'...* and *Fontana Mix-Feed* in Chicago and elsewhere. Despite the relatively conservative nature of the ensemble, Shapey's influence on the percussionist appears substantial, particularly in relation to Neuhaus's developing materialist and increasingly spatial sonic practice.

In addition to supporting Neuhaus in his more experimentalist tastes – Shapey allowed Neuhaus to perform avant-garde works on relatively conservative programs – he also encouraged Neuhaus to push the boundaries of musical composition and performance. For example, the score and annotations for Shapey's *Incantations* (1961) gave Neuhaus a language to solidify his materialist acoustical practice and, more importantly, to conceive sound installation. In this work, Shapey lays the groundwork for the shaping of sound in physical space, instead of musical time. The language used by Shapey includes fragments that, while impressionistic in meaning, provide the basis for building sound in material space:

Music as an object in Time and Space . . . aggregate sounds structured into concrete sculptured forms . . . images existing as a totality from their inception, each a self-involved unit of individual proportions . . . related, interrelated and unrelated images organized into an organic whole . . . permutations occurring only within each self contained unit . . . varied phases resulting from juxtaposition of designs . . . imposed discipline by ritualistic reiteration . . . (the voice projected as an instrument, using syllables in organized sound-structures.)⁴³⁶

This rhetoric allowed Neuhaus to totally abandon his performance practice. Indeed, upon returning to New York City in 1966, the artist explored non-performative models of sonic art, such as Happenings, environments, and, eventually, installations.

Neuhaus's spatial and optical turn

Byproduct (1967)

Byproduct (also called *Biproduct*) used photo-sensitive materials to catalogue bodily movements in space.⁴³⁷ The piece used a system of photovoltaic cells to capture, analyze and transcribe the visual light spectrum within the gallery. Essentially, Neuhaus was either given or built (or some mixture of these two) a photocell mixer (as described by Moog, a mixer can use light as a controller for amplitude levels and for signal distribution). Neuhaus was at the time an artist-in-resident at Bell Labs. His residency followed on the heels of his friend James Tenney, a composer who worked with Bell Labs engineer Max Matthews. It is not clear if Neuhaus was invited as a composer or artist (since at the time he is beginning to separate his works along these categories, prior to his 1968 LP). Nonetheless, there is archival and anecdotal evidence that Bell Labs gifted Neuhaus photovoltaic cells, which could process incoming light-levels and transpose

⁴³⁶ Liner notes for Ralph Shapey, *Ralph Shapey*, New World Records CRI 232, 2007. CD. See also: Ralph Shapey and John Macivor Perkins, *Music for 13 Players*, Composers Recordings Inc., CR SD 232, 1964. LP.

⁴³⁷ The exact formal structure/technical of *Byproduct* remains unclear.

those into controls for various sonic parameters, such as loudness and frequency.⁴³⁸ The use of light to control the distribution was a newly explored technique for performing live electronic music (e.g., the performances of David Behrman).⁴³⁹ In the case of Neuhaus, light was eventually freed from performance control. The energy data captured by the work – a mixture of audio and light – were transferred to magnetic tape. At this time, magnetic tape was not necessarily used for sound alone, but was also for many years a data storage material for early computers, which Neuhaus would have encountered while in residence at Bell Labs. The magnetic tape was cut into three-inch ribbons and quickly looped with adhesive tape. The loops were packaged and handed out to the audience, serving as both an artistic object (Fluxus boxes were at this point a known form) and as a memory of their energy experience. Each guest received two wrapped loops in an aluminum tin along with instructions to share one with a second person not present at the show, ideally, as mentioned in a document given to the audience with the tape, via postal mail. The work was realized at least twice: once in 1966 and another in 1967.

Byproduct was first realized at a venue called Town Hall on September 12, 1966.⁴⁴⁰ Town Hall was popular among avant-garde and jazz musicians, who could rent the hall to perform works that were less commercially viable (i.e., presented and funded by a large music hall). The artwork accompanied a performance by Jackson Mac Low and tape compositions by James Tenney (likely the composer's noise studies produced at Bell Labs). The program, "Electronic Music, Electronic Poetry & Live Simultaneities," situates Neuhaus in the intermedia realm of 'electronic art' broadly speaking and was one of his first serious steps outside of the concert hall. Rather than performing, or realizing, music, Neuhaus here produced an artwork that itself listened to the concert. *Byproduct* was among the first autonomous electronic systems built by the artist and as such can be interpreted as a paradigm-shifting moment in his career toward sound installation (contrasting contemporary works like *American Can*, *Listen*, and *Public Supply*, which required particular sonic interaction and artistic control).

The Town Hall realization is the first known version of *Byproduct*, but a concert program distributed to the audience referred to a "transduction version."⁴⁴¹ This language suggests there were earlier versions of the piece (or this piece was being developed with a second 'non-transduction version'). In this particular version, no sounds are given to the audience, which instead receives bits of exposed photosensitive paper. The abstract imagery on the paper is produced by the live sounds of the concert, which are picked up by microphones, amplified, and then transduced (or translated) from sound into light. Neuhaus "distributed" the "colored" paper strips to the audience during the performance, giving away the work for free. Instead of being

⁴³⁸ See "E.A.T. Special Projects Since 9 Evenings." In *E.A.T. News* 1, no. 2 (June 1, 1967): 13; 15-18. Information also verified in email conversation with Julie Martin (February 24, 2016).

⁴³⁹ Behrman studied with Stockhausen at the Darmstadt in 1959, which falls right in the timeline when the composer began experimenting with spatial sound through live performance, musical notation or speaker distribution, both acoustic (*Zyklus*) and electronic (*Kontakte*). David Behrman interviewed by... Interestingly, Behrman recollects the gender disparity of the Darmstadt program and also new music broadly: "But looking back on it from the Nineties, one can see that the world view of Darmstadt in those days was pretty narrow, from a contemporary World Music perspective. (It's curious, for instance, that all the names that seem to pop up as I describe those early early years are those of men!)" Gross, Jason. "Interview with David Behrman." *Furious*. 1997. Web. Accessed May 10 2016. <http://www.furious.com/perfect/behрман.html>

⁴⁴⁰ September 12, 1966 is listed on a program flier for the event. Neuhaus has elsewhere dated the concert to September 13, 1966.

⁴⁴¹ Transduction is the electromechanical process whereby one form of energy (i.e., light) is turned into another form of energy (i.e., sound). A *transducer* is a device that manages this energetic shift.

realized as sound, *Byproduct* captures and redistributes sonic energy first, and then transduces that information into a register of visible light (opposite of what he did in later versions of *Byproduct*, *Fan Music* and *House of Dust*). *Byproduct* was the closest that Neuhaus came to conventional visual art practice – merging post-painterly abstraction with Fluxus printed matter – and he quickly moved away.

The didactic graphic on the program describes the process in simplistic visual terms that merge electronic circuit schematics (e.g., a triangle (Δ) for amplification and semicircle for microphone) with illustrations (e.g., a roll of paper and concentric rings representing soundwaves). The graphic is notable for three reasons. First, it is stylistically and didactically similar to the program published for *Public Supply* in the WBAI folio, appearing as a vernacular circuit schematic that conveys technical information but is used by non-specialists, functioning as a hybrid *circuit score*. Second, the specific appropriation of circuit schematic symbology situates the work in the artist's emerging interest in building custom electronic circuits: in 1966, Neuhaus created *Byproduct* and his *Max Feed* circuit instrument. By 1967 the electronic circuit, an small autonomous system, took on an important role in developing continuous sound environments (later described as *sound installations*). Third, Neuhaus uses the circuit in a dialectical relationship to music: while he was not composing or performing music with electronic circuits, he encountered their visual language in the scores of Stockhausen. Neuhaus shared the concert with Mac Low, whose poem "A Little Sermon on the Performance of Simultaneities" (1966), featured seven instructions to the audience:

Firstly: Listen! Listen! Listen!

Secondly: Leave plenty of silence.

Thirdly: Don't do something just to be doing something.

Fourthly: Only do something when you have something you really want to do after observing & listening intensely to everything in the performance & its environment.

Fifthly: Don't be afraid to shut up awhile. Something really good will seem all the better if you do it after being still.

Sixthly: Be open. Try to interact freely with the other performers & the audience.

Lastly: Listen! Listen! Listen!⁴⁴²

The work instructs the reader to "listen" three times before asking for silence: to take in one's sonic environment rather than contribute noise mindlessly. Mac Low also asks the reader to "[observe and listen] intensely to everything in the performance and its environment," referring to the fact that the poem is also a score for a group improvisation. Accordingly, Mac Low speaks of listening in a performative musical sense, rather than that of a soundscape (a term that would not be coined until the 1970s).

One wonders if Neuhaus's own ambulatory *Listen* was inspired by Mac Low (a friend who occasionally collaborated with Neuhaus). Furthermore, on March 20-21, 1965, Neuhaus performed a version of Mac Low's poem *The text on the opposite page may be used in any way as a score for solo or group readings, musical or dramatic performances, looking, smelling, anything else &/or nothing at all* (1961). Amending the work on the concert program was a secondary piece by Neuhaus called *addition of a thought: "Listen" (noun)* (described as a "tape

⁴⁴² Program for the event with a printing of Jackson Mac Low's *A Little Sermon on the Performance of Simultaneities* (1966). See Michael Nardone, "Listen! Listen! Listen! Jackson Mac Low's Phonopoetics" *Amodern* 4 (April 2015). Web. Accessed May 12, 2017. <http://www.amodern.net/article/listen-listen-listen/>

realized at the University of Illinois Experimental Studio”).⁴⁴³ Mac Low’s *The text on the opposite page*... allows the performer to read any of the jumbled letters, words, numbers, and symbols printed in its pages (in any order). Neuhaus chose “listen.” He recorded himself speaking the word on audiotape while traveling in Illinois with the Chicago Contemporary Ensemble and manipulated (pitched down) the material prior to concert playback. If one listened close enough, they might have been able to make out Neuhaus instructing them, retroactively, to “listen.”⁴⁴⁴ The second version of *Byproduct* took place at Park Place Gallery over the nights of March 17, 18, and 19, 1967. This version was presented in association with a series of works by minimalist composer Steve Reich. Reich’s event, “Three evenings of Music by Steve Reich,” is a landmark concert for the composer and musical minimalism in general. On this concert, Reich’s ensemble performed two works: *Piano Phase* and *Improvisations on a Watermelon*. Reich also presented three tape pieces: *Come Out*, *Melodica*, and *Saxophone Phase*. During the 1967 performance, Neuhaus not only interacted with the tape music and process music of Reich, but also other artists exhibiting during an exhibition, which served also as backdrop for the Three Evenings performance series. Included were the glass prisms and light sculptures of Charles Ross, an affiliate of the art/technology collective USCO, behind which performers played. His reflective light sculptures provided a visual counterpart to Neuhaus’s non-visual exploitation of the visible light spectrum.

Personal accounts of the event describe a fracturing of bodies in the environment, broken up through glass refraction which was exacerbated by the darkly lit room mixed with projected light. At this concert, *Byproduct* served as a point of connection between light art and new music, functioning as an intermediary due to its use of photo-sensitive materials that catalogued bodily movements in the space, in turn modifying the sounds which were then captured on tape and handed out to the audience as a memory of their sonic experience. The tape was cut in looped sections and each guest received two wrapped in an aluminum tin, along with instructions to share one of the loops with another person not present at the show. In effect, the tape loops not only contained the indeterminate spatial music of Neuhaus, but also the effects of light-waves from the prismatic sculptures, which would have certainly affected what and how light moved through the room, both on the ceiling as well as the floor, which was covered in white paper to optimize reflection upward, where Neuhaus’s photo-sensors were placed. Neuhaus was given the sensors by the Experiments in Art & Technology (EAT) project.⁴⁴⁵ In their 1967 newsletter, EAT described “photocells picking up light variations for Max Neuhaus’ concert,” reaffirming the work’s initial status as a musical piece. Indeed, the EAT engineers also provided a phase shifter for Reich’s “Four Pianos” event at the Park Place Gallery. Neuhaus and Ross also later interacted, although indirectly, through the public art group Creative Time. The group, newly formed, offered both artists exhibition space in the Old U.S. Customs House downtown to install environmental works. In 1977, Ross exhibited a series of prism walls that reflected natural light. In 1976, Neuhaus, just prior to his *Times Square*, created a continuous sound environment tuned to unique resonances in the curved concave ceiling of the space.⁴⁴⁶

⁴⁴³ See Appendix.

⁴⁴⁴ Max Neuhaus, *addition of a thought: “Listen” (noun) (1965)* (1965) is the only known audiotape composition by Neuhaus, aside from possible use of audiotape in later versions of *Byproduct*, as discussed below, and his use of tape in Byrd’s *Water Music*.

⁴⁴⁵ See “E.A.T. Special Projects Since 9 Evenings.” In *E.A.T. News* 1, no. 2 (June 1, 1967): 13; 15-18.

⁴⁴⁶ Like Neuhaus, Ross was also interested in environment. Not only the concept of environmental sculpture, as found in installation art and conceptual art, but environment in terms of the ecological Earth.

Neuhaus captured and analyzed the light information not only with photocells, but also a *photocell mixer* that registered and transposed optical data to into audio information, turning light into sound. Robert Moog, inventor of one popular model of modular synthesizer, described a photocell as “any component whose characteristics depend upon the intensity of light incident upon it,” adding that “the resistance of a *photoresistor* decreases as the incident illumination increases.”⁴⁴⁷ Writing in a journal of electronic music in 1967, one year after *Byproduct*, Moog also described how the “*photovoltaic* cell is [effectively] a DC voltage source; the voltage increases as the incident illumination increases.”⁴⁴⁸ The brighter a light “incident,” the louder or more dynamic a sound (depending on modulation variables). Neuhaus used ever-changing optical environment, compounded by Ross’s sculptures, as optical information to produce live electronic music, which was sourced from the environment but heard only on tape. One of the earliest devices for photo-control of electrical signals, including sound, comes from Alexander Graham Bell. Bell founded Bell Labs – later the home of EAT – in the late nineteenth century as an electrical communications research facility.⁴⁴⁹ Bell also co-invented the *photophone*, which encoded and transmitted sonic information via light beams. While the telephone relied on a wire-carried modulated electromagnetic wave, the photophone relied on light-waves modulated by the human voice: as a human spoke into the device, sound waves moving through the air caused a flexible mirror to vibrate. These vibrations transposed the audio information into visual light patterns. The wavering light intensity could be encoded, transmitted, and decoded into audible sound. The photophone did not take off commercially, but Bell considered it one of his greatest achievements. Bell’s device set the foundation for later experiments in the 1960s, including those of Neuhaus, who received his photocells from the inventor’s own institution.⁴⁵⁰ The photovoltaic mixers of Flynn, Moog, Rzewski, and Lowell Cross, are different structurally from Bell’s device, but they share a basic utility of light as a control for sonic material. Neuhaus tuned some of his first site-specific sculptures to environmental conditions of atmosphere and sunlight, such as in *Fan Music* (1967) and *House of Dust* (1968). The works, following *Byproduct*, instrumentalized natural phenomena as a formal material, establishing his earliest *site-specific* art (separate from experiments in musical performance).

Fan Music (1967)

Neuhaus is most commonly known for large-scale and immersive – and often invisible – public installations such as *Times Square* (1978) (discussed in Chapter Three). However, the development of sound installation began more than a decade earlier and with much less monumental forms. Many of these earliest works were consciously anti-monumental in their structures, which used variable environmental conditions, such as sunlight and listener mobility. A close look at such works, including *Fan Music* and *Drive-In Music*, reveals an evolving process fraught with formal and institutional ambiguity that positions sound installation between art and music practices and cultures. This short but explosive moment of 1967-1968 also shows

⁴⁴⁷ Robert Moog, "Introduction to Mixers and Level Controls," *Electronic Music Review* 4 (October 1967): 13.

⁴⁴⁸ Ibid.

⁴⁴⁹ See Alexander Graham Bell, "On the Production and Reproduction of Sound by Light: The Photophone," *Am. Ass. for the Advancement of Sci., Proc* 29 (October 1880)115-136.

⁴⁵⁰ The use of light to carry coded information is now the basis of fiber-optics infrastructure, a high-speed global network to share photo-information that is a fundamental support of the contemporary internet.

the beginning of Neuhaus' engagement with concepts of site and place. Typically, Neuhaus described *Drive-In Music* (1967) as his first sound installation. However, the artist first began to seriously engage with methods of spatialization in *Fan Music* (1967), which predated *Drive-In Music* by several months.⁴⁵¹

Fan Music predated *Drive-In Music* by several months, despite having been listed by the artist for many years as having been produced in the following year.⁴⁵² The piece was one of the first attempts to “take sound out of time and place it in space,” which became a baseline description of sound installation as a practice and methodology. *Fan Music* stands as Neuhaus' first clear example of sound installation, despite its use of non-permanent sound generation methods and its consciously temporary duration (lasting only for three days). The installation comprised of solar panels, sound generators, mechanical fans, amplifiers, and speakers, all of which was spread over four adjacent rooftops along the Bowery. *Fan Music* ran continuously for three days. The open structure allowed visitors to come and go as they desired unlike a typical musical performance, where they must come at a certain time and stay put for the entirety of the performance. If a listener left the concert in the middle of the program, the gesture was viewed as either rude or a slight toward the performer. In *Fan Music*, the invested listener could experience the work from multiple vantage points throughout the day, particularly paying close attention to shifts in atmospheric change.⁴⁵³ Neuhaus stressed the relation of sound to pre-existing elements – industrial and atmospheric – and claimed that the work “formed a continuous aural topography.”⁴⁵⁴ The piece the artist to consciously construct a space through sound, or to fold a given space or ecology within a system that grounds the work's formal structure.

Neuhaus claimed that “use of sensors [in *Fan Music*] was about somehow connecting the autonomous sound generating machine to life.”⁴⁵⁵ The affective role of sunlight was emphasized by the artist: “[The sounds], beginning gradually at sunrise, shifted [in intensity] with the appearance of cloud or shade, and slowly changed timbre with the movement of the sun across the sky... disappearing at sunset... forming an aural landscape which reflected the passage of a day.”⁴⁵⁶ *Fan Music* was an evolving, naturally-oriented sonic environment that was determined by ecological movement. Instead of constructing an immobile sound field consisting of radio transmitters and tone generators, which outputted constant signals, in *Fan Music* the pitch, intensity, and duration of sounds were induced by changing levels of sunlight. The light rays were captured via photo-voltaic cells placed behind a system of rotating fan blades: once the light reached the cell, the adjoined tone generators produced sounds that were modulated according to ecological change. Given that the work was installed on the top of four rooftops, exposed directly to sunlight, the work would have changed its form dramatically over the course of several days. As such, the movements of clouds, along with other atmospheric conditions (e.g., fog and rain), would have altered the sonic topology in an auto-generative flux.

In 1966, Neuhaus worked with engineers at Bell Labs to procure the photocells for the *Byproduct* events. In 1968, Neuhaus became a visiting artist at the facility to discover the “means to create sounds without beginning or end,” an idea he ad explored recently in *Listen* and also in

⁴⁵¹ I attribute this discovery to the Neuhaus researcher Cory Matthews.

⁴⁵² Neuhaus had been listing *Fan Music* as occurring in 1968 for many years until musicologist Cory Matthews uncovered a Village Voice clipping that dated it to early 1967, prior to *Drive-In Music*, which took place in the fall 1967 through the spring of 1968.

⁴⁵³ Cooke, 33.

⁴⁵⁴ As described in the drawing Max Neuhaus, *Fan Music*, 1993. Colored pencil on paper.

⁴⁵⁵ Neuhaus in email to Dasha Dekleva. March 30, 2004.

⁴⁵⁶ Max Neuhaus, *Fan Music*, 1993.

Fontana Mix-Feed.⁴⁵⁷ but he had a connection through James Tenney much earlier. Tenney started working at Bell Labs as a composer under the sound engineer Max Matthews (who is often credited as the first person to compose a piece of computer-generated music). Tenney used the facilities to conduct experiments in digital noise and likely acted as a point of contact for Neuhaus, whose experience in electronics was fledgling. The formation of the Experiments in Art and Technology (E.A.T.) program in 1967 contributed to the ability of Neuhaus to use their materials, which were expensive and not commercially available to the novice. So too did the general spirit of artistic invention that swept the research institute under the likes of Matthews, Billy Kluever, John Pierce, Ted Wolff, and Ralph Flynn. These younger figures worked in the creative spirit of previous engineers at the institution, such as Claude Shannon, who had an avid interest in experimental creative circuitry. According to Julie Martin, Neuhaus would regularly stop by the EAT offices to pick up electronics, including a weather-sensitive device used in works like *Byproduct* and early sound installations like *Walkthrough* (1973) (his first totally public and architectural sound installation, built in the Jay Street-Borough Hall subway stop).

Occasionally, he received help from engineers in designing new instruments. In the case of *Fan Music*, original photo cells used in the rooftop installation were first developed for *Byproduct*. In an E.A.T. newspaper, the engineering work is credited to Wolff and Flynn, the latter of which had a recurring relationship as a mentor to Neuhaus.⁴⁵⁸ Indeed, Neuhaus was among the first artists to work with the emerging E.A.T. program following its inaugural 9 *Evenings* festival.⁴⁵⁹ Neuhaus was adamant that the work was not a concert:

[*Fan Music*] was early, at a time when there weren't many techniques for shaping sound, but it was a realization of several fundamental ideas of the 'Place' works. One was the idea of aural topography – shaping sounds in space – and the second was the idea of an installation of sound. At that time, no one had made a sound installation. The only things you did with sound were concerts. *Fan Music* went on for three days, it was not an event anymore, people came, went and returned.⁴⁶⁰

Like most of the artist's works – and live experimental music from the 1960s, *Fan Music* was not recorded. The lack of audio recordings has been a difficult aspect of researching works from this period, excepting the radio performances of *Public Supply* (1966) and *Radio Net* (1977) (discussed in Chapter Four).

However, it is easy to imagine the sound installation as a piece of drone music, as its tones and timbres gradually shifted over an extended period and enveloped listeners in a continually unfolding sound environment.⁴⁶¹ Indeed, La Monte Young and Marian Zazeela began working on their decades-long *Dream House* drone-architecture project between 1966-1968.⁴⁶² Neuhaus was still at this time performing music, and to suppose that *Fan Music* shared affinities with the immersive sound environments of La Monte Young is appropriate, despite formal and conceptual differences (while Neuhaus sought to remove sound from time to create a

⁴⁵⁷ Neuhaus in email to Dasha Dekleva. February, 2004.

⁴⁵⁸ Julie Martin has corroborated these relationships in conversations with the author (March 2016). See also "E.A.T. Special Projects since 9 Evenings," *E.A.T. News* 1, no. 2 (June 1, 1967): 13.

⁴⁵⁹ Martin in conversation with author (March, 2016).

⁴⁶⁰ Bakargriev, Carolyn Chritov. "Interview with Max Neuhaus" (April 2000). Unpublished. MoMA PS1 archives.

⁴⁶¹ At this time, Neuhaus was still occasionally performing experimental music, and to suppose that *Fan Music* shared affinities with the immersive sound environments of La Monte Young seems appropriate.

⁴⁶² For the relation of Neuhaus to the *Dream House*, see: Joseph, "Implication of an Implication," 67-68.

post-musical sonic art, Young sought to preserve and strengthen the relationship of time to purify the conditions of musical composition). The use of drones, inspired by classical Indian music and metaphysics, places Young's work in a decidedly more philosophical and religious context than the materialist installations of Neuhaus, which rather than being static and continuous are, at this time, constantly moving in sonic structure. Incidentally, the *Dream House* project was fundamentally engaged with the interaction of light and sound in space. Zazeela's magenta-hued sculptures and design motifs synthesized in the perceptive body with Young's electronic tones (his developing *dream chord*). Indeed, the mixture of natural and artificial energy sources (light and sound) make for an interesting comparison between the works: both *Fan Music* and *Dream House* used oscillator tone generators and filtered natural light, though the tones of the latter were not affected by the light as they were in the former. Furthermore, there is a strong connection between *Fan Music* and Neuhaus's lingering musical practice. Indeed, Neuhaus did not 'leave music' behind until the following year.⁴⁶³

Indeed, Neuhaus still performed music during its creation. However, *Fan Music* moved his practice away from time-oriented concert hall performances, especially considering Neuhaus's use of EAT to discover "continuous sound." For Lynne Cooke, *Fan Music* "[signaled] a crucial shift away from "event" and toward "place"... [as it utilized] a fixed site [and engaged] immaterial features of that site."⁴⁶⁴ Indeed, Neuhaus later described *Fan Music* as the first work within his *Place* vector, which also includes *Times Square*. The association positioned the work as the foundational first step towards *sound installation*.⁴⁶⁵ Nevertheless, later installations such as *Times Square* do not depend so directly on exterior variables, such as sunlight or audience interaction, and operate on their own indefinitely (so long as there is constant power).⁴⁶⁶ These works circumscribe the concept of the *post-musical*, or a work with neither positive nor negative relationships to musical conventions. I will also now emphasize that, once powered electrically, such works enter into a paradigm beyond art and music. Their use of the electrical grid and base power supplies, along with the complex social, economic and political infrastructures associated with these services, render them as technological and social entities. Therefore, spatial sound, as Neuhaus developed it in 1967, should be understood within the context of the artist's concurrent convergences of media networks, electronic circuitry, and public space. *Fan Music* presents not only the artist's interest in spatialization but also mediation and transmission, notably the transmission of energy from the sun into the photocell, which affects the electronic circuit. *Fan Music* falls neatly in the artist's engagement with post-musical circuitry, but also sets up the following decade of both sound installation as a material and virtual practice.

Similar to the artist's approach to *Listen*, *Fan Music* was advertised publicly. However, the approaches to publicity were quite different. *Listen* operated largely by word-of-mouth, or direct invitation. *Listen* was rarely publicly announced with some exceptions in the 1970s, such as his invitation to Buffalo by the arts organizations Meet the Composer and Hallwalls art space, as well as those conducted at universities. Moreover, there is no evidence that the artist charged admission for any version of *Listen*. In contrast, *Fan Music* had an admission price – \$1.50 – and

⁴⁶³ I use quotes here to emphasize my belief that Neuhaus never actually left the paradigm of music entirely, but rather worked tangentially to the field throughout his career, sometimes operating within it when beneficial to the realization of a work.

⁴⁶⁴ Cooke, 33.

⁴⁶⁵ Max Neuhaus, "Fan Music," in *Max Neuhaus: Evoquer L'Auditif* (Milan: Charta, 1995): 112-13.

⁴⁶⁶ Max Pyziur poignantly noted that Neuhaus's later permanent works like *Times Square* and *Walkthrough* take the existing electrical grid – *base power* – as a foundational component. Oral interview with Max Pyziur.

was publicly advertised in newspapers like the *Village Voice*.⁴⁶⁷ The advertisement was listed as an upcoming event and was likely sent to the paper by the artist, since it was not sponsored by any particular space or organization. The brief note begins by stating to the reader that: “A sunset is going to give three evenings of electronic music,” a description that characterizes the piece as, once again, an extended musical concert, which lasts several days rather than hours.

In addition to Young and Zazeela’s *Dream House*, a multiday structure aligned the piece with the miniature *new music* festivals of the decade, such as Moorman’s *6 Concerts ’63* (held at at Judson Hall) and Reich’s “Three Evenings of Music” (at Park Place Gallery). As discussed, Neuhaus participated in both programs, suggesting as well that the artist and audience would have understood *Fan Music* not as a *sound installation*, a term that was not used until the 1970s, but as either a durational musical performance or a *sound environment*. (Indeed, the language of installation art was at this time preceded by that of *spaces* and *environments*.) In particular, the work may have been viewed in relation to the music accompaniments given by people such as Philip Corner and James Tenney for the Judson Church dancers: non-developmental sound events that influence and are influenced by a larger kinetic environment. As discussed, Neuhaus knew these figures personally and professionally and on several occasions joined them as an accompanying percussionist. We can again consider Neuhaus’s connection to Schneemann, who was not only a performer at Judson (and the partner of Tenney), but also another early collaborator of EAT. Schneemann’s durational performance-environment *Snows* (1967) lasted about two weeks and used circuitry to control “sound and light modulations,” a system that was engineered in part by Flynn.⁴⁶⁸ In that same year, Flynn created the photocell mixer used by Neuhaus in *Byproduct* and *Fan Music*.

Fan Music had many connections to concurrent new and avant-garde music practices. In particular, the work coincided with the rising use of light as a source material in live sound performance, one typically used as a method for controlling, mixing and distributing sound in space. The installation also presented a unique form of electronic music, one that was foremost spatial and durational in experience, but also one that departs from similar conversations on the definition and reception of the so-called *new electronic music* at the turn of the century, which focused on *live performance* rather than studio recordings. However, absent from the conversation is a serious engagement with the paradigm of *live environments*, which exists as a parallel vector to live performance, but which has received comparatively (and concurrently) minor attention. How did live electronic music use space in addition to time? How did these maneuvers, using light as well as environment, reorient electronic music practice toward the emergent field of installation art?

Fan Music in a musical social context

Fan Music shared artistic affinity with the emerging *environmental music* movement, a genre of expanded musical composition that sought not only to spatialize sound (e.g., Stockhausen controlling the location of sound events in space) but also to widen the broader performance space and concert setting to an extreme scale. The primarily younger composers of this movement, often working in the tradition of Cage, experimented with expansive musical environments that spread out over broad architectural or geographical areas, sometimes creating

⁴⁶⁷ “A Sunset is Going to Give Three Evenings of Electronic Music,” *Village Voice* (August 10, 1967).

⁴⁶⁸ See “E.A.T. Special Projects since 9 Evenings,” *E.A.T. News*, Vol. 1, No. 2 (June 1, 1967): 13; 15-18.

compositions that existed throughout an entire city. For example, the composition *39 Minutes for 39 Autos* (1969) by Robert Moran used the backdrop of greater San Francisco as its concert stage.⁴⁶⁹ The composition was written for an unusual instrumentation that at once reflected and also exceeded the musical environments of Cage: “39 amplified auto horns, 78 auto headlights, 30 skyscrapers, two radio stations, one television station, a Moog synthesizer, an unspecified number of dancers, theatrical groups, searchlights, airplanes [and] 100,000 people.” The work, which emulates George Brecht’s famous *Motor Vehicle Sundown (Event)* (1960), was premiered on August 20, 1969.⁴⁷⁰ The Moog synthesizer is especially relevant to its location: San Francisco was a hub of new synthesizer music through the 1970s, especially around Mills College and the San Francisco Tape Music Center (both of which had early versions of the Buchla). Moran served as the conductor of the piece and signaled the (active) performers from one summit of the Twin Peaks hillside, which overlooks the city below from an elevation of about 925 feet.

39 Autos... also called for the casting of controlled light shows on the facades of public buildings, such as the city hall, opera house and industrial sites. Moran also explicitly incorporated new media technologies and broadcast networks into the piece, redefining the concept of environment as both contiguous material and non-contiguous virtual space. The work’s performance was broadcast by several radio and television networks, two drastically different media spaces (one aural, the other audiovisual) that broadened the musical environment far beyond the immediate Bay Area. Those spectators in the radio audience were given cues by the composer to manipulate their home lights, and were requested to position their stereo speakers toward the street to reintroduce the broadcast sounds back into the overall piece (an acoustical rather than electrical feedback). The result was a sprawling collective production of sound stretched over a massive geographical space, wherein no one person could have been able to hear every possible acoustic event produced in the piece. Whereas spatial sound in *new music* referred to an increased control of where sounds, typically electronic, occurred in a clearly defined concert space, the paradigm of *environmental music* posed such a drastic expansion of the concert space itself to a point where the refined control of where a sound was produced actually does very little to help the listener to focus on its exact location. In fact, the listener of environmental music does so with distraction, not focusing on specific spatial arrangement of minute and highly controlled sound interactions but rather an indeterminate collage of semi-controlled sounds within a broad uncontrolled soundscape (e.g., Charlemagne Palestine’s performance of bell towers throughout Manhattan between 1963-1970). The composition’s environment was thus at once material and virtual, an ontological conflict that will occupy much of Neuhaus’s own artistic output.⁴⁷¹

In fact, Moran was a friend and also an occasional collaborator of Neuhaus. The two musicians worked together in the past and Moran composed the solo percussion piece *Ceremony* (1965) for Neuhaus, who performed it as part of his repertoire internationally. Moran eventually moved beyond his early environmental music experiments, However, the practice of harnessing

⁴⁶⁹ See *Source: Music of the Avant Garde*, no 7 (January 1970).

⁴⁷⁰ See Nathan Rubin, *John Cage and the Twenty-Six Pianos of Mills College: Forces in American Music from 1940 to 1990, a History*. Sarah’s Books, 1994.

⁴⁷¹ Moran had composed works as early as 1967 that explored themes of environment. The work *Titus No. 1* (for amplified automobile) (1967) uses a light projection onto a car, which indicates which areas to manipulate and amplify with contact microphones. Behind the stage, a recording of Wagner’s “Tristan and Isolde” is played “numerous times,” a melodramatic composition that would be heard by the audience as if it were coming from a separate room, or possibly outside of the building, encroaching into the performance and acoustic space. See Robert Moran, “Titus Number 1 for Amplified Automobile,” in *Source*, no. 3 (January 1968).

large public spaces, especially infrastructural and architectural sites, as sites for constructing and perceiving sound became a primary interest of Neuhaus (as did later his use of networked media to distribute sound locally, nationally and globally). Like *39 Autos...* the *environmental music* of *Fan Music* was hyper localized and expansive in scale. However, Neuhaus was much more interested in creating continuous and stable sound environments, which had no clear manner of directed audience interaction (and no beginning or ending). Rather than asking the audience to complete an action, Neuhaus instead offered a completed environment, which was simply a sonic space to move within and explore. Beginning with *Fan Music*, Neuhaus created sound environments that could only be marginally affected by the listener, who *listened to sound* rather than *produced sound*. In this passive setting, there is no onus felt by the viewer to participate in, or outwardly create, the work. Instead, they assist in defining the perceptive boundaries and nature of their own experience within a given set of environmental conditions: they can move through the space quickly or slowly, spend a short or long amount of time with the piece, or adjust their capacity to hear in various ways, including blocking or muting the ears (or spinning in circles or any conceivable modification to their hearing). In other words, the listener can make decisions about how their own perception of sound is structured, but these decisions will only filter the *sounds heard* and will not affect the *sounds produced*.

How did *Fan Music* actually with the broader cultural scene of the Lower East Side? We can look to local newspapers to understand the social context within which Neuhaus worked and developed his sound installation practice. Newspapers such as the *Village Voice* and the *SoHo Daily News* provide us with a nuanced view of how this type of artwork intertwined with the changing cultures and atmosphere of downtown New York City, especially in the East Village neighborhood where *Fan Music* took place (and where Neuhaus lived for many years). Included next to the *Fan Music* advertisement in *Village Voice* was a note about the ambiguous “Digger’s Free Store.” The store was said to be the recipient of proceeds from a “Conga-Rock dance” at the discotheque, Cheetah, on August 15, 1967. The event was sponsored by a “hippie” group called the Diggers and another called Pee Wee’s Gang. According to activist Abbie Hoffman, the Pee Wee’s Gang was the “largest Puerto Rican gang on New York’s Lower East Side,” an area that Neuhaus lived and traversed in *Listen*.⁴⁷² The groups were coming together for a moment of peace during a period of strife: the fast infusion of gentrifying white hippies, which included the broad influx of artists who moved Downtown through the Joint Living-Work quarters program, into the largely African American and Puerto Rican neighborhood. Hoffman, a founder of the New York Diggers, characterized the dance event as an apolitical fatalist celebration for locals and anti-war gentrifiers: “Nobody gives a shit anymore [about] crying over napalm... a peace rally speech to me is like reading the National Guardian which is like watching the TV reports... which is like praying for riots to end which is like BULLSHIT!” The seemingly apolitical nature of *Fan Music* and *Listen* begs Hoffman’s rhetorical question: “What’s a good Marxist to do?”⁴⁷³

Similarly, the hippie-founded counterculture space, Diggers Free Store, operated at 264 East Tenth Street between 1st Avenue and Avenue A. The so-called “Digger” movement took its labor-oriented name from a seventeenth century proto-anarchist English protestant group that envisioned an egalitarian and agrarian-based culture entirely separate from the English monarchy. The twentieth century Diggers were described as “hippies who help other hippies,” according to a 1967 editorial profile of the group by *The New Yorker*.⁴⁷⁴ The magazine profiled

⁴⁷² Abbie Hoffman, *Revolution for the Hell of It*. [1968] (New York: Thunder’s Mouth Press, 2005): 30.

⁴⁷³ Ibid.

⁴⁷⁴ “The Talk of the Town,” *The New Yorker* (October 14, 1967): 49.

the New York City store on October 14, 1967 as part of its *Talk of the Town* section, which emphasizes peculiar artistic or cultural events or spaces within New York City.⁴⁷⁵ The Diggers were first formed in the global hippie center of the Haight-Ashbury neighborhood in San Francisco (another center of electronic music). The neighborhood has long been understood as the locus of 1960s counterculture, which was paraphrased on the cover of Neuhaus's *Electronics & Percussion*. The community and commune-oriented philosophy of the Diggers was founded on the premise that people should share resources in the service of working against capitalist exploitation. In order to facilitate a commerce-less exchange of goods between strangers, the group set up the "Free Store" as a model for a collectivity. The primary goal of the store, and the movement, was to create an alternative economy and society based on shared resources, a poignant tactic to subvert the capitalist socio-economic structures and ideologies of the U.S. (i.e., without requiring violent revolution). The use of so-called 'direct action' tactics, such as providing food or healthcare to the public, was a common feature of the organization, and eventually of twentieth and twenty-first century left politics.

The founders of the group – Emmett Grogan, Peter Coyote and Peter Berg – were also affiliated with the arts and many of their direct actions took the form of public spectacles and theatrical interventions. The movement presented a directly political interpretation of Kaprow's Happening. Whereas they set up many 'free sites' for the distribution of goods and services, the group also organized public theatrical actions – protests – throughout Haight-Ashbury. One such action, "The Death of Money," consisted of members walking throughout the streets in animal masks carrying a coffin of counterfeit currency. Grogan and Berg visited the East Village in New York City in 1967. There they met the activist Hoffman, who then founded the anti-authoritarian group Youth International Party, or Yippies. Hoffman was subsequently arrested in 1968 for inciting a riot at the Democratic National Convention in Chicago. Hoffman's interest in Digger philosophy mixed with New York City's own history of avant-garde street performance, including Happenings. In this political and artistic duality, the formation of the New York City Free Store was as much a philanthropic endeavor as it was a public Happening. The group became a media sensation in New York City for its public stunts, which in addition to the Free Store also included blocking automobile traffic and interrupting live television.⁴⁷⁶ The New York Diggers were a loose-knit offshoot of the Yippies.⁴⁷⁷ The Diggers became a prominent social feature of the Lower East Side, as members organized public events, such as the aforementioned dance, as well as "Digger Theater" events and the Free Store. In addition to these activities, the Digger's also supported performances of new music. Bob Fass, a founding member, was an employee of the public radio station WBAI.

WBAI was funded by listener donations (as an example of "listener-oriented radio") and served as a home-base for the radical group to discuss and plan their events and actions, as well to share information with their listeners.⁴⁷⁸ "We'd go on WBAI and talk about [our activities]," Fass said, "People would donate. We didn't have overhead. No staff or structure. Whoever was involved..."⁴⁷⁹ During this period, WBAI was publicly scorned by the Federal Communications Commission (FCC), which found its programming to be morally and politically threatening to

⁴⁷⁵ Ibid. The magazine would use this same section to profile Neuhaus in June 5, 1978, specifically to highlight the recently installed *Times Square*. See "The Talk of the Town – Music Below," *The New Yorker* (June 5, 1978): 27.

⁴⁷⁶ Marty Jezer, *Abbie Hoffman: American Rebel* (New Brunswick: Rutgers University Press, 1993): 88.

⁴⁷⁷ Ibid., 86-88.

⁴⁷⁸ Ibid., 87.

⁴⁷⁹ Ibid.

the interests of the U.S government.⁴⁸⁰ Indeed, in addition to the Diggers, WBAI hosted political programs by outspoken Marxists, socialists, and communists, and regularly featured discussions of black liberation, women's rights, and homosexuality.⁴⁸¹ The FCC did not suspend their license but sent a clear message to the fledgling station that they were being monitored for subversive political activity. The Digger's Free Store, and the theater events of the Yippies, were joined by similar groups in the city that provided free services, such as the infamous anarchist Up Against the Wall Motherfucker.⁴⁸² Likewise, the New York Diggers inspired later groups that revived their direct action protests in the 1970s, including the pro-violence Weather Underground (which slowly evolved into a domestic terror group and was responsible for public bombings throughout NYC and Washington, D.C.). The Free Store (and the Diggers movement as a whole) did not last long. The lack of control quickly turned into physical violence: there were fights between hippie customers and neighborhood locals, often falling on class and racial lines, and also reports of sexual violence against women inside the store.⁴⁸³ The idea of total freedom was in practice mired by the realities of class and gender aggression.

However, the rhetoric of freedom – in addition to free stuff – was a recurring trope within the counterculture lifestyle, which envisioned not only a Free Store but a Free City. The idea of freedom in particular became a popular framework within new musical and artistic practice of the 1960s and 1970s. In fact, one recurring feature of the Digger movement was its support of free musical events.⁴⁸⁴ The rhetoric of freedom that was espoused by the New York Diggers was found in sonic culture, as in the case of WBAI and the rise of listener-oriented and commercial-free radio, which is otherwise known as *freeform* programming. Perhaps it is also relevant that the rise of freeform radio coincided with the embrace of formlessness in the visual arts. The rise of various types of *free music* was also not limited to conservatory, academic or the avant-garde spaces, but also extended to popular music, such as jazz. The rise of musical vernaculars such as *free improvisation* and *free jazz* highlights how the idea of freedom permeated postwar sonic culture as the tumultuous civil rights movement came to its head in 1968.

Between 1969 and 1976, the WBAI studios hosted a series of weekly free musical events.⁴⁸⁵ The “Free Music Store” (FMS) – a pun on the Digger's Free Store – provided the opportunity for people to listen to new music without having to spend money on a ticket, or the vinyl album if available, thereby collapsing the various social and class barriers to musical style and taste. The concert project was directed by then WBAI musical director, Eric Salzman, a composer of new music. The concerts were funded by solicited donations from guests as they left the concert, but fees were not required upon entry. The money was split between the performers and any profit afterwards was used for the station's operational costs.⁴⁸⁶ The station recorded all of the performances on a four-track machine, which produced audio for playback on the radio, ensuring that those who did not attend could still listen virtually. The recordings were

⁴⁸⁰ “The Federal Communications Commission Decision,” in *The Exacting Ear*, ed., Eleanor McKinney (New York: Pantheon Books, 1966): 319-324.

⁴⁸¹ Ibid.

⁴⁸² See Gavin Grindon, “Poetry Written in Gasoline: Black Mask and Up Against the Wall Motherfucker,” *Art History* 38, Issue 1 (February 2015): 170-209.

⁴⁸³ Jeezer, 89.

⁴⁸⁴ Ibid.

⁴⁸⁵ “Joyful Noise: An Introduction to WBAI's Free Music Store,” Pacifica Radio Archives: A Living History (November 14, 2013). Web. Accessed January 17, 2016. <http://www.pacificaradioarchives.org/article/joyful-noise-introduction-wbais-free-music-store>

⁴⁸⁶ Ibid.

occasionally used by the artists for album releases, typically on independent rather than major labels, and have appeared on records by the rock-and-roll musician Patti Smith, the free jazz percussionist Milford Graves and free jazz saxophonist Joe McPhee. This context of freedom – free music, freeform, freedom – is culturally very important to Neuhaus and the scene in which his works, such as *Listen*, *American Can*, and *Fan Music*, operated. The fact that Neuhaus also had repeated encounters with WBAI is of particular interest, whether as an interviewed percussionist or in his later subversion of the radio format in 1966 with his radio *Happening*, *Public Supply*, which was hosted by the station.⁴⁸⁷

In fact, Neuhaus had a direct connection to the Free Music Store. On New Years Eve in 1969 – three years after its first realization – Neuhaus took over the WBAI airwaves to realize a version of *Public Supply*. The work, in which radio listeners called the station and produced sounds for Neuhaus to mix into a live sound collage, was advertised as “Max Neuhaus Makes Music.” The work invited listeners to “phone in some sound,” which was “instantaneously [composed]” by the artist.⁴⁸⁸ As with earlier versions, the callers are instructed: “Between 11:00 PM and 12:30 AM... dial area code 212-826-0750 – when you hear the call stop ringing make any sounds you want – no one will speak, your call is being fed directly into the system.”⁴⁸⁹ The advertisement suggested that the radio piece was also an in-person performance, one of the few that would bridge Neuhaus’s concurrent interests in spatialized and virtualized sound (along with *Drive-In Music*). The work is also placed back into a performance model, which he was actively trying to purge. There was unlikely a stage on which Neuhaus performed, but it is possible that he was observed by others in attendance at the Free Music Store, a known concert venue that at the time of his broadcast was hosting a New Year’s Eve celebration.

Between 1970 and 1974, the Free Music Store was co-produced by the WBAI engineer and producer Steve Rathe. The series featured jazz and rock, including the synthesizer music of Mother Mallard Band, but also supported jazz and avant-garde artists, such as Meredith Monk, Charlemagne Palestine, Tony Conrad, Phillip Glass, Jon Gibson, and Joan La Barbara.⁴⁹⁰ Rathe did not work with Neuhaus during his time at WBAI, but Neuhaus reached out to the producer in 1974, when he was a producer at the newly founded National Public Radio, to propose another live broadcast, *Radio Net* (1977). (*Public Supply* and *Radio Net* are discussed in great detail in Chapter Four.) Nonetheless, Neuhaus’s association with the Free Music Store in 1969 speaks to the artistic, social, and institutional ambiguity of his practice just one year after the Columbia LP, as well as his connections to broader artistic and social communities. Specifically, the work highlights the intermingling of artworks that were later detangled, or omitted, in his own career narrative. For example, this version of *Public Supply* has never been publicly acknowledged by the artist, similar to another version that he realized at SUNY Stony Brook at the request of Kaprow in 1967.⁴⁹¹ These works were purged, consciously or unconsciously, from his *raisonne* possibly because they did not fit into any specific *vector* model, but rather glided between them

⁴⁸⁷ I use this term in partial reference to Cage and Feldman, “Radio Happening I,” 1966.

⁴⁸⁸ Advertisement for WBAI/FMS performance of *Public Supply*. See MNP. Box 7, Folder 12.

⁴⁸⁹ Ibid.

⁴⁹⁰ See Tom Johnson, “The First Meredith Monk Review,” *Village Voice* (February 3, 1972); David Chapman, *Collaboration, Presence, and Community: The Philip Glass Ensemble in Downtown New York, 1966-1976*. Dissertation. Music. Washington University in St. Louis, 2013.

⁴⁹¹ See Allan Kaprow, “The End of the Concert Hall,” *The Statesman* (May 3, 1967): 4-5.

ambiguously.⁴⁹² The Free Music Store version of *Public Supply*, a “networks” piece, coincided with *Fan Music*, a “place” vector, through their dual relation to the Diggers, as well as through an aesthetics and cultural politics of freedom.⁴⁹³

Diamond in the Mud – Neuhaus in Buffalo

Though typically associated with New York City, Neuhaus was also active in upstate New York, particularly in and around Buffalo. Buffalo was an unexpected locus of new musical activity in the 1960s and 1970s, particularly around the University of Buffalo under the direction of figures like Lukas Foss, James Tenney, Rene Levine-Packer. As an artist working between the fields of avant-garde music and visual art, Neuhaus made repeated trips to the area, first at the invitation of Maryanne Amacher to compose *Drive-In Music* (1967) as part of her *In City, Buffalo* art festival. Among the latter trips was another realization of *Drive-In Music* in 1975 (at the Artpark residency program in Lewiston, NY), and a version of his popular underwater sound installation, *Water Music*, at the University of Buffalo. As mentioned, Neuhaus often compounded these trips with realizations of *Listen* (including one at the Robert Moses Niagara Power Plant, which, like, *Water Whistle*, signaled his rising interest in subaquatic acoustics). How did these experiences develop his *anti-musical* practices into a *post-musical* mode?

In City, Buffalo – Drive-In Music

In 1967, Neuhaus was invited by Amacher to participate in her city-wide festival, *In City, Buffalo*. The weekend-long event was organized by Amacher with the University of Buffalo, where she was an artist-resident. *In City, Buffalo* featured public exhibits, installations, and performances across the city. Some works lasted over a period of days, weeks, and, in the case of Neuhaus, months. Neuhaus saw it as his “first opportunity for departure [from the concert hall] on a large scale.”⁴⁹⁴ Amacher described the project as “a network... bringing events to home, car, (radio, TV, mail, lights), department store windows, public buildings, streets, lakes, canals, and other special locations in city.”⁴⁹⁵ The description of “events” happening at “special locations in city” places the festival in context with similar projects in New York City, such as Charlotte Moorman’s Annual Festival of the Avant-Garde (to which Neuhaus had contributed). These public-facing art events gave Neuhaus an arena to develop *sound installation* as a public art endeavor. Neuhaus repeatedly claimed that his first sound installation – and, as he also claimed, the first ever produced – was *Drive-In Music* (1967), a radio-phonetic sound environment only accessible by car. The installation was hosted by the Albright-Knox Gallery in Buffalo,

⁴⁹² In 2002, Neuhaus admitted to the connections of these works and the persistence of his music-making activities. Even if he “ceased activities as a percussionist,” he admitted that the radio pieces (a part of the ‘network’ vector) were essentially music because they unfold over time, rather than in space. See Barkagiev (2000).

⁴⁹³ The event also highlights a strange penchant for hosting other NYE events, such as the *Fontana Mix-Feed* performance in Central Park (1966) and NPR’s *Radio Net* (1977).

⁴⁹⁴ Neuhaus, “Modus Operandi” (1980). Reprinted in *Max Neuhaus, Sound Works, vol. I, Inscription*, ed. Gregory des Jardins (Ostfildern-Stuttgart: Cantz, 1994): 18-20.

⁴⁹⁵ Amacher quoted in a program description for *In City, Buffalo* included in the symposium (6/4/2016) packet *Labyrinth Gives Way to Skin: Long Distance Music Reader*. New York: Blank Forms and Maryanne Amacher Archive, 2016.

New York, a historical yet forward-thinking museum that regularly catered to new music and experimental performance throughout the 1960s and 1970s. Neuhaus described *Drive-In Music* as a sound installation – it was among the first works to be designated as such by the artist, albeit well after-the-fact. (Neuhaus did not widely use the term ‘sound installation’ until the mid-1970s).⁴⁹⁶ Nonetheless, the phrase aligns the work with the progressive and situation-based strategies of the postwar avant-garde, namely environmental sculpture and gallery installation art. However, the piece was initially built and understood as a musical composition by the artist, audience, and patrons. In fact, the festival was organized by Amacher as a creative resident at the University of Buffalo’s new Creative Associates program for experimental composers (and sound artists). Amacher was a resident, among the earliest, from 1966 to 1967. As such, Neuhaus’s work was made in close association with the Department of Music, rather than the art museum (from which it originated spatially).

Indeed, as we will see, in addition to being Neuhaus’s first sound installation (in actuality, *Fan Music* predated *Drive-In Music*), *Drive-In Music* was basically a work of post-serialist music, a spatial expansion of a Schoenbergian methodology that placed sound not into time-based rows, but phenomenological space (similar to La Monte Young’s 1958 composition *Trio for Strings*). The work was directly associated with the Department of Music, an affiliation prominently featured on advertisements for the piece (which helped the public become aware of the work’s presence, a similar strategy to what he did with the radio piece *Public Supply*).⁴⁹⁷ The title itself makes this connection clear, albeit ironic (as it references kitschy drive-in theaters of the 1950s, a product of popular culture anathema to the concert hall). Despite an attempt to abandon the institution of music, Neuhaus’s transition was not swift (even a decade later while in Buffalo to realize a version of *Listen* in 1975, in which he also produced a second version of *Drive-In Music*) he was still advertised as a composer. *Drive-In Music* is discussed by art historians and musicologists according to very different terms, between art and music.

Drive-In Music, one of the more unconventional pieces of *In City, Buffalo*, consisted of numerous low-powered radio antennae strung along a mile-length stretch of highway, leading away from the Albright Knox Gallery. Transmitters were connected to oscillators that produced pure electronic tones; each was broadcasted down the highway, forming discreet but overlapping radio fields. Interested parties could listen to the piece – if they chose – by driving down the road with a car radio tuned to the appropriate channel. As they passed each transmitter, passengers heard a sequence of electronic tones that dovetailed into each other, blending as a continuous, droning ambient wash. *Drive-In Music* consisted of several low-powered radio antennae strung along a mile-length stretch of highway, leading away from the gallery, that when heard in succession blended together in a droning, tonal wash. Interested parties could only listen to the

⁴⁹⁶ He begins using the phrase *sound installation* in reference to *Walkthrough* and *Times Square*. See Rockefeller Foundation Records. RG 1.3-RG1.8. Subgroup Series 200 Box 926. Folder 6220. “A Proposal for a Sound Installation for Times Square.”

⁴⁹⁷ Neuhaus was invited back to the Center of Creating and Performing Arts in 1972 to stage a performance of the current focus of his installation practice: *Water Whistle*. The piece was described by Neuhaus as a sound environment – what would now be called a site-specific installation – but the event was also promoted as a musical concert. The project was commissioned by the Center of the Creating and Performing Arts, a departmental effort to showcase new music and theater. Between 1964 and 1980, the center presented the performance of works by Amacher, Robert Ashley, Milton Babbitt, Cornelius Cardew, George Crumb, Luc Ferrari, David Tudor, Philip Glass, Steve Reich, Joan La Barbara, and Pauline Oliveros, among many others. See Rene Levine Packer, *The Life of Sounds: Evenings for New Music in Buffalo* (Oxford: Oxford University Press, 2012).

piece by driving down the road with their car radios ‘tuned into’ the appropriate channel; as the driver passed each antenna (of about twelve). Neuhaus offered the listener an indeterminate structure in which to operate, setting up a series of potentials that the performer, who was also listener, controls during their own realization. The work is only produced during an act of listening. Furthermore, *Drive-In Music*, being radio art, does not acoustically exist until a listener ‘tunes in’ to the station on their receiver; otherwise, the sound waves remain concealed as inaudible energy waves. Taken as a musical composition, *Drive-In Music* operated like an aleatoric score, one that the performer (i.e., the listener) controlled and modified. As a driver approached the work, moving away from the gallery, they navigated a sound environment through several audio-spatial vectors under their control.

For example, the car’s acceleration rate (i.e., speed) would have been greatly determinate: if the vehicle moved through the sound fields quickly, listeners would have heard shifting tones in a swift succession, resulting in the perception of a fast tempo; if driven slowly, the tonal progression would have been elongated, resulting in the perception of a slow tempo. By adjusting speed, listeners could experience the installation musically as either *adagio* or *allegro* (or any tempo between or beyond). Neuhaus conflated the conventional distinctions of composer, performer, and spectator, and overturned the performative apparatus, contributing to Neuhaus’s goal of disrupting the concert hall. If *Drive-In Music* is considered by Neuhaus to be his first sound installation, it was also an attempt to adjust the rhetoric of spectatorship in the musical realm, positioning it between two disciplines. The indeterminate compositional structure of *Drive-In Music* is found within other works of Neuhaus at this time, such as *Fan Music*. *Drive-In Music* could have been modified into variations, but *Fan Music* was continuously changing.

Understood in the context of postwar visual art, *Drive-In Music* operated along the lines of environmental, durational, or situation-based art. As discussed, Happenings were established by 1967 as was the Fluxus group (which, in actuality, had begun its descent following a rejection of the group by key members). Neuhaus associated with each sporadically and his works were developed in this relation. We may also consider *Drive-In Music* in relation to emergent environmental practices of *earth art* and *land art* figures, such as Nancy Holt, Robert Smithson, and Walter De Maria, the *conceptual art* of Robert Barry, and the nascent *post-minimal* works of Robert Morris. Furthermore, by the summer of 1966, the so-called “Hoving Happenings” in Central Park (sponsored by the Parks Department commissioner, Thomas Hoving) established a new form of public-facing durational art practice. *Drive-In Music* participated in this legacy.

Furthermore, electrical components were inexpensive and reproducible, clearly aligning the work with the anti-commodity desires of mass media art, including Fluxus multiples, in addition to current trends in electronic music. Neuhaus produced several artist multiples around this time, including a portable noise-making device called *Max Feed*, which was among his first explorations of customized circuit electronics (also the basis for *Drive-In Music*). However, the work was also conceived in relation to musical technology:

The idea began with the realization that most people spend a great deal of time in their automobiles (something I'd forgotten, having spent the previous ten years in New York). Most of them listened to sound in their cars over the radio. I didn't know much about the inner workings of electronic equipment then, but I did remember that singers sometimes used 'wireless' microphones that actually broadcast a short distance to a radio receiver. It seemed like the ideal solution.

In 1967, Neuhaus did not perform as frequently as in prior years, but his background as a concert hall musician gave him an understanding of the unique artistic potentials of sound technology, in addition to sound, as an artistic medium. The appropriation of wireless technologies in *Drive-In Music*, his second piece to use radio broadcasting, orients the work was not only his first sound installation, but also an important step in his embrace of electronic circuits and the structures of media networks.

In *Drive-In Music*, the compositional elements were incredibly deliberate. Indeed, the months-long presence of *Drive-In Music* required recurring maintenance, a premonition of his decades-long battle with preserving the *Times Square* installation, and its unusual location put Neuhaus in a tense position between private and public institutions. For example, Neuhaus was briefly harassed by the local Buffalo police, which on at least one occasion detained him after they spotted a strange man climbing trees, and installing electronics, along the Lincoln Parkway: “It wasn’t easy... I was taken into custody several times... I hadn’t [yet] learned my disguises, nor had I much verbiage... I had no knowledge of the institutional beast.”⁴⁹⁸ The ambiguity of the piece was both a blessing and a curse: it was a novel artistic territory, but one un-trekked from an institutional perspective.⁴⁹⁹ Neuhaus later learned his disguises: Times Square was partially built while he was dressed as a Con Edison employee.

The music department that commissioned the work was also in slight turmoil. The work was commissioned through the university’s Center for Creative and Performing Arts (CCPA), a new program associated with avant-garde music and performance art. In addition to Neuhaus, other guest musicians included: Amacher, Morton Feldman, Robert Ashley, Gordon Mumma, and Cornelius Cardew.⁵⁰⁰ The works of the CCPA, including *Drive-In Music*, drew significant ire from conservative faculty (who viewed visiting artists as a detriment to the department’s artistic and academic credibility). However, the CCPA was bolstered by a large Rockefeller grant of \$200,000 in 1964. The program operated largely independently from the rest of the department, and the disparate connection spurred significant departmental tensions. One faculty member said of the artists that CCPA brought to campus: “[They were] the shaggiest, most unkempt, [undisciplined, disagreeable] crowd of people: anti-academic, anti-establishment, anti-everything.” Another quipped, “A lot of what was being performed [at the CCPA] was not worthy of performance. It was like looking for a diamond in the mud. Occasionally there was a diamond, but there was a lot of mud.”⁵⁰¹ Neuhaus’s *Drive-In Music* may have been the artists’ first encounter with the “institutional beast.”

Neuhaus was later invited to be a resident at the Center of Creating and Performing Arts in 1972. By this point, the artist had abandoned musical performance and was deep in a new project based on subaquatic acoustic sound environments. With funding from the University of Buffalo, Neuhaus staged a version of the current focus of his emergent installation practice: *Water Whistle*. The piece was described by Neuhaus as a sound environment – but what would now be called a site-specific installation. Nonetheless, the event was promoted as a musical concert, and was funded using the music department’s grant money. Like *Drive-In Music*, *Water Whistle* was an attempt to establish a public-facing sonic art that did not depend on refined music

⁴⁹⁸ Neuhaus is referring to encounters with police, but the mention of ‘disguises’ and ‘verbiage’ also highlights its multifaceted institutional potential: the conflict between art, music and public institutions (a dilemma further expored in Chapter Three). See Neuhaus, “Modus Operandi,” *Artforum* (January 1980).

⁴⁹⁹ See Max Neuhaus, “The Institutional Beast,” in *Max Neuhaus: Sound Works, vol. 1, Inscription*, ed. Gregory des Jardins. Ostfildern-Stuttgart: Cantz, 1994.

⁵⁰⁰ See Packer, 2012.

⁵⁰¹ Packer, 67-68.

knowledge, but could simply be experienced by anyone with ears. Speaking of Drive-In Music, the artist characterized how his emerging sound installations engaged not only with public space, but with a public body: “I felt it was important to do a work which would be accessible not only to that music public, but also to those who were not initiates of those particular rituals. One problem I saw was making it accessible without being obligatory, not an easy task with sound in a public place.”⁵⁰²

Sound out of time, into space

In a 2002 interview with composer Ron Kuivila, Neuhaus spoke on his early experiences with musical performance and how those related to his current practice of sound installation, despite his attempts to separate the two since 1968: “My last performance was thirty-five years ago, so it’s been a long time since I was a performer... these directions [toward sound installation] began forty years ago, so they’re more me than a performer. [Sound installation] is more a part of my general work than being a musician.” Indeed, the concept of non-musical spatial sound became the dominant frame through which Neuhaus placed his work since the 1968, following the release of his Columbia record and early sound installations *Drive-In Music* (1967), *Fan Music* (1967), and *Walkthrough* (1973). However, Neuhaus admits that encounters with musical performance, even when negative, guided these early works and still informs his installations in thought and practice, adding: “But certainly, the knowledge that I gained from performing as one person in front of a large audience about what sound... how people and sound work together, is instrumental to doing these pieces.”⁵⁰³ Though installation and performance were viewed as artistically separate for Neuhaus – and should be considered separate to us, at least in some degree – there is ample room for considering each as interrelated, perhaps even co-dependent.

The role of musical performance, specifically of new American percussion music, was central to Neuhaus’s earliest ideas of spatial sound, rather than sound in time, as well his opening of the performance apparatus, notably collapsing categories of composer, performer and audience. Neuhaus ends the above discussion with a terse bit of self-reflection on this point: “I know what I’m doing, even though I try not to,” referring not only to his experiments in musical de-skilling and anti-virtuosic methodology, but also his tendency to not approach a potential installation site with any specific sound or framework planned. Neuhaus did not engage his installation sites as a performer uses a score. Instead, he went to each potential site with an open ear to allow the location’s sonic forms to be revealed to him over a period of several days, rather than imposing his own composition upon the space. This method not only reflects a rejection of musical composition from a conservative point of view, but also the aleatoric and indeterminate methods of composers like Cage and Stockhausen. In this sense, Neuhaus began to articulate his move from the *musical* and *anti-musical* to the *post-musical*.

⁵⁰² Packer, 67-68.

⁵⁰³ Ron Kuivila, “Interview with Max Neuhaus.” (Wesleyan University, 2002) Unpublished.

House of Dust – a post-musical site

The collaborative sculpture *House of Dust* (1968-1975), built by Fluxus artist Alison Knowles with Neuhaus, was the artist's first truly post-musical continuous sound work that used custom electronic circuitry.⁵⁰⁴ It was also one of the only artworks that Neuhaus collaborated on with another artist following his performance career.⁵⁰⁵ Knowles asked Neuhaus to contribute a sonic component to her work and technically it is not by Neuhaus. However, *House of Dust* was among the artist's earliest public sound sculptures, and as such requires serious consideration in his development of sound installation. Neuhaus's sonic contribution to the project consisted of live weather sensor and sine-wave oscillator system that was controlled by moving fan blades and sunlight. Neuhaus used photovoltaic cells to control amplitude and frequency variables, which shifted throughout the day as the sun rose and fell. The cells controlled the dynamic and tonal structure of the work, which was, essentially, an open hut placed in public space that could be occupied by any person for any purpose. Knowles described the sound as "wind rushing through a wheat field," adding that it was "very strong when the sun was overhead exciting the sensors [placed on top of the House... it became modified to a whisper at low sun levels, like twilight, to nothing at all [at night]."⁵⁰⁶

The house's structure was taken from Knowles's poem of the same name – the first known computer-generated poem that drew its form from variable input data randomly assembled into a semi-structured poetic form: "a house of (list material) (list location) (list light source) (list inhabitants)."⁵⁰⁷ Knowles produced the piece following an informal lecture on the FORTRAN programming language by James Tenney. Knowles decided to create a physical version of one quatrain and enlisted Neuhaus, whose work in sound construction, rather than musical performance, was becoming established. Knowles likely knew of Neuhaus's work at the Judson dance concerts and also his Happenings and Fluxus-style anti-musical performances. However, Neuhaus's sonic component was the first time that the artist set up an entirely non-performative, and as I suggest post-musical, sound environment with no beginning or end (that is, aside from extreme conditions, such as arson). The work is also among the first, following *Byproduct* and *Fan Music*, to use customized electronic circuitry to create a continuous sound architecture – sound in space as opposed to time. The work was also his third to instrumentalize indeterminate light-waves as a means control the formal parameters of electronic sound. Quixotically, Neuhaus later abandoned *House of Dust* – despite concerted efforts to maintain the work – and made no future reference to it publicly or privately. Why did the artist later ignore such a fundamental piece in the development of sound installation?

Two versions of *House of Dust* were produced. The first work was built in in 1967 in New York City at the Penn South housing co-op in the Manhattan neighborhood of Chelsea. The second work was built in 1970 outside of Los Angeles on the California Institute of the Arts (CalArts) campus. Each was similar in structure with minor conceptual differences, but vastly different sites of realization and audience. The first version was funded by a grant obtained by

⁵⁰⁴ Excluding the *Public Supply* pieces, which utilized the radio broadcast networks and a customized telephone answering machine, but which did not incorporate totally new circuitry.

⁵⁰⁵ Neuhaus in an email to Dasha Dekleva. March 30, 2004.

⁵⁰⁶ Knowles quoted in correspondence to Dasha Dekleva (June 2004).

⁵⁰⁷ See Alison Knowles and James Tenney, *A House of Dust* (Cologne, Verlag Gebr. Koenig, 1972).

Knowles through the Guggenheim Fellowship program.⁵⁰⁸ She applied to create a work of public sculpture based on the poem, using a line from the text as a conceptual basis for the work's material and social structure. The quatrain used in her application was: "A House of Plastic / In a Metropolis / Using Natural Light / Inhabited by People from all Walks of Life."⁵⁰⁹ The phrase *natural light* seems to be a good candidate for how Neuhaus may have first become involved. Knowles knew Neuhaus through his musical and performative activities, such as his 1967 experiments with photovoltaic cells in the works *Byproduct* and *Fan Music*. The artist, still a percussionist, was also good friends with Tenney. Tenney taught Knowles and others about computer programming language FORTRAN, which Knowles used to produce *House of Dust*.⁵¹⁰ Neuhaus was in attendance for these impromptu coding sessions.⁵¹¹ Neuhaus was also using natural light in his post-musical circuit environments, such as *Byproduct* and *Fan Music*, making him a natural fit for the project. *House of Dust* (1967) was the first continuous architectural sound installation that Neuhaus made.

According to Knowles, Neuhaus chose the photovoltaic and thermal-sensitive cells in order to determine a continuous and constantly changing sonic structure for the work. Like earlier optical pieces, like *Byproduct* and *Fan Music*, *House of Dust* relied on subtle environmental shifts in light (and also heat). The work was thoroughly site-specific, although the artist did not yet use this terminology. Accordingly, the work is a great example of the emergent influence of sound on site-specific practices broadly, including earthworks and environmental art generally speaking. However, the focus of both Knowles and Neuhaus on social interaction sets the work apart from those by artists like Robert Smithson, Nancy Holt, or Michael Heizer. In a 1980 interview, Knowles described the first version of *House of Dust*, specifically revealing the artistic role of Neuhaus in the project:

[I] commissioned Max Neuhaus to add some sound to the smaller of the two HOUSES. He chose thermal circuits sensitive to sunlight that would pick up the path of the sun moving over the HOUSE each day and would change that heat into sound for the people sitting inside the HOUSE.⁵¹²

However, the resultant sound was relegated to "the smaller of the two houses," which refers to the fact that there was a pair of houses rather than one standing alone – a larger structure and a smaller structure. The opposition to *House of Dust* was taken up by residents in the building.⁵¹³ In October of 1969, nearly a year after its completion, the work was partially destroyed by fire.⁵¹⁴ The work reveals the challenges – culturally, technically, and economically – of building and maintaining public art, especially works that, like *House of Dust* and *Times Square*, have no clear utility or symbolic function.

⁵⁰⁸ See Nicole Woods, "Object/Poems: Alison Knowles's Feminist Archite(x)ture," *X-Tra Contemporary Art Quarterly* 15, no. 1 (Fall 2012). Web. <http://x-traonline.org/article/objectpoems-alison-knowles-feminist-architexure/>

⁵⁰⁹ Ibid.

⁵¹⁰ Ibid.

⁵¹¹ Ibid. Tenney printed out the poetic program built by Knowles Tenney printed the work at the Brooklyn Polytechnic Institute.

⁵¹² See Alison Knowles, "The House of Dust: A Chronicle," *New Wilderness Letter*, no. 8 (Spring 1980): 17-24. See also <https://jacket2.org/reissues/nwl>.

⁵¹³ Ibid., 24.

⁵¹⁴ Ibid.,

Following the arson, Knowles recalled that although the large house was nearly entirely damaged, the small one remained – especially with markings from Neuhaus: “There are still lumps from the thermal pick-ups, vestiges of Max Neuhaus’s work.”⁵¹⁵ The second version in 1970 lasted much longer than the first – it was destroyed sometime in 1975. The quatrain was changed from the original, instead using: “A house of dust / On open ground / Lit by natural light / Inhabited by friends and enemies.”⁵¹⁶ The basic structure of the work remained the same – and some of the physical materials of the second used were salvaged from the fire. The 1980 interview describes two aspects of *House of Dust* that relate, in opposite ways, to the work of Neuhaus. Firstly, Knowles described the work as “right to call forth new contributions,” referring in particular to its accumulation of graffiti throughout the 1970s. This aspect of public contribution, once a primary aspect of Neuhaus’s work, became antithetical to his public sound installations – these works are heard, not produced, by the listener. Secondly, Knowles points out the ambiguous artistic function of the piece according to the logic of the modern art museum, which denies ephemerality and trans-disciplinarity in order to position the poem as a sculpture (a tactic used by the Museum of Modern Art to mitigate the ambiguity of Neuhaus’s sound installation):

The most important thing to emphasize is the poem ... the changing nature of the poem. The museum regards this as a sculpture that is part of a large sculpture garden. I'm trying to get them to see it as a poem. The heaviest poem I know about.⁵¹⁷

The California version was nearly exhibited in the sculpture garden at the Oakland Museum, but the curators at the institution “[found] the difficulties of moving *House of Dust* to [the] museum insurmountable” and rescinded their invitation to display the work.⁵¹⁸ Knowles also discussed the difficulty of finding the original location of the work:

I approached the City of New York for abandoned sites. There weren’t any! Everything was a proposed site for a park... there’s quite a difference between a sculptor [like Mark Di Suvero] doing outdoor pieces for a decade or more and a visual artist doing performances and intermedia looking for a place for her three-ton poem!⁵¹⁹

Morrow quips on the relation of the work to its environment: “It’s so interesting that the geometry of [*House of Dust*] has these political and aesthetic consequences. It seems to hit up against [these problems],” a condition that describes many of Neuhaus’s subsequent works.

Knowles also mentioned that “Chance operation frees the work so it can find its own center outside. The participation just continues that idea. I feel apart, I am apart from the work, I adjust what goes on.” Notably she used Cagean language to describe *House of Dust*, emphasizing its formal openness and performativity.

⁵¹⁵ Alison Knowles, “The House of Dust: A Chronicle,” *New Wilderness Letter*, no. 8 (Spring 1980): 17-24.

⁵¹⁶ See Nicole Woods, “Object/Poems: Alison Knowles’s Feminist Archite(x)ture,” *X-Tra Contemporary Art Quarterly* 15, no. 1 (Fall 2012). Web. <http://x-traonline.org/article/objectpoems-alison-knowless-feminist-architexure/>

⁵¹⁷ Alison Knowles, “The House of Dust: A Chronicle,” *New Wilderness Letter*, no. 8 (Spring 1980): 21

⁵¹⁸ *Ibid.*, 24.

⁵¹⁹ *Ibid.*

House of Dust was a site for poetic realization, a physical manifestation of immaterial information, but it was also performative in relation to its “inhabitants,” who drew graffiti on the walls, brought gifts for Knowles, and, to the great dismay of Neuhaus, adjusted the oscillator tones. Neuhaus soon separated himself from the work, which required constant upkeep (i.e., re-tuning). The work was the artist’s first major collaboration since performing as an ensemble musician, a group activity that he had already abandoned, and Neuhaus desired more control over his forms. He wanted his sounds to exist continuously, but also without interference (i.e., autonomously). The difference between Knowles and Neuhaus, of course, was the fact that the latter preferred his sound installations to be hidden and undisturbed – to be found or discovered instead of occupied or modified. The work, excised from his official oeuvre, fell out of line with his growing austerity. Nonetheless, *House of Dust* was a significant work in his practice. Despite divergence on interactivity – something Neuhaus avoided and Knowles encouraged – the work was, for better or worse, his first encounter with the *post-musical*.

CHAPTER THREE: SITE

Acoustic Space and Social Place in Environmental Art, 1968-1980

You tell people you work with sound [and] a lot of people say, “When's the music going to begin?” I say, “Never.” [Max Neuhaus]⁵²⁰

All art is, in fact, site specific... the question (of which site it is specific to) only arises when we move outside of the common site of the white walls of the museum or the green grass or the sculpture garden. [Max Neuhaus]⁵²¹

In our daily lives, eye and ear constantly work together as a closely-knit team to form our perception of where we are – our sense of place. Traditionally practitioners in the plastic arts have adjusted this perception through vision, forming with shape and color. I, on the other hand, work with our sense of hearing. [Max Neuhaus]⁵²²

Soundsites: experiments in sound and place

Postwar artistic practice showed a continual engagement with sound. As discussed in the previous chapters, the concept of aurality was a key paradigm for wielding sound as an artistic material and concept. Within and extending beyond the musical domain, sound was an important paradigm for the formation of contemporary art, specifically Minimalism, conceptual art, and performance art. However, art history has struggled to account for the nuanced and apparently immaterial sonic phenomena on which these practices were formed and accordingly experiments in artistic sound have been marginalized. On one hand, histories of sound art are constructed on preoccupations with surmising the tangibility of sound, a *sonic materialism* that reflects the language of sculpture rather than sound. On the other hand, these histories also emphasize the performative gesture, a post-Cagean emphasis on *sonic conceptualism*.⁵²³ Despite its ability to move through and between spaces, its resistance to being held in place, sound is thus most often understood through themes of spatialization. However, to understand the space of sound in art history, we must account for the manner in which sound has been suffused with the rhetoric of space. This chapter examines the complicated relationship of sound to both *space* and *place* with emphasis given to themes of materiality, immateriality, and the duality of the *fixed/unfixed* site. This chapter considers sound ontology within public environmental sculpture in the 1970s and highlights historical convergences of sound with the concept of *site-specificity*.

⁵²⁰ Douglas Britt, “Sound, Sculpture Define Space at Menil,” Houston Chronicle (Friday, May 2, 2008). Web. <http://www.chron.com/entertainment/article/Sound-sculpture-define-space-at-Menil-1661632.php>

⁵²¹ Unpublished electronic memo (June 1987) in the holdings of the Estate of Max Neuhaus.

⁵²² See <http://www.max-neuhaus.info/soundworks/vectors/place/intro/>

⁵²³ See Cox (2011) and Kim-Kohen (2009).

Since the mid-1960s, there has been near universal acknowledgement among historians and practitioners that sound is privileged vis-à-vis its immaterial, mobile, and *un-fixed* nature, its ability to travel through and between spaces unavailable to solid objects.⁵²⁴ Nevertheless, there is a widespread tendency for sound artists to employ themes of spatialization: sound made visible, sound made haptic. Sound can be extracted, transmitted from one space to another; the acoustics of a specific location may be teased out, cultivated, and amplified, newly perceptible by virtue of its installation. More simplistically, sound might be embedded within a discrete object – the tape recorder, microphone, kinetic sculpture –to isolate it within the white cube gallery. These are typified sound art models, where sound is understood primarily by surmising its tangibility, by encasing it in solid material, or by spreading it over an architectural shell. In this model, a sound artist uses an immaterial material to color space like a biologist tracing a cardiovascular pathway, revealing an architecture otherwise unobserved.

The process is often inductive, illuminating the void of space by sounding otherwise silent acoustic properties. In this sense, sound is effectively ‘locked in’ – it is fixed in space, put on display.⁵²⁵ As we have discussed, Neuhaus was particularly concerned with the concepts and processes of spatialization. By taking sound out of time and putting it in space, Neuhaus claimed, the conventions of musical composition, performance, and spectatorship may be shed. However, as Christoph Cox has argued, Neuhaus’s interest in space was likely a “red herring.”⁵²⁶ Indeed, sound, as a vibrational material, can never be taken out of time. Instead of focusing on the theme of space, which has informed experimental sound practice since at least the mid-1960s, Cox suggests that we look toward *sound ontology*, wherein sound, moving like water, taps into a non-symbolic, continuous, and material flux that conjoins material space with non-linear durational, rather than linear sequenced, time.⁵²⁷ From this vantage, Cox argues, we can position sound, and particularly a sonic art, as a model for a *new materialism*.⁵²⁸ In this chapter, I apply this view to examine Neuhaus’s use of durational sound as a means to sidestep, or dislodge, the perception of a static (and silent) nature of “things,” and as a revitalization of material space that challenges presumptions of modernist form and postwar sculptural practice.⁵²⁹ However, Neuhaus was very clearly invested in the practice of sound installation and the idea of placing sound in space, existing out of time (Neuhaus actually opposed a particular concept of linear *clock time*, not non-linear *duration*).⁵³⁰ How do we mitigate these apparently disparate perspectives? What can sound ontology, a vibrant durational perspective on sonic materialism, offer to *sound installation* and its unique interpretation of the concept of *site-specificity*?

During a time when immateriality reigned supreme, how can we account for this rhetoric of space? What does it mean to ‘materialize’ sound? To this end, we might reconsider the history of *site-specific* practice, broadly conceived, wherein the materialist structures of sound cultivate

⁵²⁴ This fluidity falls in line with the aesthetic goals of minimal and postminimal art, as the collapsing of disciplinary boundaries went hand-in-hand with the celebration of dematerialization. See Lucy Lippard and John Chandler, "The Dematerialization of Art," *Art International* 12, no. 2 (February 1968): 31-36.

⁵²⁵ This tendency also affects artists using dance, light, and other immaterial practices.

⁵²⁶ Christoph Cox, "Installing Duration: Time in the Sound Works of Max Neuhaus," in *Max Neuhaus: Times Square / Time Piece: Beacon* (Beacon, NY: Dia Art Foundation, 2009): 114.

⁵²⁷ See Christoph Cox, "Beyond Representation and Signification: Toward a Sonic Materialism," *Journal of Visual Culture* 10, no. 2 (August 2011): 145-161.

⁵²⁸ Ibid.

⁵²⁹ Ibid.

⁵³⁰ Cox, "Installing Duration," 114.

a more dynamic understanding of space, as a sort of *vibrant matter*.⁵³¹ This chapter explores the formation of Neuhaus's own conception of sound installation and gives an overview of the primary works through which he developed his ideas of spatialized sound. In particular, the chapter examines how these works allowed Neuhaus to construct a sense of aural place. In particular, this project was largely undertaken in the ubiquity of public space, where diverse locations like subway stations, swimming pools, cross-streets, and a bird sanctuary became artistic sites to modify the listener's experience of place through sound.

Out of time, into space

Siting sound

Following the minimalist turn in the mid and late 1960s, many artists began to question the parameters and limits of spectatorship. Often, they chose to incorporate the viewer, or listener, within more explicitly embodied or durational ways (i.e., as we saw with Morris and the phenomenological views that his works engendered/enlisted. Sculpture not as something you 'look at' but rather something to 'experience' (it also 'experiences' or an 'environmental' context). The result of these investigations offered a new paradigm for postwar aesthetics: the concept of site – a new spatial context. Throughout the 1960s and 1970s, artists created works that responded to, even exploited, the unique, un-replicable characteristics of their sites of exhibition. We call these artworks: *site-specific* – artworks that not only acknowledge, but also comment upon, and even reorient, their spectatorial environment (i.e., the work cannot exist anywhere else; if moved, the piece is altered, if not destroyed). In sound especially, these environments were viewed as immersive and durational. Many artists – musicians, painters, sculptors, dancers – looked to Cage for inspiration. Many of these artists took up Cage's ideas of chance, indeterminacy, and extended aesthetic palette, but another recurring theme – especially among current/former musicians – was the relationship between sound and space. Once sound is removed from music, one is left only with sonic space: sound as vibration and as material. How does the artist use that material to construct new sonic forms, separate from musical composition, but which also remain explicitly sonic? How did Neuhaus re-assert the dominance of the sonic form without falling into the trappings of the post-Cagean everything-and-the-kitchen-sink aesthetic? One choice was to sculpt sound like one would material and visual sculpture, or to create a sound-making objects that could be placed on view (such as the sound machines of sculptor-composer Joe Jones, incidentally a close friend of Neuhaus). Another was to embed (or 'install') the supposedly immaterial sound within a fixed material environment, one that could quickly transformed by acoustic flux. While the former continues the traditions of abstract, modernist sculpture, the latter is more easily aligned with new forms of conceptual art, including environmental sculpture.

The term *sound installation* is a basic concept in contemporary sound art. The niche term refers to the orientation of artistic sound to nonlinear physical space, rather than to linear time as in music or non-musical audio recording practices (e.g., field recording or sound poetry). Most installations ground or map their sound(s) upon the spectator's immediate material environment.

⁵³¹ In the phrase "vibrant matter," I summon the philosophical and ecological concept as defined by Jane Bennett to refer to the affective "thing-power" of "non-human bodies," including sound waves. See Jane Bennett, *Vibrant Matter* (Duke University Press, 2009).

(However, some sound installations, such as the microsonic field recordings of Jana Winderen, which are presented in darkened gallery rooms, blur the lines between linear vs. nonlinear sound and physical vs. immaterial space). The general practice and concept of *sound installation* developed alongside similar forms of installation or environmental art in the 1960s and 1970s, specifically regarding the concept of site-specificity. As discussed in the Introduction, the term sound art has a similarly problematic history. By the late 1970s, sound as a medium had found its way into most visual spaces in the art world, from alternative spaces and white cube galleries to large-scale museums like the Museum of Modern Art.⁵³² How did sound function in these spaces, especially in an artistic and cultural moment of such radical transition under post-minimalism, conceptualism, and critical paradigms raised by feminist art? What is the relationship of sound installation to what critic Brian O'Doherty called in 1976 – the same moment in which Neuhaus developed his concept – called the “ideology of the gallery space?”⁵³³

The history of the concept of *sound installation* is largely taken for granted. Neuhaus is typically marked as one of its earliest originators, if not the first (a claim made repeatedly by the artist). This chapter makes no argument as to whether or not Neuhaus was the first to originate, discover, or invent the terminologies, methodologies, or concepts of sound installation. Instead, this chapter acknowledges Neuhaus as an early adopter and innovator of the practice, one who developed, alone and in relation to the works of others, several of its most distinct material and conceptual conditions, such as an ambivalence or rejection of musical form, the reorientation of sound to physical space, or the use of continuous durational structures (i.e., the creation of sonic environments that have no beginning or end). There were many other people who used spatial sound to construct nonlinear environments in the 1960s and 1970s, such as Maryanne Amacher, Alison Knowles, Michael Asher, and Liz Phillips.

However, this chapter first seeks to identify the development of *sound installation* within the context of Neuhaus's own practice, particularly, as we have discussed, its function in relation to a continued move away from musical form. Neuhaus began using the term ‘sound installation’ in his own practice during the early to mid-1970s with regards to works like *Walkthrough* (1973) and *Times Square* (1977). These works were seen as distinct from other works discussed in this chapter, including the recurring *Water Whistle* (1971-1977) series, which Neuhaus identified in the “sensation” vector. Elsewhere, he referred to the series, in which sounds were constructed underwater inside of filled swimming pools, as “events/installations,” thereby confusing his own vector model. Neuhaus also retroactively referred to several late-1960s works, such as *Drive-In Music* (1967) and *Fan Music* (1967), as the origin of his later sound installations. These works are elsewhere referred to as part of the “passage” and “place” vectors. Therefore, as discussed in the Introduction, I will rely sparingly on the artist's own categorical designations – in fact, one intention of this chapter is to show how his sound installations of the 1970s came out of musical and anti-musical artworks of the 1960s. Indeed, Neuhaus was not particularly selective about his use of the term ‘sound installation’ during this period and invariably referred to works as sculptures, environments, and even musical compositions. As we will see, the rhetorical shifts in the 1970s reflected institutional values of a particular location or funding source. The 1980s and 1990s marked a clear rhetorical shift toward sound installation as the primary description of his works, and broader sound practice, although not exclusively. Many of these works were marked

⁵³² In particular, consider the MoMA exhibition *Spaces* (1969). See Jennifer Licht, *Spaces* (New York: The Museum of Modern Art, 1970).

⁵³³ See Brian O'Doherty, *Inside the White Cube: The Ideology of the Gallery Space* (Berkeley: University of California Press, 1976).

as sound installations retroactively. In reality, for Neuhaus sound installation was a messy artistic process and was incredibly fraught from an institutional perspective.

Neuhaus referred to his environments as *sound installations* in order to emphasize the physicality of acoustic space: when sound is “installed” within a solid material, or spatial environment, the process imparts the perception of materiality to an otherwise elusive phenomenon. This material presence not only spatializes the sound, but it also allows the listener to engage, or disengage, on their own terms. As such, the emphasis on space afforded a sound-based practice that defied the compositional and performative logic of music as decreed in the traditions of the concert hall. In many ways, Neuhaus pierced the institutional limits of music much like Cage had done with *4'33"* (1952), as his installations advocated on behalf of non-musical sound and autonomous listening. However, Neuhaus in this regard may have surpassed Cage, who maintained that what he created was music, and that as such he was a composer. Neuhaus rejected such labels tout court, and instead embraced the public realm, and public space, on much more immediate and open terms. For Neuhaus, musical events were limited to a realm of artificial time determined by a composer or performer, removed from a subjective space of the listener (where autonomy is found and people can “listen for themselves.”). In contrast, Neuhaus’s sound installations were designed to be experienced by the listener in both time and space simultaneously, focusing on the latter and the transformation of *space* into *place*, affording in turn a subjective authority that Cage ironically forbade. Similarly, the rejection of attribution by Neuhaus, who stopped identifying his artworks, collapses the remaining bridge from musical composition and performance.

In this section, I review several sources for sound installation in addition to Neuhaus. In particular, I will discuss the works of sound architect Bernhard Leitner and the foundational exhibitions *Spaces* (1969) and *Information* (1970) at the Museum of Modern Art (MoMA), focusing on works by Michael Asher and the art and technology collective Pulsa, and others. Furthermore, I will briefly examine the MoMA exhibition *Information* (1970), particularly the works of Robert Barry, to frame sonic art as both a materialist and informatic practice. Finally, I will make a few notes on the materialist and site-oriented inclinations of Happenings and Fluxus artists, specifically the composer Philip Corner. The sources provide a basis from which to read Neuhaus’s own emergent sound installation practice, beginning with *Water Whistle* (1971-1974), culminating in *Times Square* (1977), and ending with an untitled sound installation at the Como Park Conservatory (1980).

Bernhard Leitner – Sound : Space (1978)

I will begin by situating Neuhaus’s practice in that of another: Bernhard Leitner, another source for sound installation that, surprisingly, was never mentioned by the artist (despite the fact that each worked in the field of spatialized non-musical sound in the early 1970s and also lived in New York City).⁵³⁴ Furthermore, it is known that Neuhaus had and read Leitner’s foundational book, *Sound : Space* (1978). The book provides what Neuhaus once called a “theory of sound installation.” While this chapter is about Neuhaus, it is important to recognize Leitner’s view on the subject matter and its influence on Neuhaus. In fact, the two had strikingly different ideas and

⁵³⁴ For an overview of Leitner’s works, see: Bernhard Leitner, “Sound Architecture: Space Created Through Traveling Sound,” *Artforum* (March 1971); Bernhard Leitner, *Sound : Space* (New York: New York University Press, 1978); and Bernhard Leitner, “Ton-Architektur,” *Das Fenster* (1971).

values on the concept and methods of sound spatialization: whereas Leitner preferred overt sonic experiences in refined, controlled, and relatively private environments, Neuhaus preferred subtly sonic experiences in unrefined, uncontrolled, and outwardly public environments. To confuse these perspectives would misinterpret, and misunderstand, the specific practices and intentions of each artist. This section will articulate the points of view of each in difference and similarity in order to provide a general working knowledge of methods and concepts of non-musical sound spatialization (i.e., distinct from those discussed in Chapter Two).

Let us start with *Sound : Space*, a foundational text on sound spatialization from the non-musical point of view (i.e., spatial sound as separate from spatial music).⁵³⁵ Leitner was an Austrian-born architect, sound researcher, and sculptor who lived and worked in New York City between 1968 and 1981 (and beginning in 1972 was employed as an associate professor at New York University).⁵³⁶ In his writings, Leitner proposed many methodologies and theories for defining and constructing space with sound. Leitner was a great influence on Neuhaus, though the latter never admitted the connection.⁵³⁷ Leitner's mark can be perceived especially in the 1970s, as Neuhaus developed his personal practice of sound installation, culminating in *Times Square*. The same period shows that Leitner developed an alternative method, and more uniquely, a theory of *sound installation*. Leitner taught architecture at New York University in the 1970s, and his work reveals an academic alternative to Neuhaus's avant-garde experiments. Leitner's groundbreaking book *Sound : Space* (1978) set up his basic theory of spatial sound and its use in defining space, specifically in relation to architecture, or conceiving of new methods of sonic architectural practice.⁵³⁸ Though published in 1978, *Sound : Space* was based off of an earlier article on the subject that was first published in *Artforum* in March 1971. It is worth pointing out that the article followed shortly after *Artforum*'s publication of Robert Morris's essays on phenomenological space in sculpture, notably his famous series *Notes on Sculpture, I-IV* (1966-1969). Leitner's essay poses a counterpart to the dematerialized, or rather immaterialized, concerns of Morris's later arguments, which trace the latter's move away from Minimalist forms to the conditions of Post-Minimal formlessness.⁵³⁹

In other words, Morris's move toward formlessness as a Post-Minimal ideal – iconized by his sculptural use of smoke, felt, and gas – was tethered conceptually and publicly to related conversations of immateriality of sonic forms, and the unique ability of sound to encase dual material and immaterial states of being on both physical and conceptual planes.

Leitner's book lays out some basic premises of how sound operates in space, and how as humans we interpret sound through and beyond our ears. In the beginning section of the book, the author makes several observations about sound and space, which he builds upon later with instrumental methods and spatialization techniques. These fifteen observations are presented as foundational ideas for sound spatialization as an architectural, if not artistic, practice. For example, Leitner suggests that “space can be defined by lines of sound” through the use of sequenced loudspeakers, which can produce a back-and-forth (left-to-right) qualitative experience. One can easily transpose this concept to a three-dimensional space, which transforms

⁵³⁵ See Stockhausen, “Musik im Raum” (1958/1961).

⁵³⁶ See <http://www.bernhardleitner.at/bios>

⁵³⁷ No reference to Leitner exists on Neuhaus's website or in his writings or artist statements. Likewise, Leitner has rarely made comments about Neuhaus.

⁵³⁸ For a less academic perspective, consider Wolf Vostell and Dick Higgins's work the subject. See Wolf Vostell and Dick Higgins, *Fantastic Architecture* (Something Else Press, 1969).

⁵³⁹ See Christoph Cox, “Installing Duration: Time in the Sound Works of Max Neuhaus,” in *Max Neuhaus: Times Square / Time Piece: Beacon* (Beacon, NY: Dia Art Foundation, 2009): 113-133.

the singular line into a cubic grid and increases acoustic and spatial potential. This very basic premise of “defining space through sound,” especially three-dimensionally, became an important idea for Neuhaus, who wanted to remove sound from linear time – musical time – by placing it in non-linear space. For this reason, many of Neuhaus’s works are not only multi-channel pieces but ‘tuned’ to its spatial setting, inextricably linking the electronic sounds to their acoustic environments.

Neuhaus and Leitner departed severely on the concept of time. Leitner embraces time emphatically in his statement that “space [has] a beginning and end... [and is] a sequence of spatial sensations [that] unfolds in time.”⁵⁴⁰ In this view, Leitner emphasized the correlation of space to time, or the concept of *spacetime*, which suggests that a material object cannot move through physical space without simultaneously moving through durational time, and one cannot move through time without moving through space.⁵⁴¹ The idea is partially a Bergsonian approach to how sound operates in *spacetime*, a philosophical approach that mirrors the popularity of such thought in continental philosophy in the late 1960s.⁵⁴² However, Leitner’s focus on a “sequence of spatial sensations” disregards the philosopher’s core argument that time is naturally durational, or not able to be sequenced into discrete parts (as on a clock).⁵⁴³ Leitner required this sequencing to structure his spatial sound constructions, which utilized multichannel speakers that produced an illusion of spatial movement. In contrast, Neuhaus attempted to strip *sound installation* from time altogether, a reactionary point of view that has little merit from both physical and metaphysical perspectives. Neuhaus likely did this in order to distinguish his work from music, which operates conventionally in linear time, especially if it is scored and performed in a concert hall setting. As Neuhaus linked with visual art, he appropriated a rather formalist understanding of concrete space, which sound is able to penetrate, or saturate, but without being beholden to clear time structures. As noted, it is obvious that Neuhaus’s sound works operate in time (though not necessarily *musical time*). However, the artist developed *sound installation* at a moment when the visual arts were opened to time-based durational strategies (ironically, in post-Cagean art). This convergence posed a risk that Neuhaus might remain classified as a musician rather than an artist, and thus be associated with the very paradigm from which he was trying to break free. At the moment that Neuhaus sought to free himself from time by entering the materiality of visual art, visual artists sought to free their work from the materiality, of medium-specificity, by entering the realm of time.

Another aspect that Neuhaus took from Leitner was that of architectural space. Having been a musician, Neuhaus’s encounter with sonic space was largely determined by the framework of the musical score, whether in supporting the given notational structures (as in *Zyklus*) or by breaking them down (as in *Fontana Mix-Feed*). Leitner was an architect and as such the idea of large-scale spatial environments, acoustically speaking, came naturally: “space and objects [are] determined in form and content by movements of sound... [whether through]

⁵⁴⁰ Leitner, *Sound : Space*, 13.

⁵⁴¹ Even if imperceptibly, such a stone that sits ‘still’ on earth but which over time accumulates interactions with its immediate physical environment and which is nonetheless hurtling through space as the earth rotates and revolves around the sun, and as the sun moves too within the broader galaxy, which moves in the universe and so on

⁵⁴² For example, Deleuze published his Bergsonian *Difference and Repetition* (1968) just three years prior to Leitner’s first essay on *sound-space*. On the theme of Deleuzian multiplicity, see: Joseph, Branden W. “Chance, Indeterminacy, Multiplicity.” In *The Anarchy of Silence: John Cage and Experimental Art*, ed., Julia Robinson, 210-238. Barcelona: Museu d’Art Contemporani de Barcelona (MACBA), 2009.

⁵⁴³ See Henri Bergson, *Time and Free Will* (London: George Allen & Company Ltd., 1913).

small objects directly applied to the body [or] large-scale architectural spaces.”⁵⁴⁴ Neuhaus did have some experience with applying small objects directly to bodies (i.e., placing contact microphones on instruments and on himself). However, the idea of large architectural space eluded his practice until the mid-1970s. Following many realizations of his underwater installation *Water Whistle*, beginning in 1971, the artist first utilized large-scale architectural space as a setting for sound installation in *Walkthrough* (1973-1977). The work was installed in a Brooklyn subway station and was followed three years later by *Round* (1976), which took place in a city-owned military property. Subsequently, *Times Square* (1977) was installed within a patch of open-air ventilation grates owned by the transit authority. Although Neuhaus’s use of public space dates to 1966, his use of large-scale architectural spaces began after the publication of Leitner’s 1971 article. Following the 1978 book publication, sound installation in such spaces, including indoor environments, became the sole focus of Neuhaus’s artistic output.

Leitner also poignantly uses the phrase “audioinformation” to describe how sound “is absorbed with the entire body, not merely with the ears.” The notion that sound can “absorb” a body reflects the language of ‘immersing’ oneself in sound, or in water (in the case of *Water Whistle*, which first became realized in 1971). The idea that sound could be interpreted and wielded as information is a great service to sound installation as a practice in that, should one want to define a space with sound, then there better be a way to acutely and directly observe and measure its abilities to do so. Keep in mind that Neuhaus in producing an artwork would never know exactly what it would become until it was finished, and until he laid foot (and ears) onto the site of its realization – before building the sound space of the installation, the artist arrived weeks prior to analyze the acoustical conditions of the space, which is a basic act of sensing, recording and interpreting information. The process is passed onto the listener who, if actively listening, will spend time to analyze the sounds that they hear and how they shift perception of the spatial environment, even if they cannot see the electronics or measure discretely the sonic structures. Leitner noted that audioinformation “is of central importance for building spaces with sound,” and that importance extends from artist who constructs the piece to the spectator who is its interpreter.

According to Neuhaus’s assistant Max Pyziur, the artist purportedly referred to Leitner’s book as a “theory of sound installation.”⁵⁴⁵ This characterization shows, on the one hand, the deep influence of Leitner on Neuhaus, but also differentiates the two figures. For example, Neuhaus’s work consciously rejects a clear theory of sound installation: to experience his works does not depend on such a theory, if it exists, and instead is based on direct phenomenological and social experiences. Furthermore, each of Neuhaus’s works are entirely distinct from one another and are constructed in relation to the specific conditions and needs of the construction site. Therefore, a theory of sound installation, as an ideal structure of values and methods, would be relatively useless to the artist. In contrast, Leitner’s works were almost exclusively shown in rarified spaces like studios, galleries, and museums. Neuhaus never mentioned Leitner as an influence, despite owning and reading the book through and following the construction of *Times Square*. The theories of Leitner propose a working knowledge of sound types and sound environments, a palette of materials and interrelations that the sound installation artist to utilize (a *sonic theory*), while the sound installations of Neuhaus propose an ad hoc and site-specific rendering of sound bound to its peculiar and particular spatial or geographic conditions (a *sonic methodology*). Despite his tying his ideas to time, Leitner’s belief that “sound-shaped space

⁵⁴⁴ Leitner, *Sound : Space*, 13.

⁵⁴⁵ Oral interview with Max Pyziur.

has... psycho-physiological dimensions” is strikingly similar to Neuhaus’s own attempts to link sound and site through subjective listening (albeit less clinically than Leitner).⁵⁴⁶ For example, the anti-expressionist tone of Neuhaus’s works suggest that he would be wary of Leitner’s claim that “creating spaces with the vocabulary of sound introduces new forms of expression,” at very least rhetorically.⁵⁴⁷

Leitner was one of the first to incorporate the human body into his sound installations at a literal level. In his works, the human body functions as a resonant material, or medium, for sound to travel through and within before reaching our ears:

It became clear to me that I hear a sound that goes under me with the soles of my feet, that I hear with the skullcap... that the boundaries of sound spaces can also go through the body, so that the body is not something standing on the other side of this whole concept.... It is in it and the boundary can pass through the body.⁵⁴⁸

Leitner spent his career examining this boundary, and “the physical aspects when sound waves hit us, penetrate us, move within us.” This mode of thought would become one of the most prominent elements of gallery-based sound sculpture, installation... ‘experimental’ in a technical manner, i.e., setup an experiment and let it run its course within the paradigm, or confines, of the white cube. His *Sound Chair* series began in 1975. In this work, Leitner placed four loudspeakers into the body of a specially designed chair: low cello drones, sharp horns, and languid, bowed strings are directed toward specific parts of the body, and together transform the human physiognomy into a mechanical loudspeaker.

Like Neuhaus, Leitner expanded his sound practice in the 1970s into an area called “sound installation,” but instead of installing resonant sounds inside of public squares, small niches, and other nondescript spaces, Leitner consciously worked within the boundaries of the gallery walls. Indeed, Leitner wanted to examine what he called ‘sound movements’ in space, and the open, unadulterated lab environment of the gallery provided a perfect setting. In several works from his Sound Space series, Leitner attached numerous, small loudspeakers on to long strips of wood, which he would arrange inside the gallery in various orientations: part sound installation, part abstract sculpture (à la Andre, or even Di Suvero). In addition to arranging the speakers in all manner of eccentric patterns and geometric formations, which were all alternative orientations of what you might experience at home, Leitner also composed soundtracks of recorded musical sounds, including instruments: percussion, drum rolls, bowed cymbals, and cellos, etc., which were played back via multichannel mixing technique, following differing lines of acoustic flight around the listener (i.e, some lines circled around the listener clockwise, while another would be counter). Leitner adopted a new terminology as well: sound architecture: “In sound architecture, the shape of space itself is defined by traveling sound... [so as to] change the proportions and the message of an existing space.”⁵⁴⁹ Leitner’s seminal book on sound and its placement in space described the use of sound to describe a given space, or to create a sense of space entirely anew. The book is essentially a theory of sound installation from a methodological

⁵⁴⁶ Leitner, *Sound : Space*, 15. Neuhaus owned this copy, which was scanned by Pziur. Oral interview with Max Pziur.

⁵⁴⁷ Ibid.

⁵⁴⁸ Bernd Schulz, “Interview with Bernhard Leitner,” in *Resonances: Aspects of Sound Art*, ed., Bernd Schulz (Heidelberg: Kehrer Verlag, 2002): 83. Quote as it appears in Labelle, *Background Noise*, 174.

⁵⁴⁹ See Bernhard Leitner, “Sound Architecture: Space Created Through Traveling Sound,” *Artforum* (March 1971).

point of view, providing the reader with various tips, techniques and descriptive language for creating a sound work. The book deals with sound from a psychoacoustic point of view in its focus on the listener, but at its base the book presents a material perspective on sound as a physical medium. In a copy of *Space : Sound* once owned by Neuhaus, there is a notable underline on the statement: “Timbre of sound has not been considered.”⁵⁵⁰ The passage in question is in direct relation to the architect’s structure called the *Sound Cube*, which he described as “an instrument for producing space with sound.”⁵⁵¹ The cube is a large space in which the listener stands, or sits, and is immersed in moving sound “shapes,” which move around 216 independent speakers lined along its six walls (i.e., 36 in a grid per wall).⁵⁵² The description of timbre as not being considered refers to a reference to pitch and spatial arrangement – the architect did not choose the timbral quality of the sounds for an artistic purpose, since the cube is for demonstration purposes: “the main purpose here [is] the demonstration of a principle.”⁵⁵³

That principle being the spatialization of sound, in which timbre, a musical concept, would have been an unnecessary – or decorative – component. Nonetheless, it seems notable that Neuhaus could have been taken by this phrase and the attention to timbre, or sound quality, as a component of his spatial constructions. It also points toward the difference between the two. Leitner wanted to build a theory and model for “producing space with sound” and “demonstrating a principle.” Neuhaus also wanted to use sound to produce unique spatial experiences, but he was definitely not interested in demonstrating any principle, or scientific fact, much less have the listener be aware hyper-consciously of how the sound space is produce, which is the basis for the Sound Cube (“a place for demonstrations and presentations to the public”) but totally alien to Neuhaus’s subtle and unmarked (“discoverable”) sound installations.⁵⁵⁴ First, however, Neuhaus engaged with a performative model of sound installation that reflected his 1960s roots in electronic music, Fluxus, and the Judson Church. The collective series of works dubbed *Water Whistle* were the artist’s first concrete experiments with sound installation, but, announced and limited in time (i.e., not continuous), they remain situated between musical, anti-musical, and post-musical practice.

MoMA’s Spaces (1969) & Information (1970)

MoMA presented an early exhibition of installation art titled *Spaces* in the winter of 1969-70. The exhibition included works that today might be characterized as installation art, broadly, and several that could be described as sound installations. However, at the time the term was not yet in popular use – instead, one typically encounters in reviews and press releases of such exhibitions the phrases ‘environment’ and ‘situation’ (the latter being an upgrade from Happening).⁵⁵⁵ *Spaces* included the artists Dan Flavin, Larry Bell, Robert Morris, Franz Erhard

⁵⁵⁰ Leitner, *Sound : Space*, 18.

⁵⁵¹ Ibid.

⁵⁵² Ibid.

⁵⁵³ Ibid.

⁵⁵⁴ Neuhaus used this term in the 1970s to refer to works that are found by accident. See Reilly, Patti. “The World Is Alive with the Sound of Music, and Some of It Is by Composer Max Neuhaus,” *People*, Vol. 13, No. 26 (June 30, 1980).

⁵⁵⁵ For example, consider the title and structure of books that conceptually and aesthetically link Happenings with the emergent *environmental art* movement. See Richard Kostelanetz, *The Theatre of Mixed-Means: An Introduction*

Walther, Michael Asher, and finally the art and technology collective Pulsa. The show was presented as a series of rooms by various artists, and one group/collective, each specifically designed and constructed as a unique space. The artists were invited to “create a work of their choice, each in a room under his control,” and, generally, they were site-specific. The catalogue notes that “human presence and perception of a spatial context have become materials of art... a set of conditions rather than a finite object.” In particular, two works by Asher and Pulsa were sound installations (an early adoption of the form concurrent to Neuhaus). Nonetheless, *Spaces* highlighted how sound installation was compromised by the white cube’s visual frame.

Rather than exhibiting individual works of art, such as sculpture, the exhibition was focused on spatial environments and artistic installations. However, the show was curatorial characterized as a sculpture exhibition, underlining the close connection between the emerging environmental art and installation art movement with sculpture, rather than conceptual art or performance art. In fact, most contributing artists to the exhibition were primarily known as sculptures, excepting Pulsa, which was a leading installation collective from MIT.⁵⁵⁶ Each contributor instead created a room, or an experience for the spectator to move within, rather than view from afar. All of the works were built uniquely for their singular space of exhibition, and were dismantled after its end, which placed them not only as open-form but also open-time. *Spaces* as an exhibition posed curatorial problems. The first problem regards funding: why would investors or board members allocate funds for something that actively resists monetization? The second regards practice exhibition design: some of the galleries were entirely darkened, posing health and safety concerns; one required that visitors take their shoes off, posing social compliance issues and generally rejecting the cultural traditions of the museum space; another was outside of the museum altogether, staged in the now famous sculpture garden, forcing the visitors to leave the interior space to go out into the cold winter weather.

The curator, Jennifer Licht, invited artists to simply “create a work of their choice, each in a room under his control.” The exhibition catalog further describes its curatorial position: “Space is now being considered as an active ingredient, not simply to be represented but to be shaped and characterized by the artist, capable of involving and merging the viewer and art in a situation of greater scope and scale. In effect one now enters the interior space of the work of art... and is presented with a set of conditions rather than a finite object.” The catalog continues: “The human presence and perception of the spatial context have become materials of art.” Licht wanted to see how the museum space could be used as a situation for “live experiments,” or “spaces,” which ‘involve and merge’ the viewer within an artwork. The language used here is first an adoption of minimalist and post-minimalist phenomenology, one that merges the perception of space with that of time (it is not coincidental that Morris’s fourth and final segment of *Notes on Sculpture* is published this year in *Artforum*). The curator emphasizes the merging of the spectator (i.e., the self) in the phenomenological and durational context of each work – its “set of conditions” – and as such also implicitly nods to the rise of post-Cagean musical practice that actively incorporated the listener. None of the works in *Spaces* can really be seen as musical within the museum, including the burgeoning but yet unnamed area of sound installation.⁵⁵⁷

to *Happenings, Kinetic Environments, and other Mixed-Means Presentations* (New York: Dial Press, 1968); and Michael Kirby, *Happenings: An Illustrated Anthology* (New York: E. P. Dutton & Co., 1965).

⁵⁵⁶ See Yates McKee, “The Public Sensoriums of Pulsa: Cybernetic Abstraction and the Biopolitics of Urban Survival,” *Art Journal* 67, no. 3 (Fall 2008): 46-67.

⁵⁵⁷ Durational installations and performance works are now widely purchased by large museums with permanent collection funds.

Spaces was a testing ground for exhibiting installation art, broadly speaking, but also for sound installation in particular.

Asher exhibited his piece in a museum gallery. The gallery was empty and also darkened: light only came in from the hallway, negating the typical light-filled airy space. The artist wanted the spectator to “happen upon [the work] in complete innocence... and [with] an unrestricted amount of time [experience] what is taking place.”⁵⁵⁸ The ‘what’ is not determined by the artist, but by the spectator: a viewer seeing nothing, a listener hearing nothing, and in turn, seeing and hearing everything. In addition to darkness, the walls were brought in and the ceiling was lowered, enclosing the space. The room was also soundproofed to produce, effectively, a silent sound installation. However, there was a white noise generator to provide a constant acoustic presence, imperceptible to the audience, like an air conditioner.⁵⁵⁹ Electronics were hidden out of view to prevent visitors from discovering their artificial silence. Reviewing *Spaces*, the art critic Carter Ratcliff said: “One is reminded that we rely on senses other than sight for part of our intuition of spatial volume,” but Asher’s work was allowed in the museum precisely because it affirmed the white cube as a silent space. Asher requested that the spectator “happen upon [the piece] in complete innocence and without preconceived ideas... [with] an unrestricted amount of time to perceive [and experience] what is taking place... experience will very naturally explain the piece to you [and] there seems to be no need to impose structural guidelines upon the piece in order to understand it.”⁵⁶⁰ The work appears entirely silent but there was, in fact, a noise generator, oscillator and an amplifier.⁵⁶¹ The electronics were entirely hidden from view. In addition to being dimly lit, the ceiling was also dropped, in turn providing a sense of not only silence – and blindness – but also enclosure. In contrast to Asher’s work, Pulsa’s installation was built in the garden – a location that, ironically, forced museum visitors *outside* of the museum. Unlike Asher’s sparse silence, Pulsa’s work was clearly audible, frenetic, and noisy. The work was an auto-responsive environment that tracked the movements of museum visitors in the garden. Electromagnetic sensors reacted to body positions, modulating sound and light forms as one traversed the garden space. If you imagine Pulsa’s piece in MoMA, problems seem to arise: the sound and light would interfere with other artworks; visitors might be distracted or annoyed; they might leave the museum. What better place to put such a work than in the garden – as visitors exited? One can sympathize with the curators, but what does this banishment suggest? Pulsa explicitly, rather than implicitly, challenged the white cube’s silent condition. We can close our eyes, but not our ears.⁵⁶²

Indeed, as MoMA codified environmental and installation art in the 1970s, it was also fixed as a visual space. Visuality dominated despite the apparent focus on concepts, processes, and spaces, casting out those senses less cultivated in visual art, especially sound (but also taste, smell, and everything not explicitly haptic). The mechanics of spectatorship in contemporary art, as they transformed in MoMA’s galleries, were bound to *viewing*, *seeing*, and *looking*. Consider two influential publications that characterized the aesthetic and social conditions of the gallery in the 1970s: John Berger’s *Ways of Seeing* (1972) became an international success that ushered in

⁵⁵⁸ However, the term Environments was likely too closely aligned with 1960s Fluxus and Happenings activities.). See Press Release No. 160 (December 15, 1969). New York: The Museum of Modern Art, 1969.

⁵⁵⁹ MoMA Exhibition 0917b Master Checklist. <https://www.moma.org/calendar/exhibitions/2698?locale=en>

⁵⁶⁰ Press Release No. 160 (December 15, 1969). New York: The Museum of Modern Art, 1969.

⁵⁶¹ MoMA Exhibition 0917b Master Checklist.

⁵⁶² The fact that Pulsa was not comprised of artists, but engineers, likely contributed to their diminished role in the exhibition.

a *visual culture* renaissance – the construction of knowledge, and meaning, based on how we see the world optically and culturally. Similarly, Brian O’Doherty’s landmark *Inside the White Cube* (1976) examined the “ideology of the gallery space” from a visual perspective. Specifically, the author describes postwar art’s “doubling” of perception as “sight seeing itself.”⁵⁶³ Throughout the text, a foundational theory of the postwar contemporary art museum, O’Doherty converged the concept of “spectatorship” with “acts of looking.”⁵⁶⁴ In describing the church-like qualities of the museum space, O’Doherty describes the use of carpeted floor to attain silence, which is the only mention of sound in the publication. Amidst its transformation in the 1970s, the ideology of the gallery was foremost visual.⁵⁶⁵ The curatorial decisions of MoMA when dealing with artists using sound – such as Jean Tinguely, Asher, Pulsa, Neuhaus, Laurie Anderson, and John Cage, orient the white cube as a visual and silent space. As we will see later in this chapter – evidenced partly by Pulsa – sound was placed in ancillary spaces like the sculpture garden (and the auditorium, a literal ‘room for listening’ that was instead used to institutionalized the museum’s emergent film and video department).⁵⁶⁶

The critical response to Spaces was varied. Some critics criticized the museum, as well the artists, for accepting significant corporate funding. For example, General Electric donated materials to a Dan Flavin light environment, which consisted of “32 eight-foot [colored] fluorescent tubes and 64 four-foot fixtures arranged in freestanding structures.”⁵⁶⁷ The donation expense is not mentioned but the materials would not have come cheaply. However, the donation occurred in an era just prior to the forthcoming wave of ‘institutional critique’ that characterizes ‘critical art’ of the 1970s, a decade in which artists such as Asher made work that actively and brashly revealed the ulterior motives of museum curators, board members and their corporate or political patrons. In 1969, the garnering of cultural capital was still being tested by large corporations, and also apparently the artists themselves. For example, numerous loudspeakers were donated to Asher’s silent installation by the KLH company from Cambridge, Massachusetts, as were acoustic sound-dampening tiles by the Owens-Corning Fiberglas Corporation.⁵⁶⁸ The donation questions the political integrity of Asher’s work, if we are to understand the piece as an exhibition of nothing in a museum filled with expensive objects (a trope that Asher will later use as a poignant critique of the hidden economic and political ideologies of curatorial labor and museum patronage). In addition to General Electric, a global corporation, smaller local companies also donated their products liberally to the exhibition, including new technologies that were foremost market-oriented commercial products beyond their use as artistic materials.⁵⁶⁹ Morris’s installation consisted of miniature spruce trees donated by the Kimberly-Clark Corporation and “Full Spectrum Vita-lites,” grow-light fixtures that were provided by the Duro-Test company.

The air-conditioned room in which the trees and their lights were placed was cooled by an industrial refrigeration system, which was “installed with the help of Tomlinson Refrigeration

⁵⁶³ He also states: “Vision would then be able to circulate without the impediment of traditional conventions. Such a perceptual Utopia was consonant with the radical sensory transformations of ’60s culture.” See O’Doherty, 96.

⁵⁶⁴ O’Doherty, 97.

⁵⁶⁵ Ibid

⁵⁶⁶ I surmise this by looking at MoMA press releases, 1960-1980.

⁵⁶⁷ Press Release No. 160 (December 15, 1969). New York: The Museum of Modern Art, 1969.

⁵⁶⁸ Ibid.

⁵⁶⁹ Ibid.

and Supply Company.” Interestingly, the rhetoric of installation is exclusively used in the museum’s press document to refer to the infrastructural implementation of commercial products and electronic devices.⁵⁷⁰ The phrase ‘installation’ is never used to describe the artwork or its space.

The year 1969 also saw the formation of the Art Worker’s Coalition (AWC), which published a scathing statement of thirteen demands to MoMA following an altercation between the museum and the Greek sculptor Takis.⁵⁷¹ (Takis illicitly removed one of his artworks from an exhibition and occupied the sculpture garden until museum curators acquiesced to the work’s removal.) The group sought a leveling of economic and political policy within the museum in support of artist labor, including the increased support for artists of color and women within the curatorial vision of the museum. Morris – an artist who exhibited in *Spaces* later that year – was a member of the AWC. He was also co-chair of the anti-war artist collective New York Art Strike Against War, Racism and Repression (Art Strike), which formed in 1970 following the United States bombing of Cambodia.⁵⁷² The Art Strike group sought to purge the American museum complex, beyond MoMA, of perceived pro-war institutional policies and relationships.⁵⁷³ Furthermore, the collective Guerrilla Art Action Group also called for the resignation of every person of the Rockefeller family from the museum’s elite Board of Trustees.⁵⁷⁴ It suffices to say that in 1969 the relationship between the artist and their artwork (i.e., the status of the art object) was not the only transformation taking place, but also between the artist and their institutional support, specifically with regards to their role in determining the ideology of the museum as a social space. The emergence of this point of view began partly with Kaprow and Robert Smithson’s essay “What is a Museum? A Dialogue” (1967), which describes the artist’s differing experiences and views of the museum as an artistic and social space. Daniel Buren’s essay “Function of the Museum” (1970) and Hans Haacke’s “Provisional Remarks” (1971) mark other significant pieces of literature that indicate how artists reflected on the social function of the exhibition space.

Licht described the works of art in *Spaces* as conveying to the spectator a “set of conditions,” rather than a specific object, and much less a “a steady, rational creation of the genius artist.”⁵⁷⁵ This characterization not only refers to the spatial, and thus architectural conditions of each room, but also the notion that each space provides its own set of structural and perceptive information in addition to those spatial conditions. The arguably more influential – at least currently and in relation to the subsequent historiographical focus on conceptual art rather than environmental, or sonic, art – exhibition *Information* would follow just one year later in 1970. *Information* was primarily a show about how information became a paradigmatic idea in the 1960s, especially in the rise of conceptual art and the convergence of linguistics into the

⁵⁷⁰ Press Release No. 160 (December 15, 1969). New York: The Museum of Modern Art, 1969.

⁵⁷¹ See John Perreault, “Whose Art?” *Village Voice* (January 9, 1969). For information on the AWC, see Julie Ault, *Alternative Art New York, 1965 – 1985* (Minneapolis: The Drawing Center/University of Minnesota), 2002.

⁵⁷² See Julia Bryan-Wilson, “Hard Hats and Art Strikes: Robert Morris in 1970,” *The Art Bulletin*, Vol. 89, No. 2 (June 2007): 333-359.

⁵⁷³ *Ibid.*

⁵⁷⁴ See Guerrilla Art Action Group, “A Call for the Immediate Resignation of All of the Rockefeller’s from the Board of Trustees of the Museum of Modern Art,” [1969] in *Institutional Critique: An Anthology of Artists’ Writings*, ed., Alexander Alberro and Blake Stimson (Cambridge: The MIT Press, 2011): 86-88.

⁵⁷⁵ Licht, *Spaces*, 8.

works of visual artists. *Information* was curated by Kynaston McShine, who also curated *Primary Structures* in 1966 at the Jewish Museum (and commissioned Neuhaus in 1978 to construct a silent sound piece in the MoMA sculpture garden).⁵⁷⁶ However, *Information* notably included several works that dealt with sound as an informational medium, or what Leitner called *audioinformation*.⁵⁷⁷ Markus Raetz offered designs for what he called a *Silence Piece* (1969). The work consisted of a medium-sized and “totally sound-proofed” box, out of which a live microphone feed is attached to an amplifier and a pair of headphones. The headphones are worn by the listener, who in turn hears nothing acoustically – perhaps live signal distortion and their own blood-flow. However, the listener does think about listening. Confronted by silence, or silence perceived, the listener focuses on the futility of the situation and also the logical conditions of listening. The work has an obvious precedent in Cage’s *4’33”*, but where that composition directed the audience to the incidental sounds of the concert hall, in *Silence Piece* the environmental sounds are muted by the headphones, and are no longer heard by the listener who is removed acoustically from that space – a negative sound space that limits rather than generates sound.

There is also some similarity to Asher’s silent room in *Spaces* and Marcel Duchamp’s *With Hidden Noise* (1916).⁵⁷⁸ The conceptual artist Robert Barry – primarily known for his works in language and hypothetical prompts – submitted a very short but impactful piece to *Information*. The work, *Art Work* (1970), is presented in the form of ten lines of text, which were published in the exhibition catalogue:

It is always changing.
It has order.
It doesn't have a specific place.
Its boundaries are not fixed.
It affects other things.
It may be accessible but go unnoticed.
Part of it may also be part of something else.
Some of it is familiar.
Some of it is strange.
Knowing of it changes it.⁵⁷⁹

Art Work refers to Barry’s linguistics-oriented practice, which was based on exploring variations of form and potential form, sometimes without particular realizations. Like Dan Graham’s poem *Schema* (1967), in which the conditions of the page on which the poem is printed are the poetic contents, Barry’s work points toward its own construction as an iterative piece. If produced, *Art Work* would be formed by the context of its realization. Accordingly, the work can take a number of potential forms and exist in a number of potential media. The work, I suggest, shows a model for thinking about sound as a sculptural, and environmental artistic material. Indeed, Barry often utilized ephemeral materials, such as gas and sound (which though ephemeral, and apparently

⁵⁷⁶ See James Meyer, *Minimalism: Art and Polemics in the Sixties* (New Haven: Yale University Press, 2001): 13-24.

⁵⁷⁷ Leitner, *Sound : Space*, 13.

⁵⁷⁸ Subsequently, Bruce Nauman will produce similar pieces on mediated silence, such as *Microphone/Tree Piece* (1971) and *Audio-Video Underground Chamber* (1972-74).

⁵⁷⁹ Kynaston McShine, *Information* (New York: The Museum of Modern Art, 1970): 18.

formless, have a very real affective ecological presence). These materials challenge the typical understanding of what encompasses a sculptural medium. Likewise, Barry's contribution to Seth Siegel's mediated exhibition *January 5-31, 1969* (1969) described both an ultrasonic sound installation (which would have been unheard but not silent), as well as several works for FM radio carrier waves, which could not be seen (nor heard unless the listener turns on a radio receiver and dials into the correct carrier frequency).⁵⁸⁰ *Art Work* (1970) describes sound as a spatial and informational medium and illustrates sound installation as a nascent practice.

The subtle model of sound installation as conceived by Neuhaus seems relevant as the possibly materialization of a work as described by Barry, especially regards to the connection of *Times Square* to its physical and cultural environment. *Times Square* is continually changing in acoustic and visual form, unordered in non-linear composition, defines place as unique but which is personal to the listener, has thoroughly unfixed boundaries, affects other things and is largely unnoticed in its preexisting environment (due to largely to a seamless integration of electronic and acoustic sound, as well as the absence of signage). The electronic sounds produced by *Times Square*, alien in their environment – or *impossible within its context* – are carefully designed to modify and modulate the acoustic space, such that the work changes one's perception of Times Square not only as a space, but also as a place. In addition to Raetz and Barry, composer Carlos d'Alessio used sound in a more explicit way in *Information*. Rather than a metaphor, or being unheard, the Argentinian artist used the soundscape of the MoMA sculpture garden. D'Alessio recorded these sounds and played them back as part of the exhibition, presumably inside a museum gallery.⁵⁸¹ The sounds were amplified in a psychoacoustic relationship to photographs and an artist statement, which were visible to the viewer on a gallery wall.⁵⁸² The work bridged a gap between the exterior sculpture garden, long a site for sounding and listening in the museum, and its comparatively restrained acoustic interior. Indeed, the work – as well as Raetz's silent piece – functioned as an intervention into how sound was treated by the museum at this historical and aesthetic juncture, and in what way sounds were presented in the museum when they were allowed (i.e., in the gallery, auditorium or outside). The sound work also links to concurrent developments in electronic music, namely the rise of field recording as an extension of postwar musique concrete practices – long and minimally edited audio recordings of environments, which are presented to the listener as documents of sound in space (see the recordings of French composer Luc Ferrari). D'Alessio also contributed a text-description score for the work *Project for a Concert of Electronic Music* (1970). The piece consists of hosting a “cocktail party” which will be attended by composers and the audience. Throughout the room will be placed live transistor radios that the audience manipulates. Six microphones and tape recorders in the space document the sounds over an hour, which will then be synthesized (at the discretion of the composers) into a secondary collage, or mix, which is then played back to the audience at a later date (either in person or via telephone). The score describes the audience as having a “[function of] receivers of sound messages, but [also are] the creators, performers and content of a new musical piece.”⁵⁸³ In this language, the composer is conflating the audience not only with the composers and performers, but also the electronic system that records, synthesizes and plays the

⁵⁸⁰ McShine, 18. The ultrasonic work was later installed at the Jewish Museum exhibition *Software* (1970). The radio works were installed at Barry's home and proposed to be broadcast on WBAI. See also MoMA Object Number: 386.2010.

⁵⁸¹ Unconfirmed location.

⁵⁸² See MoMA Exhibition 0934 Master Checklist. <https://www.moma.org/calendar/exhibitions/2686?locale=en>

⁵⁸³ McShine, *Information*, 136.

work back (via tape player or tape player plus telephone network). In other words, the audience is an integrated circuit system for the production, processing and transmission of information – the composer even goes as far as to also call the audience members “content.”⁵⁸⁴ Lastly, the conceptual poet John Giorno’s famous *Dial-A-Poem* (1969) featured a slew of artist contributions, including several from experimental musicians (e.g., Cage, Emmett Williams, and Jackson Mac Low).

Visitors to *Information* – and perhaps those who stayed at home but had the correct number – called the number (956-7032) and received one of about forty pre-recorded works in sound.⁵⁸⁵ The piece addresses the function of sound in MoMA and emergent mediated sonic practice, including the radio works of Neuhaus (discussed in Chapter Four). In this sense, a third exhibition, *Software* (1970) at the Jewish Museum, is also worth considering in relation to *Spaces* and *Information*. The show included the first realization, at least as physically manifested, of Barry’s *40 KHz ultrasonic soundwave installation* (1969) – another formless work in sound that, like Neuhaus’s *Drive-In Music*, remains unheard unless materialized through radio transposition yet nevertheless is omnipresent as an immaterial-material). I suggest that *Spaces*, *Information*, and *Software* important to an unwritten history of *sound installation*, which creates space with *audioinformation*. Indeed, one might consider Dan Grahams concept of “in-formation,” as described in issue eight of *Aspen Magazine*, and the ‘tuning’ of sound installations through resonance theory, psychoacoustic response and systems structures and theories.⁵⁸⁶ We may choose to continue to consider *sound installation* as its own genre, but we should place it in connection to *installation* and *site-specific* art broadly speaking. Sound also has an interesting connection to conceptual art in its focus on a “set of conditions,” which could easily be adjusted to mean “set of information,” including *audioinformation* (an idea that Neuhaus utilized in his deep exploration of acoustic resonance). Neuhaus never prepared any specific outcomes. Instead, he approached the location of each sound installation as a unique space, as a site in which he analyzed with oscillators, oscilloscopes and other technology, including his ears, to surmise its fundamental acoustical features. These conditions are also basically the ‘medium’ of the work. The analysis and creation of sonic space positions *sound installation* as an essentially *informatic* practice.

Captain Max: Water Whistle (1971-74) & the Maritime Sonic

The recurring *Water Whistle* (1971-74) series was Neuhaus’s primary artistic focus in the 1970s. The work was among the earliest total sound environments that he produced, though later it was categorized by Neuhaus as a “sensation” vector piece. In this chapter, the work is linked with other site-oriented pieces, like *Walkthrough* (1973) and *Times Square* (1977), to highlight its formative influence on the artist’s sound installation practice. *Water Whistle* was produced at

⁵⁸⁴ Ibid. A prescient descriptor for the twenty-first century mediated self.

⁵⁸⁵ McShine, *Information*, 137.

⁵⁸⁶ Graham says of the concept of “in-formation”: The information vector present [in this issue] would amount to redirecting the flow of this traffic... not by establishing points, but pointing directly to the outside world - to products to be played (maybe records) and services to be rendered (further in-forming the reader) as they in-form that in-formation being correlated with the previous in-formation which the user has read... Then two in-formations would each function separately and relatedly at the same time rather than as one or a series of isolated points in time. My only relation to the subject matter of the in-formation would be in placing the vectors in operation.” See Dan Graham, “Editorial Note,” *Aspen Magazine*, no. 8 (Fall-Winter 1971).

least seventeen times between 1971 and 1974, and was the primary source of art-sourced income for Neuhaus during this period. The work used store-bought whistles and plastic funnels attached to pressurized rubber hoses, which were draped into a warmed swimming pool. As water moved through the hose and out of the whistle, it produce a constant tone – or drone – that was heard underwater. The plastic funnel, attached to the whistle, reflected the sound in a manner to direct it in some particular space, spatializing the whistle tone in a general sound field. Neuhaus made more complex patterns with these fields, which often overlapped, as he produced each realization of the work. Part installation and part concert, *Water Whistle* represented Neuhaus’s total break from performance and toward non-performative sound environments.

Between 1971-1973, fourteen realizations of *Water Whistle* were produced, in order, at swimming pools at the following locations: New York University, Newark State College, Walker Arts Center, the California Institute of the Arts, University of California at San Diego, the Jewish Center of Greater Buffalo, SUNY Buffalo, University of South Florida, Central Michigan University, Michigan State University, York University, the Everson Museum (Syracuse, NY), University of Southern California, and the Rochester Institute of Technology. Generally, the versions produced in this period were held at and commissioned by public and private universities. They were often also organized by music departments, which cast the project as an avant-garde musical composition (despite Neuhaus’s increasing sensitivity to musical terminology).

In a 1972 issue of *Source: Music of the Avant Garde*, Neuhaus described the basic artistic premise and structural elements of *Water Whistle*:

SMALL WHISTLES, UNDERWATER, MOUNTED ON THE ENDS OF FLEXIBLE TUBES, WATER UNDER PRESSURE FLWING IN THE TUBES AND OUT THROUGH THE WHISTLES MAKES THE WHISTLES SOUND AND THE TUBES FLEX. EACH WHISTLE IS MOUNTED WITHIN A CONE-SHAPED REFLECTOR WHICH SERVES TO FOCUS THE SOUND OF ITS WHISTLE IN A CERTAIN DIRECTION. AS THE TUBES FLEX THEY CONSTANTLY REORIENTATE THEIR RESPECTIVE REFLECTORS AND WHISTLES, CHANGING THE COMPOSITE SOUND WHICH A LISTENER AT ONE PARTICULAR PLACE HEARS.⁵⁸⁷

This characterization is simplistic and illustrative, and puts forward the project as an acoustically materialist project, or as a scientific experiment. In particular, Neuhaus focused on the physical conditions of the work to describe the unique manners in which sound travels through water. The acoustic energy, typically experienced in air, propagates differently in a liquid medium: sounds are less distinct, they are muffled, and they fracture more dramatically than in still air, which is relatively consistent. The fracturing of the sound is particularly impactful as more people enter the water to create increasingly dynamic, or volatile, wave patterns. However, the customized whistle devices – in actuality, the whole pool is turned into an instrument – were sourced from easily attainable materials: simple valves, rubber hose, and plastic kitchen funnels comprise the work’s structural components. Speaking of the acoustic instability, Neuhaus said to a newspaper reporter: “They want to go to another pitch and slip down now and then... something to do with [the] acoustics [underwater].”⁵⁸⁸

⁵⁸⁷ Max Neuhaus, “Water Whistle,” *Source: Music of the Avant Garde*, no. 11 (1972).

⁵⁸⁸ Michael Marzella, “Audiences Floats in Pool of Music,” *St. Petersburg Times* (June 19, 1972).

The first realization of *Water Whistle* took place at the Hayden Residence Hall swimming pool at New York University (NYU). The work, constructed in a square-shaped pool, consisted of six composite sound fields, all of which were positioned at one end of the pool. (It is not clear how many whistles were used to build each field.) Neuhaus produced a “polyhedral” illustration for the piece, a sort of working map used during its production (a core element of the artist’s installation practice in subsequent decades). In this image, the six sonic rings (colored red, orange, magenta, yellow, and blue) suggest a linked structure, wherein the particular tone of one whistle overlaps, slightly, with that of another. Like in *Drive-In Music*, the listener would experience these warbling shifts in tone as a musical passage, perhaps even melodic (although the exact tones that the artist chose are not known today). Notably, the drawing does not show complete circles to designate a sound area, but rather a broken-lined circle that suggests formal ambiguity (i.e., the fact that the sound fields could not be precisely controlled, or determined, by the artist). As the water moves around, so does the sonic area shift – and thus so too the entire sonic ecology. In fact, acoustically, the water functions not only to propagate the sound waves (like air) but also a filtration system, causing fluctuations in both tone and timbre depending on the unique material conditions of the pool.

Especially underwater, the system produced by Neuhaus was not stable from an acoustical waveform perspective. The sound areas, though situated in a generalized area, would have been prone to modulations. The hoses, affected by water pressure as described by the artist, did not stand still but floated in the water, ebbing back and forth, up and down, moving with their attentive and mobile audience. However, the level of attentiveness was determined by the listener, who might swim for five minutes or five hours. The original NYU environment, advertised as a durational concert (similar to *Fan Music*), lasted fifteen hours.⁵⁸⁹ Furthermore, the work began at 9:00 PM on a Friday night and lasted into Saturday morning. The late-night event was reminiscent of a party environment – many of Neuhaus’s artworks, such as *Listen*, incorporated levity despite the serious undertone (in one version of *Listen*, the group ended the sound walk with picnic blankets and scotch at a New Jersey train yard). The NYU pool was fairly shallow at just four and half feet, much shallower than later versions of the piece, which mitigated potential drowning threats, whether caused by drinking or an inability to swim.

Like *Fan Music*, there was a cover charge for the event – \$2 – which was likely needed to reimburse the artist for an incurred \$600 research expense.⁵⁹⁰ The cover charge positions *Water Whistle* as a musical concert. In the *Village Voice*, Neuhaus was referred to as a “conceptual composer,” confirming the musical context of the piece, but also conflated his nascent post-musical practice with the rising conceptual art movement. Framed as such, *Water Whistle* was presented and interpreted as a process-based artwork rather than a formal musical composition (the work, as such, was aligned with the gallery-based musical installations of Alvin Lucier). This framing allows the work today to be situated as site-specific: *Water Whistle* is less about the particular musical forms, since the overlapping of tones is fairly incidental to the piece, and more about its relation to the swimming pool and the interactions of the work within broader spatial and social environments (what Licht called a “set of conditions”). In the same article, the writer likens *Water Whistle* to other examples of “swimming pool art,” including *Happenings* by Claes Oldenburg and Wolf Vostel.⁵⁹¹ In this context, Neuhaus was explicitly operating between the official institutions and alternative anti-institutions of both worlds of art and music. Indeed,

⁵⁸⁹ Advertisement in the *Village Voice* (April 15, 1971). 78.

⁵⁹⁰ Ibid.

⁵⁹¹ Ibid.

Neuhaus was actively trying to erode the boundaries between these disciplines. Two years prior in 1969, a period of relative artistic isolation, Neuhaus spoke on the breaking down of performative models on a panel called “Performance: What is Wrong with Traditional Formats?”⁵⁹²

Water Whistle was not Neuhaus’s first work at NYU. In 1967, Neuhaus participated in an event called “Continuous Performances of New Music,” at the Weinstein Residence Halls Lobby. The event took place over a period of seven continuous hours (6pm-1am). A poster for the event said that guests could “come and go as they please,” an open-form concert structure that appealed to Neuhaus’s increasing disappointment with the concert hall. In fact, by 1967 Neuhaus rarely if ever performed in that formal context – instead he was in the midst of creating spatial sound works like *Drive-In Music*, *Fan Music*, *Listen*, *Public Supply*, and other “music for non-concert hall settings.” It is not clear exactly what Neuhaus did on this program, which was organized in a dormitory by the musician Kenneth Werner (aka ‘Phil Harmonic’). His contribution is only listed as “electronic equipment,” an ambiguous description that contrasts the clearly musical works contributed by Nam June Paik, Philip Corner, La Monte Young, and Robert Ashley. Works by composers like Cage and Stockhausen, and Erik Satie, were performed and it is possible that Neuhaus contributed to these performances.⁵⁹³ The event was explicitly musical, but it is equally likely that, considering his concurrent works from this years, Neuhaus produced a *post-musical* electronic circuit system. In other words, this transitional-period concert may have prefigured Neuhaus’s return to NYU four years later to create another “continuous” work. The popularity of the NYU pool, as well as its relative ease to produce, drove Neuhaus to produce another realization of the piece. The second version was held at the nearby Newark State College in November of 1971 (about six months after the first realization). Though technically simple, the work did require increasing interactions with outside institutions, since it would have been impossible to create a new swimming pool for each piece. Instead, the artist relied on pools already built, which typically meant collaborating with schools and community centers. In turn, Neuhaus’s sonic practice slowly became more public in scope. In order to gain access to a pool, a site for experimentation, *Water Whistle* was advertised as a public concert. The Newark pool also featured more sound rings, adding an additional three to the six used at NYU. The increased number of rings added more complexity to the underwater soundscape, which, instead of a lined group at one end of the pool, now formed a perpendicular cross-section. Listeners could swim up and down the pool lengthwise, as well as crosswise, to hear the work in more variations. With an increase in sound sources, the work grew in acoustic complexity – there were more variables in tone, waveform, and cycle. Similar to Stockhausen’s *Zyklus* score, the listener performed *Water Whistle* as a variable instrument, a site to encounter energy. Indeed, the work forces one to think about sound consciously – to listen to oneself listen, since the conditions of listening, as well as spectatorship, are forced to the front of the experience. In *Water Whistle*, one literally sees the sound created as they look at the submerged whistle, and feels the sound’s impact on their body as they maneuver the aquatic site. The listener cannot detach their listening experience from the bodily, and psychological, experience of the pool.

Following the NYU and Newark versions, Neuhaus toured *Water Whistle* throughout the United States and Canada. Later versions, which used electronics, were also realized in Europe. Between 1971 and 1974, the piece became the artist’s primary artistic activity. Given the work’s simple setup and affordable project costs, aided by the lack of electronics, it was easily installed

⁵⁹² The panel was moderated by Michael Kirby. See *Village Voice* (March 20, 1969).

⁵⁹³ Program flyer for the Continuous Performances of New Music.

at locations across the country with short notice. The work was primarily realized at colleges and universities, and more often than not, sponsored music departments. On some occasions, the piece was realized in public swimming pools (a distinction that in many cases, such as public universities, was largely meaningless) and even less commonly, private spaces. The occasional sponsorship of a visual arts space, such as the Walker Art Center or Castelli Gallery, presented the work within a non-musical context, typically within the paradigm of conceptual art and the rising environmental art movement.

Only two versions were realized in 1971 – a year that, compared to the previous decade, was a professional failure for Neuhaus, whose success had withered by 1970. The virtuoso musician ended his own career and had not yet figured out how to make his work relevant for the visually-dominant world of galleries and museums (contrasting the success of La Monte Young, Philip Glass, or Steve Reich). However, the work exploded in popularity in 1972 and became his primary project – and source of income. Neuhaus traveled the United States to realize versions of *Water Whistle*, sometimes two or three in a month. Typically, the realizations were produced in clusters. For example, three were made in January. The first was sponsored by the Walker Art Center and held at the Midway YMCA in Minneapolis (the first of Neuhaus's two commissions by the institution in the decade). The third version again featured a linked-ring structure, but used just five hoses (a simplification from the previous nine-ring structure). Notably, the rings were oriented diagonally across the pool, from one corner to the other, rather than aligned centrally or along one edge. This skewed lineup allowed listeners to navigate the pool more broadly, rather than trace the acoustic lines built by Neuhaus. Commissioned by the Walker Art Center, *Water Whistle* attained an art institutional pedigree that the first versions, held at universities, could not provide. The Walker Art Center's program for performance was a leading supporter of durational art in the 1970s and this commission aligned Neuhaus's emergent installation practice with other artists working in this field, such as Maryanne Amacher.

Later in January, Neuhaus built the fourth version at the Valencia Hills Club, sponsored by CalArts. Neuhaus was invited to campus as an artist in residence (and had previously worked on campus with Alison Knowles on *House of Dust* in 1970). This realization similarly featured a diagonal structure but increased the number of whistles to nine, thus increasing the succession of tones (enlarging, in a sense, a subaquatic *tone row*). Notably, this version also repeated three tones in a pattern, which produced a recognizable pattern for the listener, if they examined the tonal sequence. Most subsequent versions also used a repetition of tones, but with varying degrees of sequencing (e.g., the fourth version used a clear pattern for repetition of tones, whereas later versions did not). Speaking to a local newspaper of the relation of *Water Whistle* to music, Neuhaus said: "I have a broader definition of music than most people," an indication of his disciplinary apathy.⁵⁹⁴ According to the paper, about 300 people came to the "concert," primarily students:

50 people, mostly students, either ducked their head underwater or floated on their backs with their ears submerged to listen to the music... a few plunged to the bottom of the pool and sat there for as long as they could hold their breath. Those who did not want to swim leaned backwards with friends holding their legs... [others] brought stethoscopes in order to listen without getting wet.⁵⁹⁵

⁵⁹⁴ "Composer Dives in to Wet his 'Whistle'," *The Sydney Morning Herald* (Jan 16, 1972).

⁵⁹⁵ *Ibid.*

The paper also asked attendees what they thought of the musical composition, to which one student responded “It’s an experience. I don’t know about musical.”⁵⁹⁶ “It’s kind of a drone,” the paper quoted another attendee saying, “but it’s very pleasant.”⁵⁹⁷ In fact, the constant whistle tone at that basis of the work would be considered a musical drone, despite the student’s derogatory use of the term. Electronic drones were used by Neuhaus in previous works like *Drive-In Music*, *Fan Music*, and *House of Dust*, though *Water Whistle*, unlike these, was entirely acoustic. The description portrays the work as more than a formalist artwork – it was equally a work of social practice, interrogating sound and site, or space, but also the particular reactions, culturally and personally, to the place. For example, the water was warmed to above 90 degrees to ensure a comfortable swimming experience. While some felt comfortable enough to be fully submerged, despite the temperature some others waited above and attempted to listen to a work that was inaudible from the air. *Water Whistle* composed sound as much as it composed people.

The fourth version at CalArts was starkly different from the fifth version at nearby UC San Diego, which decreased the number to seven and also created two pockets of sound areas distinct from each other. Instead of a continuous line of tones, which mix together in succession, the two groups created separate sound zones with nothing in between. The listener swimming from one group to the other, would have heard the first (a group of four tones that functioned like a chord) diminish to inaudibility, and then heard the second group (a group of three) emerge as they approached the opposite corner. Depending on their stroke speed, the transition through negative space – a subaquatic silence – could have been slow or fast, allowing them to ‘play’ the chords at whatever rate desired. Given that the exact tones are not known, meaning that the phrase chord here implies simply a layering of tones, which appear to have been variously dissonant or consonant, depending on the installation.

Following his Minnesota and California cluster, Neuhaus returned to New York. In April, he realized two versions of *Water Whistle* in Buffalo. The sixth version was produced at the Jewish Center of Greater Buffalo, a semi-public private space, while the seventh was produced at a public university, SUNY Buffalo. Both locations were accessible to the greater public and each was advertised in local newspapers. The artwork, ostensibly a part of an emergent conceptual art movement, had become a public spectacle. This cluster of two versions returned to the earlier linked-ring model. The Jewish Center version had five rings overlapping at their outer edges, situated along the center of the pool; the SUNY version had eight rings arranged in a more jagged structure, including one tripartite system in which a listener potentially could have heard three tones at once (a chord-like structure similar to UCSD). This seventh version was commissioned by the music department at SUNY Buffalo. The department included the percussion faculty members Jan Williams and John Bergamo, who were students with Neuhaus at the Manhattan School of Music. (Williams purchased Neuhaus’s two tons of percussion instruments for the department following his 1965 European tour). Neuhaus was invited to become a composer in residence at their Center for Creative and Performing Arts (CCPA), which was dedicated to commissioning works of new music by emerging composers. The center focused on avant-garde music at a time when not many academic institutions cared for such music. The well-funded program had a particularly high tolerance for challenging works like *Water Whistle*, which clearly rebuked the conventions of musical composition, performance, and spectatorship. Despite a desire to disassociate from music, Neuhaus found great support with

⁵⁹⁶ “Composer Dives in to Wet his ‘Whistle’,” *The Sydney Morning Herald* (Jan 16, 1972)

⁵⁹⁷ *Ibid.*

open-minded music departments.⁵⁹⁸ In fact, Neuhaus was not the only artist to use the swimming pool for a musical composition (other uses discussed later).

In June, Neuhaus traveled to Florida to produce the eighth version at the University of South Florida. This version was substantially different than the previous versions in structure and utilized eight sound fields along two curved lines, turning away from each other but meeting in the pool's center. This orientation provided an efficient coverage of the water environment, ensuring that every participant would be able to hear the piece wherever they were in the pool (in contrast to tighter formations, such as UCSD, in which people would have to cluster together). An article about the work also provides information about the timing of the piece, which was open to public from noon to midnight. Speaking of its expansive length – rivaling even some concerts by La Monte Young's Dream Syndicate – Neuhaus said: "People have a chance to leave and come back, have some change of environment between listening sessions," rather than being bound to the entirety of the "concert." "Some who listened were disappointed... most were surprised," says the author, highlighting the contentious nature of the work which, though billed as music, has little recognizable musical structure. In fact, the article includes a description of the tones at work and describes them as both dissonant yet pleasant:

[The fifteen whistles were] shrieking softly at discordant pitches... [they were] soothing, pacifying... [but it was] hard to listen long enough... pounding ears and breath sucked through a snorkel interfere with the music.⁵⁹⁹

The author later compares the whistling to "television test pattern [humming and] bits of jet engine whine... [an] eerie science fiction movie soundtrack."⁶⁰⁰ The article also quotes Neuhaus, who says nonchalantly: "What really prompted me to do it is that there is a [unique] presence of sound underwater, and I wanted to work with that."⁶⁰¹ Asked to clarify, Neuhaus provided more context for his statement:

I asked an underwater acoustics expert about the idea, and he said it wouldn't work or someone would have already don it. That made me angry, so I bought a gross of whistles and built one.⁶⁰²

Neuhaus described his working process, claiming that for each realization he would "work about three hours the night before adjusting to the acoustics of the place... the place is part of the total piece, so each concert is different."⁶⁰³ He also understood the relation of Water Whistle to his past work in electronic music, a daunting experience to an uninitiated audience, saying: "Musicians have been intimidating people with electronic music for too long... this is just what it is – not pretentious."

The phrase – "just what it is" – reflects on earlier works like *Fontana Mix-Feed*, but also recognized the inaccessibility of that type of work, which while revelatory for him, was also alienating to much of the audience (which, as shown, often plugged their ears). Following this

⁵⁹⁸ See Packer (2012).

⁵⁹⁹ Michael Marzella, "Audience Floats in Pool of Music," *St. Petersburg Times* (June 19, 1972).

⁶⁰⁰ Ibid.

⁶⁰¹ Ibid.

⁶⁰² Ibid.

⁶⁰³ Ibid.

version, Neuhaus took an extended summer break occupied with frequent boat trips to the Florida Keys to conduct open ocean acoustic tests. Despite not knowing how to sail, Neuhaus managed to travel down the Eastern seaboard (occasionally with guests, including Heiss).⁶⁰⁴ On one fateful trip, Neuhaus, sailing alone, found himself stuck in a marshy area of the Keys. He was rescued by the coastguard.⁶⁰⁵ During these exploratory amateur research sessions, Neuhaus examined the acoustical features of subaquatic sound generation and propagation. The results – what sounds travel best or how to control modulation – were folded into *Water Whistle*, which became a sole preoccupation.

Neuhaus took *Water Whistle* to the state of Michigan after returning in the fall of 1972. In September, the ninth and tenth versions were realized at, respectively, the Central Michigan University and Michigan State University. The ninth version was based off of a continuous ring-line to produce six interlocking fields. The ring-line zigged-zagged across the pool's body in a sharp asymmetrical and vaguely curvilinear form. The tenth version continued from the eighth in its use of curvilinear structures: two vaguely parallel ring-lines jotted back and forth down a swimming pool lengthwise. As with the others, some of the tones repeated, but with no clear pattern. By this time, Neuhaus wanted to limit the ability of the listeners to fully comprehend the work's formal structure, preferring an unconscious experience. Unconscious listening became a defining feature of his above-ground installation practice. These Michigan realizations were the last versions of *Water Whistle* in 1972.

The eleventh, twelfth, and thirteenth *Water Whistle* versions were realized in the month of March in 1973. The exact ordering is not verified with dates and I will follow the numbered titles as listed by the artist. At York University, Neuhaus shifted the work's structure again. The same materials were used to produce six sound fields, but only two of the rings were linked. The other four existed as isolated droning bubbles, near other fields but not overlapping. In this piece, which was subtitled "Underwater Concert," the swimmers occupied one field and moved on to the next without the typical tone transitions associated with the previous versions. These transitions perhaps remained too similar to conventional musical forms, such as melody, despite being dissonant. (Neuhaus's use of tones in *Water Whistle* and other early installations goes against his previous use of naturally atonal percussion noise and feedback.) His visit to York University was a moment of self-reflection. Not only did *Water Whistle* change, but while producing the work Neuhaus also produced an artist book, called *Program Notes*. The book was published officially in 1974 by the art department at York University and details the artist's thoughts on electronic music, sonic art, noise, and arts funding. (The broader context and effects of Neuhaus's experience in Toronto is discussed after this section.)

The twelfth, thirteenth and fourteenth versions were respectively realized at a YMCA in Syracuse (and sponsored by the Everson Museum), the University of Southern California, and the Rochester Institute of Technology. The penultimate cluster repeated the basic functions of the work as in earlier versions, and each clearly replicated the formal structures of previous versions with no obvious adaptation. This moment is significant in that the work seems to have stalled for the artist and become, against his will, a type of score or standardized performance piece. Rather than being unique each time, the works were increasingly similar and staged, like a concert or a performance, in almost identical manners. Despite the popularity of the work, Neuhaus desired to relieve himself of the project. *Water Whistle* had become, perhaps similar to *Zyklus* or *Fontana Mix-Feed*, an artistic hurdle and another thing to overcome. The piece attained symbolic weight

⁶⁰⁴ Oral interview with Alanna Heiss (November 23, 2013).

⁶⁰⁵ Michael Marzella, "Audience Floats in Pool of Music," *St. Petersburg Times* (June 19, 1972).

that Neuhaus sought to shed, much like his two tons of percussion instruments. Indeed, following *Water Whistle*, Neuhaus never reconstructed a work beyond its original space. The repetition of *Water Whistle* – its false uniqueness – spurred his move to rigidly site-specific art, in which an installation is conceived and constructed in a single environment.

In 1974, only three versions were realized – a dramatic downsize from the previous three years. The three versions were each realized in the month of March, following the completion of the artist’s site-specific architectural installation *Walkthrough* (1973). The fifteenth, sixteenth, and seventeenth versions were also each sponsored by a contemporary art gallery, rather than a school. This cultural designation linked *Water Whistle* explicitly to contemporary art, rather than music, reinforcing his earlier encounters with the Walker Art Center and the Everson Museum (as well as his work with the Albright Knox Gallery). Indeed, *Water Whistle* was among the first of Neuhaus’s works recognized within mainstream visual art spaces. The first version was built at the Carmine Street Pool and sponsored by the Leo Castelli Gallery. The second was at the Hotel Paris and sponsored by the John Weber Gallery. The third was at the Evangeline Residence for Women (YWCA) and sponsored by the Sonnabend Gallery. These venues, each associated with avant-garde sculptural practice, helped Neuhaus further extend his practice into the domain of visual art, specifically sculpture, despite being largely invisible. The visual spectacle of *Water Whistle* was, of course, notably striking, but the primary focus for Neuhaus was an acoustic experience. The three versions were advertised together on a poster designed by the Pop artist Claes Oldenburg. The silk-screened poster featured a stylized grid of pool-like images, numbered from one to twenty-four to suggest the continuation of the piece. One wonders if Neuhaus really believed he would continue the work. He had already finished *Walkthrough*, his first public-facing architectural installation, and had already been planning his iconic *Times Square*, which was first conceived in 1973. Indeed, the poster shows a rhetorical shift: despite being partially funded by the Center for New Music, which presents the works as “concerts,” the pieces are first highlighted as “installations” (among the earliest uses of the term by Neuhaus on record).

Despite effectively putting *Water Whistle* to rest, Neuhaus produced a miniature version in 1975 using a toy whistle in a bathtub. The personal version was shown in the kitschy *Artists Make Toys* show at The Clocktower, which was curated by Heiss. A year later, Heiss – a close friend of Neuhaus – invited him to participate in the inaugural 1976 exhibition *Rooms* at Project Studios One (later named PS1). Neuhaus built an architectural sound installation in the museum attic, next to a steel Richard Serra sculpture. [DEVELOP ROOMS] Additionally, Neuhaus built an off-site and unofficial version of *Water Whistle* for the show at an exterior location, which was accessed via chartered bus. *Water Whistle* was a relatively simple piece consisting of a series of commercial whistles attached to pressurized hoses. The hoses were submerged below several feet of water, usually in premade swimming pools at universities or other public community centers. When approaching the pool, the listener could only hear usual sounds of the above-water space, but once submerged they were exposed to undulating sonic fields. The acoustic fields, “areas of [sonic] movement,” were spread across the underwater pool space to create interlocking zones, or rings, of acoustic interaction. These rings of sound mixed together as a listener swam through the liquid material, producing an open-form sound environment experienced by the listener as they navigated water, below the surface.

Water Whistle gave Neuhaus international fame beyond his prior musical past, and was shown repeatedly across North America and Europe throughout the 1970s. But like prior installations, *Water Whistle* was repeatedly described as a musical composition, and occasionally

the artist used an alternative title, *Underwater Music* (later versions of the piece with this title, especially in Europe, used electronic oscillators and underwater speakers, contrasting the totally acoustic structure of the earlier versions). Similar to *Drive-In Music*, the institutional nature of the work changed depending on who was listening, something that plagued most of his other works, including those for broadcast radio, *Public Supply I-V* (1966-1972) and *Radio Net* (1978), which sourced audio signals from the listening public via telephone. However, unlike *Drive-In Music*, *Water Whistle* allowed more autonomy to the listener, who could choose when and how to engage the piece. The former could be transformed into variations with regards to speed, volume, and direction, but it remained tethered to a linear track (much like a tape recorder). In contrast, *Water Whistle* continuously unfolded within an auto-generative flux that dispersed in every direction. This autonomous and continuously-sounding environment became Neuhaus's preferred method of sound installation going forward, in part because it further distanced his art from conventional musical performance. The work also distanced Neuhaus from the Happenings and Fluxus-inspired events, like *American Can* and *Listen*, which though anti-musical remained somewhat tied to a performance model.⁶⁰⁶ Where did Neuhaus first conceive *Water Whistle*? For an unknown period of years in the early 1970s – roughly, 1970-1975 – the artist lived on a houseboat.⁶⁰⁷ Neuhaus docked the boat, named Melody, off the Hudson River on the West Side of Manhattan.⁶⁰⁸ “I did the piece after I’d been living on the water a year,” Neuhaus told a reporter in 1972, adding that he had “been involved in music all my life. I began to think about [listening to] sound under water... [about] giving a concert under water.”⁶⁰⁹ These experiences were the result of the time spent on his house boat, a so-called “cabin-cruiser.”⁶¹⁰

Neuhaus in Toronto

In 1973, Neuhaus was invited to York University in Toronto. He was commissioned to realize *Water Whistle* by the Department of Music, which has for long given its support to new and avant-garde music.⁶¹¹ Like he had done in Buffalo in 1967, Neuhaus spent his time in Toronto working through conceptual and material shifts in his artistic practice. The year would prove influential for his long-term practice. Neuhaus spent much of his time in in 1967 by constructing a musical off-ramp, a passageway out of the concert hall and into public space. By 1973, Neuhaus was on the precipice of conceiving a new art form in *sound installation*. Notably, it was in 1973 that he conceived both *Radio Net* and *Times Square*, two of his most challenging and paradigm-shifting artworks. What works did Neuhaus actually produce, not only conceive, in this year to support such ideas? How did his time in Toronto help push his past artworks into this entirely new realm of artistic thought and method?

⁶⁰⁶ The installation has strong visual components and exists in a larger social context, placing it nearby the realm of sound art Seth-Kim Cohen calls *non-cochlear*. Kim-Cohen (2009)

⁶⁰⁷ Confirmed through photographs and oral interviews with Alanna Heiss, Liz Phillips, and Philip Corner.

⁶⁰⁸ Oral interview with Alann Heiss.

⁶⁰⁹ Michael Marzella, “Audience Floats in Pool of Music,” *St. Petersburg Times* (June 19, 1972).

⁶¹⁰ *Ibid.*

⁶¹¹ Between 1970 and 1980, the music faculty included composers George Manupelli, David Rosenboom and Richard Teitelbaum. The faculty also included Neuhaus's longtime friend James Tenney, who famously instructed SoHo artists on the artistic uses of the FORTRAN computer language in the late 1960s. See Steve Reich, “Tenney,” *Perspectives of New Music* 25, no. 1/2 (Winter-Summer 1987): 547-548.

In addition to *Water Whistle*, which was done in the university pool, Neuhaus also realized a version of *Listen* during his time in Toronto, although the exact details are not entirely clear. There is anecdotal evidence that Neuhaus was invited to campus sometime between 1973-4. Notably, the artist book *Program Notes* was published in 1974, meaning that it would have been produced after the initial *Water Whistle* installation. The publication could have been conceived retroactively by the music department, but likely would have been used to promote or accompany a second realization. This timeline makes *Listen* a likely candidate. The Canadian sound artist Donal McGraith attended the university at the time and recalled being brought by Neuhaus during his “first year of university.” McGraith described the occasion tersely: “Max Neuhaus took us to the power plant: a building that supplied heating and electricity to the whole university. When we arrived there he stamped *Listen* on the top of our hands.”⁶¹² He poignantly notes the connection, from his point of view, between Neuhaus’s work and the sparse and largely unedited field recordings of Luc Ferrari. He specifically mentioned Ferrari’s famous *Presque Rien* (or *Almost Nothing*) (1967-70), essentially a minimally edited field recording of the composer walking around a small fishing village near the Black Sea during morning, noting: “Having [already] heard Luc Ferrari first, I already understood what [Neuhaus] meant when he stamped *Listen* on my hand.” He also deftly refers to LISTEN as a type of “pointing or framing,” which is a way of “making music” without actually composing anything specific, much like Ferrari’s tape recorder.⁶¹³ McGraith puts it succinctly, if a bit confused, when he states that “A Max Neuhaus sound walk is a performance; it has a frame,” indicating the strange relationship that LISTEN has to performance. In particular, what draws them together is not the realization of specific sounds, or any sound at all, but rather the framing, by which he means both a conceptual framing (i.e., organized sound events) and a durational framing (i.e., the beginning, development and the ending of a piece).

In this same article, McGraith describes number of musical influences, including Ashley, from the time, and indicates that his second year of college was in 1975.⁶¹⁴ This would more or less confirm the timeline of Neuhaus coming back to York University in 1974 not only for the *Program Notes* publication, but also for a realization of *LISTEN*, a work that he first realized in 1966. This connection is interesting not only in the sense that it is one of the few known descriptions of the *LISTEN* piece, however short it may be, but also in that the work clearly aligns with the development of Neuhaus’s other artistic objectives, namely his move toward continuous sound installation. It is notable, in that regard, that the ‘end’ of *LISTEN* – much like the ‘end’ of solo percussion activities – occurs as an emergence in his practice, specifically the creation of the *Times Square* sound installation. It also highlights the interstitial nature of the *Water Whistle* series, which sits between *LISTEN* and *Times Square*, at once performative and non-performative in formal and conceptual scope.⁶¹⁵

⁶¹² Donal McGraith, “Listen,” in *Music is Rapid Transportation... From the Beatles to Xenakis*, eds., Bill Smith and Dan Lander (Toronto: Charivari Press, 2011): 41.

⁶¹³ See Eric Drott, “The Politics of Presque Rien,” in *Sound Commitments: Avant-Garde Music and the Sixties*, ed., Robert Adlington (Oxford: University Press, 2009): 145-166.

⁶¹⁴ McGraith, 45.

⁶¹⁵ Neuhaus published a screed on noise and noise pollution in *the New York Times* in 1974. The brief piece laments the cultural misunderstanding of noise, particularly the official governmental accusation of noise as a dangerous material. This editorial coincided not only with the publication of *Program Notes*, which laments the abuse of power by institutions, but also his shift to public sound installation – literally making noise in public. See Max Neuhaus, “BANG, BOOoom, ThumP, EEEK, tinkle.” *The New York Times* (December 6, 1974): 39.

The language in *Program Notes* at times uses metaphors of violence. References to military force, armed revolution and bureaucratic state power summon the violent and radicalist tendencies of the 1970s political left. Throughout the 1970s, the militant communist organization Weather Underground used targeted arson actions and improvised exploding devices to draw attention to their numerous political causes, but primarily the destruction of capitalism in the United States and worldwide. The group disbanded in 1977.

There is a striking sense of empathy for such violence of the Weather Underground in the rhetoric utilized by that of Neuhaus in his book *Program Notes*. The political tone – and specifically violent language – is otherwise uncommon in his larger practice and description of his works. Generally, the militant language of ‘revolution’ and ‘army’ resistance is kept within his *words* – though not the *works* – from the 1970s. Nonetheless, in this book the artist referred to his actions as “gorilla warfare,” summoning the rise of the “urban guerilla” in the 1970s, and along with it the cultural fear of ‘the revolution’ and of the extended Cold War fear of global communism. The close chronological proximity of *Program Notes* to explosive actions of groups like the Weather Underground provides an interesting, if bewildering, influence upon his practice, or at least his thinking about his practice. Accordingly, perhaps we might have a better sense of why his Times Square installation was for sometime referred to as “Underground Music,” at once a nod the avant-garde musical past but also militant resistance movements of the 1970s. Indeed, the image of some unknown person illegally entering a municipal subway ventilation chamber with strange electronic circuits and electrical wires has a certain similarity to the covert terroristic actions of Wilkerson and the Weather Underground. It is also worth noting that Times Square, the location, was not of much interest to Wilkerson and others, and much less international terrorism (which was also on the rise in the 1970s), but is today one of the focused counter-terrorism sites worldwide. These fears of domestic and international terrorism and militant communism quickly became popular themes in U.S. newspapers during this decade, and largely in response to the rise of radical anti-capitalist groups such as Weather Underground, which was based in the United States. The anti-capitalist militant Marxist groups were an international phenomenon, and similar activities of groups such as the Italian Red Brigade, the German Red Army Faction and the Japanese Red Army inspired fear in the capitalist West.⁶¹⁶

The extent to which Neuhaus actually engaged with such extreme positions is incredibly unclear. His earlier participation in various anti-Vietnam actions in the 1960s do set a precedent, but those actions were overwhelmingly non-violent and participated in the anti-violence perspective of the 1960s civil rights era. Even so, the engagement of Neuhaus with those actions was minimal, if near nonexistent. For example, Neuhaus provided original recordings for a soundtrack to an anti-war documentary by the radical filmmaker Peter Gessner (at the behest of Morton Feldman).⁶¹⁷ Gessner said of the film:

I approached Morton Feldman in 1966 and showed him a rough cut of the film and asked if he would provide music for it. He composed music for the

⁶¹⁶ For more information on these groups and their relation to art history, see: Grindon, Gavin. “Poetry Written in Gasoline: Black Mask and Up Against the Wall Motherfucker.” *Art History* 38, Issue 1 (February 2015): 170-209.

⁶¹⁷ Peter Gessner in email to the author (June 24, 2013). Gessner also said of the film: “Mort also “donated” a finished composition he had previously composed that I used for the final sequence of the film.” See Peter David Gessner, *Time of the Locust*. Tundra/First Run/Icarus Films, 1966. Film.

opening title sequence [and asked Neuhaus] to provide various unscripted percussion sounds and told me to edit them as I wanted to the images.⁶¹⁸

The complete passage from *Program Notes* is as follows: “Eight Years of gorilla warfare with the bureaucracy is enough, I want some heavy artillery. I want a regular army.”⁶¹⁹ It is telling that Neuhaus uses the word “gorilla” mistakenly instead of “guerrilla,” a likely unintentional spelling error (a common tendency for the artist) that suggests a limited engagement with the ideologies of such groups on any serious level, beyond a general distaste for ‘the establishment’, which in this case is very specifically the arts industry and the national patronage system. The comparison between new music and terroristic violence, including the reference to machine guns (newly used by terrorists internationally) and mass death, is not only a particularly bleak rhetorical move, but also rather uncompassionate for broader fears of the public and those injured or otherwise harmed by the terroristic actions of groups like the Weather Underground. Another mark of ambiguity in the political reality of sonic art – at least Neuhaus’s personal stake. Nonetheless, the rhetoric paints a picture of internal strife and the dire situation felt by the artist in the 1970s, as he struggled to secure project funding and institutional (disciplinary) support, and likely a reason for his own purpose as an artist and as a person, one who was notoriously social but also somewhat alienating, and generally not outwardly emotional or self-revealing.

An undated manuscript sheds some light on his interests on social interaction and social behavior. Possibly as well it reveals his engagement with ideas of media critique, and social revolution, also held by some resistance groups of the 1970s. The text is aspiration ally titled *Notes on Changing the World*. The positive title seems to be a subversive nod toward Cage’s own *How to Improve the World (You Will Only Make Matters Worse)*. In this text, Neuhaus says in particular, “Most people rely on the media, friends and [colleagues], to orient themselves and their opinions. In one sense, sonority is defined by an agreement and conformation to ideas held by our society.”⁶²⁰ In this brief passage, Neuhaus not only gets to one of the major points of his artistic career – the idea that sound is as much social as it is acoustical, and that sound can be constructed to compose place in addition to space, outside of music – and also his lesser known views of social encounter, namely the ability of society to ‘conform’ the individual into predestined sets of logic, opinion, thought or artistic knowledge.

The language here reminisces some of the same concerns of the anti-establishment politics of the 1970s, but it at the same time entirely grounded in aesthetic concerns, namely that of sonority – sounding and listening. As such, we can only speculate about the relation of this to his broader political goals. Indeed, in the same text he notes that he is “not interested in commenting on my society. I feel my role is to shift state[s] of mind. Traditionally artists have done this through the eye. I prefer doing it through the ear – it’s [free] of cultural baggage.” The statement portrays the unique nature of his work, both in the context of new music and of modern art. However, the comment does contain a logical problem: how can one change society without addressing, or manicuring, cultural baggage? How can sound transform society in addition to being inscribed by it? How can the sonic intersect the political? There are no clear answers provided by Neuhaus in this brief text, nor are there in *Program Notes*. Each poses more questions than they answer. However, here we have a summation of some of Neuhaus’s major

⁶¹⁸ Gessner in email to author (June 24, 2013).

⁶¹⁹ Ibid.

⁶²⁰ Max Neuhaus, “Notes on Changing the World.” Unpublished manuscript held by the Estate of Max Neuhaus.

artistic concerns, specifically to produce new ways of listening that transcend social structures and artistic ideologies, and create radically democratic systems that bring individuals together into unique collective whole, whether they are aware of their mutual interaction (such as in *Radio Net*) or not (such as in *Times Square*).

Underwater Music I-IV (1976-78)

Neuhaus adapted *Water Whistle* in the mid-1970s while in Europe. The adaptations, called *Underwater Music* (a phrase used to refer to some of the works in the U.S.), shed their acoustic sound sources for electronically generated sound: whistles exchanged for sine waves. Instead of whistles and water pressure, Neuhaus used electronic tone oscillators, a primary technology in his above-ground installations. In order to produce the electronic tones underwater, Neuhaus used special amplifiers and transducers. Four electroacoustic realizations are confirmed by the artist (three in Europe, one in the U.S.).

In 1974, Neuhaus presented a version of *Water Whistle* at the *Projekt '74* festival in Cologne, Germany. Given the date, this version was likely acoustic. However, the trip to Europe seems to have spurred Neuhaus to return to the electronic circuit and amplification for *Water Whistle*. Neuhaus had temporarily abandoned electronics following *House of Dust* (1968-70). The bad experience with *House of Dust* – the need to constantly re-tune the sine waves – may have aided his acoustic turn in the early 1970s. The creation of *Walkthrough* in 1973, *Drive-In Music* in 1975, *Round* in 1976, and *Times Square* in 1977, together indicate that by the mid-1970s he had eagerly returned to the electronic circuit as an artistic medium. Accordingly, the 1976 revival of *Water Whistle* – rebranded as *Underwater Music I-IV (1976-1978)* – was unabashedly electronic. The change required a technological adaptation. The first version of *Underwater Music* was realized in Bremen, Germany in 1976. The project was sponsored by Radio Bremen, a radio station that supported new and avant-garde music and likely knew of Neuhaus's earlier percussion and live electronic music. The second version was realized also in 1976, but in the U.S. as part of the aforementioned PS1 exhibition, *Rooms*. The third version was realized in 1977 in West Berlin at the American-run Radio RIAS, an occasion that delayed the completion of *Times Square*. The fourth version was realized at the Dutch art center De Appel in 1978. The photograph of Neuhaus in Berlin testing the oscillators outside of the pool reveals a luggage box with the inscription: "NRL USRD J9 131." The first three letters stand for Naval Research Laboratory. The second four letters stand for Underwater Sound Reference Division, a subgroup of the Navy that focused on aquatic acoustics research. The phrase "J9" refers to the type of aquatic sound transducer, essentially a device to convert the water into an omnidirectional speaker.⁶²¹ The USRD was adopted by the Navy after World War II from Bell Labs. It is unclear where exactly Neuhaus received the technology, but it is likely that he procured it through assistance from Bell Labs. As a previous artist resident, he could have garnered a special contact with the U.S. Navy.⁶²²

⁶²¹ C. C. Sims, "High Fidelity Underwater Sound Transducers," *IRE* 47 (1959): 866-871.

⁶²² Neuhaus discovered that it was easier to request resources from municipal, state, or federal agencies with a corporate sponsor, as opposed to an individual artist request, and, in 1975, incorporated himself as Hybrid Energy Audio Resources, or HEAR, Inc. Information corroborated in oral interview with Max Pyziur. See also Rockefeller Foundation Records. RG 1.3-RG1.8. Subgroup Series 200 Box 926. Folder 6220. "A Proposal for a Sound Installation for Times Square."

Water Whistle reignited Neuhaus's artistic career. The artist, suffering in a few years of inactivity, was brought into the limelight for his environmental music. However, his interest in acoustic materiality, and particularly the relation of sound to site, was not satiated. The *Water Whistle* project was only site-specific in a limited way: technically each version was unique, but only in the sense that each was produced in its own swimming pool. The swimming pool as a site was too general. For example, a swimming pool in Syracuse is nearly identical to one in La Jolla, and the subtle changes in tone structure or complexity did not alter the work enough for it to be sufficiently site-specific. The sites for *Water Whistle* were general, not specific. Similarly, the musical connotations persisted to undermine the work's acoustical intention. Neuhaus always considered it foremost an experiment in sonic space, in creating space, and then place through a unique experience of sound. In this case, shifting and highlighting one's notions of listening from the air to the water raises a question of *listening in general*. Furthermore, the concert-like form of the piece, specifically the fact that these works had a clear beginning and ending, prevented them from being continuous. Despite the long hours held, these works always ended. The identity of the artist – trained as a classical musician – interfered with the encounter, experience, and interpretation of the piece. Neuhaus sought to create a continuous and permanent model of sound installation, but also one that was anonymous and without pretension of artistic goals or values. Neuhaus wanted to create a model of sound installation not only based on sense, but on a total experience of place. He turned to public space and architecture. *Water Whistle* was an essential practice, and process, for Neuhaus in his second career transition, from performative events to continuous site-specific works. As Neuhaus said later in life, “[*Water Whistle* marked] the beginning of my transition from working in concert halls to making site-specific sound works.”⁶²³

City Noise

Neuhaus further explored the idea of autonomous environments, and out of the water, in *Walkthrough* (1973), *Round* (1976), and *Times Square* (1977). The latter gave him a long-desired recognition in the worlds of both art and music (even if the descriptive characterization of the piece fluctuated between the two). Neuhaus enjoyed working between the adjacent fields, an interstitial orientation that, in many ways, negatively affected his career. This negation continued as he developed his architectural practice, especially as his works catapulted into major museum spaces like the Museum of Contemporary Art, Chicago, the Whitney Museum, and the Museum of Modern Art. Neuhaus exploited the urban landscape as a site for the production of art. In particular, the locations that the artist chose were often oriented around spaces of infrastructure, whether transportation or institutional (i.e., social or political centers). These various locations offered unique (and differing) soundscapes around and through which to construct a soundwork. The sites – underground subway stops, street-level crosswalk intersections, and a municipal building – also offered great potential for mass public interaction, given the sheer number of people that would have encountered the piece, even if it remained unmarked (a defining feature of Neuhaus's works after *Walkthrough* and *Times Square*). In this section, I will describe how Neuhaus used these public spaces to build sonic environments and define his practice of continuous sound installation in its early stages.

⁶²³ Max Neuhaus, “Water Whistle Series.” Unpublished manuscript. <http://www.max-neuhaus.info/soundworks/vectors/sensation/waterwhistle/>

Walkthrough – architectural sound

Walkthrough (1973-1977) was the first permanent sound installation produced by Neuhaus. The work was installed at the Jay Street-Borough Hall MTA subway station (later renamed Jay Street-Metrotech). It was active for four years before being removed by Neuhaus, in part due to subway employee complaints, who did not enjoy the piece.⁶²⁴ The work responded to changing environmental conditions. Similar to *Fan Music*, the piece was never the same in sonic form, but continuously changed in response to the weather patterns, including light and wind intensity. The work utilized a sensor to detect such changes, as well as a potentiometer to control value levels of oscillators, filters, and amplifiers. The sonic component of the work was a series of high-frequency beeps, rather than sustained drone-like tones (as was done in *Fan Music*, *Drive-In Music*, *Round*, and *Times Square*). *Walkthrough* was the first work of Neuhaus's to utilize architecture as site for installation, aside from the four falls (and floor) of a swimming pool. Neuhaus was likely dissatisfied with the temporary nature of *Water Whistle*, which was treated (and somewhat structured) as a musical performance. In other words, *Water Whistle* had a clear beginning and an ending, even if the hours were elongated (some realizations lasted past midnight). Accordingly, the work functioned to the visitors as a kind of environmental music performance, rather than a sound installation, which was where Neuhaus was working toward. Indeed, as Neuhaus realized *Water Whistle* across the U.S., he began conceiving of more permanent works, such as *Walkthrough* and *Times Square*, which had no announced beginning and ending, but rather an active environment that anybody can visit on their own time. For example, one anecdote involves the eccentric art collector Dominique de Menil abruptly summoning limousines to bring a large group of guests to *Walkthrough* in the middle of a dinner party. Reflecting his growing connections to the art world in the early 1970s, Neuhaus was invited to the party hosted by Christophe de Menil, a relative of Dominique, shortly following the completion of his work. Neuhaus previously worked with Christophe on the latter's *Midsummer* performance series, which was held on Long Island in the late 1960s.⁶²⁵ Neuhaus described the encounter as such:

Halfway through the dinner, [Dominique] looked at me and said, "What do you do?" [After I explained the piece] she looked around and said, "OK, everybody up!" and went to the phone... she called ten limousines and took [everyone] to Brooklyn, of course destroying Christophe's dinner party...⁶²⁶

On its face, the anecdote seems like another eccentric story from a growing art world, and a strange desire to see what is new, no matter the occasion or cost.

The general public was not totally supportive of the work. *Walkthrough* was the first of Neuhaus's installations to not be marked, making it entirely anonymous. In other words, the sounds could be heard but the source was not identifiable. Unlike earlier sound works, the technology in *Walkthrough* was deliberately hidden from view, a tactic that Neuhaus used for the

⁶²⁴ Kotz, "Max Neuhaus: Sound into Space," 93.

⁶²⁵ Program evidence suggests either the summer of 1966 or 1967. Neuhaus performed repertoire works by Cage, Feldman, Stockhausen, etc. Clearly he and Dominique de Menil stayed in touch, providing the invite to the dinner party. See Appendix.

⁶²⁶ Douglas Britt, "Sound, Sculpture Define Space at Menil," *Houston Chronicle* (Friday, May 2, 2008). Web. <http://www.chron.com/entertainment/article/Sound-sculpture-define-space-at-Menil-1661632.php>

rest of his career. Though most people experienced the clicking sounds in passing, a momentary sonic fluttering, some of the station workers listened to it all day. Because the work ran twenty-four hours a day, and responded to the environmental conditions, including wind, the piece had a fairly obnoxious presence. Eventually, an employee dismantled the work.

In 1977, Neuhaus retrieved the materials from their location – likely reusing the materials in other artworks (much like, in theory, parts from a Dan Flavin or Carl Andre sculpture could be taken apart and repurposed). Neuhaus clearly understood the problems of making invisible art – outside of the existing space of musical institutions. The return to electronics, much more expensive than whistles and funnels, posed a serious economic challenge:

For a long time, it was very hard to find the [financial support] to keep going with these works, which you couldn't sell, [and] which there were no drawings for (until years later), [but Dominique] was always there at the last minute... I don't think she ever realized that she could commission a work of mine.⁶²⁷

Neuhaus here referred to the Menil Collection's purchase of the permanent installation, *Sound Figure* (2008), shortly after the death of Dominique (and shortly prior to Neuhaus's passing). Similar to some versions of *Water Whistle*, *Walkthrough* did not force the listener to hear it at any specific time, illustrating the "any time you want" aesthetic of continuous public sound installations. In 1984, an article described *Times Square* as "one of the most appealing musical events in midtown Manhattan [which] has no beginning and no apparent end. One never worries about being late for the performance or leaving in the middle."⁶²⁸ The discovery by Neuhaus of this process came from *Walkthrough*, the first major architectural installation that he composed for, and in, a public space. Neuhaus used a similar palette in two subsequent works: an untitled installation at the *Documenta 6* exhibition in Kassel, Germany, which featured shortened high-tones ("hollow clicks") that emanated from a nondescript grassy hedge line just off a walking path; and then in the massive Como Park Conservatory installation in Minneapolis in 1980, which featured a combination of sustained tones with bright shimmering pulsing (the Como Park installation also reacted to acoustic changes in the environment, such as human speech and the squawking of birds).

Following *Walkthrough*, which was slated for removal, Neuhaus sought to investigate durational sound embedded in architectural sites. In 1976, Neuhaus collaborated with the arts nonprofit Creative Time to produce *Round*, a site-specific composition built for a large rounded dome ceiling.⁶²⁹ The work was a multiday sound installation in the rotunda of the Old Custom House in Lower Manhattan, a large open space in which continuous sound was listened to while strolling around the space, or laying on the floor. The cavernous environment lent a new dimension to Neuhaus's practice in its massive scale. In nearly all subsequent works, the artist works with large spaces, often hiding the apparatus that produces sounds (unlike *Water Whistle*, where the structure and aural mechanics are clearly legible). However, the periodicity of the

⁶²⁷ Britt (2008).

⁶²⁸ Bernhard Holland, "Critic's Notebook: Passive Solution to Music's Orthopedic Mishaps," *The New York Times* (June 14, 1984): C19.

⁶²⁹ See "Max Neuhaus, Composer, Presents 'Round' in Rotunda of U.S. Custom House on Bowling Green: Vacant Landmark Opens Doors for Avant-Garde Music." Letter from Creative Time to New York Landmarks Conservancy. [Undated] The Museum of Modern Art/MoMA PS1 Archives. I.A.327. See also: John Rockwell, "Max Neuhaus to Fill the Old Custom House with New Music," *The New York Times* (November 19, 1976): C7; and John Rockwell, "Avant-Garde: Max Neuhaus and his 32 Loudspeakers," *The New York Times* (November 22, 1976).

piece (i.e., that it could be turned on/off) was regressive in a larger movement toward permanent continuous installation. In *Rounds*, Neuhaus made a concession in order to work with such a unique acoustic space, but the problem of periodicity will be risen in later decades. For example, two permanent sound installations were ultimately dismantled in the 1980s following the artist's refusal of requests to allow the works to operate on limited hours of the day (workers were at best annoyed and at works feeling nauseous by the sounds): the untitled stairwell installation in the Museum of Contemporary Art of Chicago, and a large (and expensive) installation in the Como Park Conservatory.⁶³⁰ These unusual situations, as with *Walkthrough*, point to a recurring problems of public art, on the one hand, and sonic art, on another: the interference of the artworks, and sonic art works in particular, with social norms of a workforce that operates in the space.

Paint it black

In the case of sound installation, the idea of *making noise* in an era of *noise pollution* was, or rather seemed, wholly illogical. As countless cities and states attempted to curb noise pollution in public space with *noise abatement* policy, Neuhaus was trying to add more. He needed to justify his strange practice.⁶³¹ In 1974, the artist wrote a light-hearted yet bitterly scathing *New York Times* op-ed on the true nature of noise and its manipulation in the rhetoric of city and federal agents, specifically the Environmental Protection Agency (EPA) and its subdivisions, such as the Department of Air Resources. The article, cutely titled “BANG, BOOoom, ThumP, EEEK, tinkle,” counter-argued an EPA pamphlet on the dangers of noise, suggesting that, in contrast, what was more dangerous to the general public was misinformed noise abatement policy. Noise, for Neuhaus, was confused from an acoustical point of view in the studies commissioned by the EPA and disseminated to the public. The cultural definition of noise as a threat, despite the lack of accurate acoustical knowledge, amounted to an incitation of panic. Noise, he suggested, was not inherently dangerous, but threatening only in specific contexts. Neuhaus singled out a pamphlet that was distributed by the EPA as the focus of his piece. According to Neuhaus, the pamphlet, titled *Noise Makes You Sick*, mischaracterizes acoustical facts in order to stoke fear among a public audience (and garner political support for noise policy legislation). Neuhaus sought to counteract what he saw as a misinformation campaign – one that could potentially harm his own profession. The piece is short and begins tersely:

The popular concept of “noise pollution” is a dangerously misleading one. In reality, dangers to hearing do exist in prolonged, excessively loud sound levels. However, the residue of the idea that has ended up in the mind of the public, because of misleading publicity, is that *sound in general is harmful* to people.⁶³²

In the first sentence, Neuhaus disregards the phrase “noise pollution” as a meaningless “popular concept,” going so far as to characterize the phrase as “dangerous.” The phrase is a rhetorical

⁶³⁰ Oral interview with Nigel Redden (November 16, 2016).

⁶³¹ Neuhaus discussed his aversion to R. Murray Schafer's idea of *acoustic ecology* (particularly his disinterest in what learning what people actually heard in the soundscape). Neuhaus in email to Dasha Dekleva (March 30, 2004).

⁶³² See Neuhaus, Max, “BANG BOOoom, ThumP, EEEK, tinkle,” *The New York Times* (December 6, 1974): 39. Italics mine.

move designed to connect, in the mind of the public, rising noise levels in urban areas with the national debate around water and air pollution. The ecological focus is a negative framing that equates ‘noise’ with toxic sewage, industrial runoff, and so-called *acid rain*. The connection is fearful to a non-specialist public without a background in acoustics, namely the idea that noise, in fact, has nothing to do with decibel level. Noise simply refers to a sonically rich sound structure – basically, a lot of frequencies overlaid such that it is impossible to hear any particular tone over one another. As Neuhaus notes, the real danger is loud volume and not the acoustic category of noise.

The editorial goes on to challenge arguments in the pamphlet, such as the ambiguous claim that “any loud or unexpected sounds put your body on alert,” which while possibly true is general enough to not be meaningful to the reader, who may instead fear all sounds no matter the volume level or proximity. When the pamphlet states that “sound is instantly transmitted from your ears to your brain and then to your nerves, glands and organs,” Neuhaus argues that the public reader would be “left with the impression that we have absolutely no defense against unwanted sound.”⁶³³ Incidentally, the phrase “unwanted sound” is commonly the legal definition of noise, an ambiguous terminology that allows maximum legal authority (with some specific information on decibel level, noise types, and times of day written into laws as well). Neuhaus undercut this ambiguity, offering that perhaps noise policy consider music history:

Surely several hundred years of musical history can be of value: At the very least, they can show us that our response to sound is subjective – that no sound is intrinsically bad. How we hear it depends a great deal on how we have been conditioned to hear it... Through extreme exaggeration of the effects of sound on the human mind and body, this propaganda has so frightened people that it has created “noise” in many places where there was none before; and in effect robbed us of the ability to listen to our environment.

For Neuhaus, the greatest threat is not the presence – or perceived presence – of noise, but rather the negative social conditioning of listening itself that presents all sound as harmful, regardless of any true threat.

The sentiment is emphasized by the illustration accompanying the article, which depicts a young man whose ears crumble and float away from his head. The image, if a Surrealist cliché, emphasizes the removal of ourselves from our soundscape. Not coincidentally, the phrase soundscape itself is developed in this period: the term was coined by the acoustician R. Murray Shafer, who (unlike Neuhaus) viewed industrial noise as a severe ecological/cultural threat. He sought to preserve the natural soundscape through its study within the emergent interdisciplinary field of *acoustic ecology*. Neuhaus at times used exaggerated and/or histrionic language in his editorial, as when he mocked the real potential psycho/physiological threats of high-volume noise:

Once having “established” the impression that we are constantly in a state of “fright,” the brochure goes on to extrapolate in august pseudo-medical terms: “Adrenalin, an energy-producing hormone, is release into your blood stream. Your heart beats faster, your muscles tense, and your blood pressure rises. Sudden

⁶³³ Neuhaus, “BANG BOOoom, ThumP, EEEK, tinkle,” 39.

spasms occur in your stomach and intestines.” This [description gives] the impression that every honking horn brings us a little bit closer to death.⁶³⁴

While true that the pamphlet may overstate the potential threat of noise to the general public – i.e., the likelihood that they will experience these conditions – there was in fact research, even if not shared publicly, to support the EPA claims.⁶³⁵ Ironically, shortly after claiming the EPA used “pseudo-medical” language in its pamphlet, Neuhaus himself referred to generalities regarding the psycho/physiological response to noise. While true that people can become habituated to consistent noise and/or noise levels over time, it is specious to suggest without citation that “the body has automatic reflex barriers, both physical and psychological, to deal with sounds it does not which to react to.” According to Neuhaus, this reflexive tactic is especially useful to “newborn babies,” but not present in “modern urban dwellers.”⁶³⁶ Nonetheless, Neuhaus understood the need to “oversimplify an idea to bring enough public pressure to bear on the producers of ear-damaging sounds in our environment to stop this victimization of the public.” However, he suggests that “the present concept of noise pollution,” an idea still in its infancy, was “irresponsible and ultimately negative” in effect:

Obviously we need to be able to rest from sound just as we do from visual stimulation. We need aural as well as visual privacy, but silencing our public environment is the acoustic equivalent of painting it black.⁶³⁷

The last phrase regarding “painting it black” was in fact published in a second source: *Program Notes*, a short artist book published by York University in accordance with the artist’s residency on campus. In this version, published prior to the New York Times article, the sentence is amended with a simple request to “Listen.”⁶³⁸

Not everyone agreed with Neuhaus’s argument – at least one other person wrote a letter to the editor to let the artist, who was referred to by the *New York Times* as a “composer,” know that he disagreed with the pro-noise assessment. Titled “What Noise Does to Us,” a concerned citizen named Robert Alex Baron not only disagrees with Neuhaus’s view on noise abatement, but also ridicules his artistic output:

Of course electronic percussionist Max Neuhaus does not like noise abatement. At one concert he added electronic amplification “so that not only the initial impact tore at the ears, but the echoes as well.” No wonder he would have us believe excessive noise is harmless.⁶³⁹

⁶³⁴ Neuhaus, “BANG BOOoom, ThumP, EEEK, tinkle,” 39.

⁶³⁵ See *Analysis of Noise-Related Auditory and Associated Health Problems in the U.S. Adult Population (1971-1975)*, EPA Report No. 550/9-81-103B. Washington D.C., Office of Noise Abatement, 1982.

⁶³⁶ Neuhaus, “BANG BOOoom, ThumP, EEEK, tinkle,” 39. In this quote, Neuhaus also refers to “primitive societies,” broaching a questionable colonialist line of thought about non-Western listening cultures. Given similar conversations in the area of new percussion music, 1930-1960, Neuhaus’s presumptions about noise, ironically, require further investigation from a critical post-colonial perspective.

⁶³⁷ Ibid.

⁶³⁸ Max Neuhaus, *Program Notes*, 1974.

⁶³⁹ Robert Alex Baron, “What Noise Does to Us,” *The New York Times* (December 21, 1974): 26.

The author goes on to “correct some of [Neuhaus’s] more blatant errors,” including the suggestion that sound “does [not] affect the glands and internal organs.”⁶⁴⁰ However, Baron posed a straw man argument, given that Neuhaus only claimed that the anti-noise rhetoric would invoke needless fear, and confusion about its effects on the body, not that there was physical danger in extreme cases of prolonged exposure. Still, Baron suggests that “noise, not insidious propaganda from the Department of Air Resources, irritates [and] disturbs the sleep stages and awakens New Yorkers,” before ultimately revealing his true goal in writing the letter. Baron was an advocate for the “anti-jet noise movement,” a substantial growth of community members in the 1970s that felt victimized by the rise of airplane traffic. In raising awareness about jet noise, Baron hoped to persuade policy makers to curb loud engine disturbances in residential neighborhoods surrounding the La Guardia and JFK airports. In fact, jet noise was among the leading concerns for noise abatement proponents nationwide – today, the effects of such policies account for the severe angles that planes take when approaching New York City airports, which is meant to minimize noise drag on the communities located below common flight paths.⁶⁴¹

At the end of the article, Baron outs himself as a lead officer of Citizens for a Quieter City, Inc., a community corporation dedicated to the reduction of urban noise and the mitigation of its adverse effects on human life. (The group did not seem to focus much on the effects of acoustic noise on non-human animals or the ecological environment.) The group was founded by Baron in 1966 – ironically, the same year in which *Fontana Mix-Feed* was released – just one year prior to the New York Conference on Urban Noise Control in 1967.⁶⁴² The letter is accompanied by a tongue-in-cheek illustration of a music stand next to a worker with a jackhammer. Indeed, Mr. Baron specifically references Neuhaus’s past musical experiments and ends with a snarky rebuff to the use of amplified noise in, or as, music:

Our ears are for hearing, and it is precisely for that reason that we must fight as hard as we can to protect them from hearing loss. And one source of hearing loss, it should be noted, is amplified music.⁶⁴³

In another article written in 1976 on the private funding for art projects, or rather the lamentation of funding for *Times Square*, Neuhaus is referred to, with some hostility, as a “Schubert of the subways who cannot bear the sound of people complaining about noise pollution.”⁶⁴⁴ Clearly, Neuhaus’s emergent sound installation practice was not universally accepted. Nevertheless, it was clearly situated in an emergent discourse, popular, artistic, and scientific, about noise and its physical and cultural affects.

⁶⁴⁰ Baron, “What Noise Does to Us,” 26.

⁶⁴¹ See *Impact of Noise on People*. (Washington D.C.: U.S. Department of Transportation, Federal Aviation Administration, and the Office of Environmental Quality, 1977).

⁶⁴² See Citizens for a Quieter City records, Manuscripts and Archives Division, The New York Public Library. Mss. Col. 552.

⁶⁴³ Baron, “What Noise Does to Us,” 26.

⁶⁴⁴ Israel Shenker, “Foundations Get Real and Unreal Pleas for Aid,” *The New York Times* (September 2, 1976): 45.

Times Square

“Times Square is many things to too many people, but one thing it is to everybody is noise,” said the music critic John Rockwell.⁶⁴⁵ Rockwell wrote these words, perennially true, in the *New York Times* on the tenth anniversary of the completion of Neuhaus’s landmark sound installation *Times Square*. The work was unveiled in 1977, but Neuhaus had spent four years and thousands of dollars to create the piece (which still exists today and is overseen by the Dia Art Foundation).⁶⁴⁶ A photograph accompanying the article, “Beneath the Feet, Art Soothes in Times Sq.,” shows Neuhaus with Wendy Feuer, the Director for the Arts in Transit office of the Metropolitan Transportation Authority. Feuer and Neuhaus stand atop the installation’s only visual referent: a sparse triangular patch of subway grating above an empty ventilation chamber, a space that remained disused for years. “Another fifty years,” said Feuer, hopeful that the piece might continue into the future. “Another fifty decades,” added Neuhaus (who had just renovated the work after a year-long shutdown). The 1987 celebration would have been a normal event for any public art project, especially a sculptural monument, if not for the strange and calloused history between the artist and the institutions that helped him produce the piece.

Neuhaus placed the work on site himself: the MTA neither requested nor wanted the piece, but rather, in the words of Neuhaus, “cooperated” with the artist. Another turn of phrase would be to say that the MTA “tolerated” the artist, since they never offered direct support, aside from the occasional letter or public statement affirming their consent.⁶⁴⁷ In fact, the piece today though extant is a source of conflict. The sound work is legally torn between cultural representation by Dia, which has acquired the piece into its permanent collection, and the logistical control of New York City agencies, including the MTA, which retain ownership of the physical site. How will Dia protect the work as part of its collection when its access is limited by legal barriers and surrounding urban development projects? What is the role of the MTA, which worked with Neuhaus on the project since the mid-1970s but rejected responsibility repeatedly up until its donation to Dia?

Times Square consists of a low-pitched droning hum amplified from a loudspeaker placed in a ventilation chamber at Broadway between 46th and 47th Streets in Manhattan. The work, an infamous work of public art, was conceived in 1973. Despite periods of inactivity in the 1980s and 2000s, it is actively running today.⁶⁴⁸ Emanating from below nondescript grates, the work catches the ears of those upon its surface. Neuhaus’s most famous work, *Times Square* transforms experience of space through the act of listening. Although the installation easily folds into its location, it is not so immersive as to be entirely undetectable. Neuhaus allows listeners to be acutely aware of their experiences, in *duration*, insofar as they engage the site dialectically: the constant electronic drones are contrasted with the stilted sounds of traffic, pedestrian banter, and industrial noise. The piece enacts dialogue between pre-existing and artificial sound. The work articulates a unique, if unconscious, type of *subjective listening*.⁶⁴⁹ The sound is amplified

⁶⁴⁵ John Rockwell, “Beneath a Street, Art Soothes,” *The New York Times* (November 10, 1987).

⁶⁴⁶ The work is one of three active pieces by the artist in the U.S., in addition to *Time Piece: Beacon* (2005) at the Dia Art Foundation and *Sound Figure* (2007) at the Menil Collection.

⁶⁴⁷ Neuhaus uses the term “cooperate” on a photographic poster for *Times Square* from 1977. Poster in the holdings of the Estate of Max Neuhaus.

⁶⁴⁸ For more on the history of this installation, see the articles in: Max Neuhaus, *Times Square / Times Piece Beacon* (Beacon, NY: Dia Art Foundation, 2009). These articles are discussed in the Introduction.

⁶⁴⁹ Branden W. Joseph, “An Implication of an Implication,” *Max Neuhaus: Times Square, Time Piece Beacon*, New York: Dia Art Foundation, 2009. 69. This point is echoed by Alex Potts, who observes that the sound sources within

and intensified in the empty chamber and is perceived as a column above the street. The frequencies are tuned to the natural resonant frequencies of the chamber's material space, synthesizing sound and site. Carter Ratcliff claimed that the work was designed to "make itself heard... and at the same time comment on its setting, to accent the sound of traffic, to question it, and to shift the nature of its comments as one moves about in the vicinity of the piece."⁶⁵⁰ In its connection between sound and site, *Times Square* illustrates the complex relationship between an artwork and its environment. The work, made of sound, is produced directly in relation to the physical conditions of its location, its site, and is the artist's first example of a truly *site-specific* installation. Neuhaus described *Times Square* an "invisible unmarked block of sound" and "an impossibility within its context," which emphasized its materiality in physical acoustics.⁶⁵¹ The description affirms the unusual manner in which the work evades material and perceptive boundaries. Similarly, the art critic Arthur Danto called it a "monument whose [sonic] substance guarantees its invisibility," which characterizes the work as present but not seen, and heard but not known.⁶⁵² Neuhaus's referral to *Times Square*, as well as others from this period, as "discoverables" supports this view.⁶⁵³

Times Square also continues despite any listening subject, persisting disinterestedly as sonic material and continuing regardless of its observation. Paradoxically, it is precisely this sense of constancy, or autonomy, that allows the rhetoric of space to predominate in descriptive language. The installation is most often understood as the sounding of electronic tones as they reverberate against the walls of the ventilation chamber, a phenomenon that is perceived, or rather described, as a 'column' of sound. In reality, the sound environment is an amorphous shape: formless flowing of sound, upward and outward, moving around the island as propagating billows of fluid, smoke-like sound waves. Neuhaus first developed the idea of an *aural topography* in relation to his 1967 rooftop installation *Fan Music*. *Times Square* employs sound to create its own sense of place within a contested public site.

Times Square endured serious complications from its inception and fell in and out of disrepair until it was temporarily turned off in 1986. The piece was reinstated in 1987, as shown, but was unceremoniously dismantled in 1992. *Times Square* points to the complicated realities of securing long-term financial support for sonic art. These complications were especially true for *Times Square*: the work was built on property that intersects multiple city agencies, including the NYC Metropolitan Transit Authority (MTA) and Department of Transportation (DOT). Despite the site's unique artistic potential, the abandoned ventilation chamber became a logistical and institutional nightmare that nearly led to the work's total demise. However, *Times Square* was renovated in 2002 with assistance from Christine Burgin and financial support from local patrons supporting a broad revitalization of the Times Square district. The acquisition of *Times Square* by Dia in 2003 places the institution at the vanguard of collecting sound art, but it now faces the peculiar

Neuhaus's installations are generally produced electronically, often contrasting the character of the sounds natural to the environment. See Alex Potts, "Moment and Place: Art in the Arena of the Everyday," in *Max Neuhaus: Times Square / Time Piece Beacon* (Beacon, NY: Dia Art Foundation, 2009): 45-58.

⁶⁵⁰ Carter Ratcliff quoted in *Max Neuhaus, Sound Works, vol. I, Inscription*, ed. Gregory des Jardins (Ostfildern-Stuttgart: Cantz, 1994): 26.

⁶⁵¹ Quoted as seen on the drawing: Max Neuhaus, *Times Square*, 1992. Colored pencil on paper.

⁶⁵² Arthur Danto quoted in *Max Neuhaus, Sound Works, vol. I, Inscription*, ed. Gregory des Jardins (Ostfildern-Stuttgart: Cantz, 1994): 50.

⁶⁵³ Neuhaus used this language for a limited time at the emergence of his permanent public sound installations in the 1970s. See Patti Reilly, "The World Is Alive with the Sound of Music, and Some of It Is by Composer Max Neuhaus," *People*, Vol. 13, No. 26 (June 30, 1980).

challenges of preserving and conserving an artwork that requires unconventional maintenance and speculative conservation tactics. This section describes the artistic and institutional history of *Times Square* to highlight the mechanisms and complications of producing and collecting sonic art.

Because of the transparent nature of sound, the installation cannot be perceived by the eyes alone. References to Neuhaus presuppose that his permanent sound environments exist in a fixed state.⁶⁵⁴ However, when one considers Neuhaus's idea of an "aural topography," the fluid materiality of sound poses a problem to the perspective of a fixed site, which functions on a sculptural rhetoric – one of, as Danto presumed, visibility. If one speaks of immateriality and dematerialization in relation to environmental art of the 1960s and 1970s, what better medium than sound? Aural topography, as envisioned by Neuhaus, refers to the overlaying of individual sounds in a broader soundscape: a fusing of discrete sound events (such as a honked horn, or an oscillator tone) within a spatial environment composed of the synthesis of both. Emanating from below the street, the sound (several layers of atonal harmony) is heard by those who walk across its surface, but are not necessarily aware of the process. Neuhaus was primarily interested in the chamber's unique acoustic space:

The ventilation chamber itself, where the loudspeakers and generating electronics will be located, is acoustically very special. It is roughly triangular in shape, with a series of tunnels of different lengths leading off one side and [a] small chamber at one end. My preliminary underground survey of the location indicates these chambers have distinctive sound resonances.... I find these particular sound qualities extremely interesting...⁶⁵⁵

Neuhaus conducted acoustic experiments in the space, saying that "each sound inserted into the [space] is multiplied as it circulates the [loop]."⁶⁵⁶ Neuhaus emphasized the strangeness of the site—an island in the middle of an island—as a unique acoustic environment, and did not speak of the *soundscape*, but rather the conditions of the chambers and the effects on sounds "inserted," or induced, in the space. The soundscape of Times Square is not the focus of *Times Square*.

Instead, the focus is how the sounds outside the chamber interrelate to those within the chamber, which provides a specific acoustic effect. The effect explored is *acoustic resonance*: an acoustic phenomenon whereby a material—any material—vibrates when stimulated by exterior sound. Every physical material, especially air, is resonant, or capable of being a *transmission medium* to propagate energy. The capacity to propagate sound depends on the density of the transmission medium and its natural resonance, or vibration, range. Neuhaus transformed the architectural materials of the chamber into an instrument by exploring its acoustic resonance, and tuning his electronic sounds accordingly. In *Times Square*, one does not simply hear the sound of buried oscillators rise to the street, but the combination of those tones as propagated through the chamber. Sound is not simply amplified *on the site* but is generated *within the site* (and is literally *site-specific*). Indeed, Neuhaus has described how "the sound on the surface isn't just what I'm putting in here, it's what the sound does to this chamber."⁶⁵⁷ When sound enters the space it passes over hard concrete surfaces. As the sounds reflect, they are amplified and

⁶⁵⁴ As in the writings of Brandon LaBelle. See LaBelle (2006).

⁶⁵⁵ Max Neuhaus, "Underground Music(s)," 1974: 6. Unpublished manuscript. See MNP. Box 10.

⁶⁵⁶ Ibid., 7.

⁶⁵⁷ Ibid.

intensified. Electronic frequencies ‘tuned’ to the resonant frequencies of the architecture resonate the entire space empathetically, creating a site-specific *aural topography* of electroacoustic sound.

The sounds heard above the street are the result of this mixing of electronically generated sound in physical acoustic space: the frequencies are not chosen according to musical ideas, but rather physical conditions of the chamber (i.e., its natural resonance zone). However, these frequencies are not bound to the large triangular cavern, but also a series of small open tunnels that protrude off of the main chamber into the subway tunnel. Neuhaus noticed that these tunnels each have a unique resonance zone due to minute differences in length (much like the difference, as it were, between a trumpet and the tuba). Therefore, the sounds heard are not just produced by calibrating electronic sounds to the main chamber, but also the off-shoots that run into the subway system, implying then that while typically the main point of experience is on the street-level, one could also hypothetically listen to the piece from its side entry. However, the work is not merely about an acoustical phenomenon—sounds do not need humans to hear them in order to exist. The piece is circumscribed by subconscious perception. Neuhaus had embedded discreet sounds in public space before: *Walkthrough* (1973) consisted of minute and barely audible clicks amplified in a Brooklyn subway station. Like *Times Square*, *Walkthrough* had no marking and was designed to compliment, rather than overpower, the preexisting soundscape:

I have become interested in what I feel to be a higher level of comprehension and involvement which people experience when they discover a [sound] work for themselves... I have developed such a situation by choosing certain kinds of sounds and sound levels, and by making the work anonymous.⁶⁵⁸

Neuhaus believed *Times Square* was an ideal site for this project (unlike *Walkthrough*, which was removed by an annoyed transit employee): “The ordinary sounds of a busy thoroughfare are enough to mask the piece from all except those people using the esplanade [to cross] the intersection at that particular point.”⁶⁵⁹ Funding for *Times Square* was procured from a variety of expected sources, such as the NEA and Rockefeller Foundation. Neuhaus did not get any funding from the New York Transit Authority. The agency tacitly approved the work, but only by not removing it (or having Neuhaus arrested for criminal trespassing). The same non-monetary support was garnered from the Mayor’s Midtown Action Office and the New York Telephone Company (NYTC), which were listed in the text of a 1977 poster that read:

MAX NEUHAUS – UNDERGROUND MUSIC(S) TIMES SQUARE – A
SOUND INSTALLATION ON THE ISLAND AT BROADWAY BETWEEN
FORTY-SIXTH AND FORTH-FIFTH STREETS (TWENTY-FOUR HOURS A
DAY THREE HUNDRED SIXTY-FIVE DAYS A YEAR – PRODUCED BY
HEAR INCORPORATED WITH SUPPORT FROM THE ROCKEFELLER
FOUNDATION AND THE NATIONAL ENDOWMENT FOR THE ARTS –
WITH THE COOPERATION OF THE NEW YORK CITY TRANSIT

⁶⁵⁸ Max Neuhaus, “Underground Music(s),” 1974. Unpublished manuscript. See Max Neuhaus Papers. Rare Book and Manuscript Library, Columbia University Library. Box 10.

⁶⁵⁹ See Rockefeller Foundation Records. RG 1.3-RG1.8. Subgroup Series 200 Box 926. Folder 6220. “A Proposal for a Sound Installation for Times Square.” (March 1974)

AUTHORITY, THE MAYOR'S MIDTOWN ACTION OFFICE AND THE
NEW YORK TELEPHONE COMPANY.⁶⁶⁰

In total, Neuhaus received about \$15,000.⁶⁶¹ The NYTC provided the artist with a service van out of which he built electronics and stored equipment during installation. The van literally provided the artist a place work, other than the chamber itself (not an optimal work environment), and allowed the artist to masquerade as a public utilities employee, thereby diminishing suspicion from pedestrians and police officers. Neuhaus encountered the police a decade earlier when he was briefly detained along a highway in Buffalo while installing FM transmitters for *Drive-In Music*. Indeed, during the late 1970s, the public fear of guerrilla warfare and the explosion tactics of domestic terrorist groups, such as the Weather Underground, were of grave national concern. Working out of the NYTC van prevented Neuhaus from interruption via authorities and also avoided a public incitation of panic.⁶⁶²

Neuhaus did not officially work for or with city agencies, like the MTA or the Times Square Urban Design Plan, but the artist garnered non-monetary support from these groups through a mutual interest: he wanted to use the space to experiment with sound installation while the city wanted something—anything—that might help shift the derelict area into a new direction. Accordingly, *Times Square* (the sound installation) inadvertently participated in a broad revitalization of Times Square (the city district). Neuhaus was granted the space. However, the work has received practically none of the economic benefits of revitalization efforts. The city, specifically the MTA Art and Design and Times Square Arts, has historically taken an agnostic view of the work. The MTA's Arts in Transit public art project, which brought contemporary art to residents of New York City via the subway system, gave vague approval of the work in the 1980s and installed a power line in 1986, but provided no sustained support for its maintenance or renovation. The lack of support was in large part due to its sonic structure, which was innocuous, invisible, and not easily profitable. Furthermore, Neuhaus did not allow signs attributing the work to him, or his donors, meaning that the work was not displayed in a conventional way that could promote the MTA. In any case, some individuals would not justify the expenditure of taxpayer money on the project. In 1976, Neuhaus was set to receive a New York State Council on the Arts grant for the project, but a public meeting tabled his proposal after a speech by one council member who said it was "not a responsible way to spend the public's money."⁶⁶³ In a letter to the commissioner of the program, Neuhaus conveyed his "great dismay and disappointment" regarding the decision, arguing boastfully that "the difficulty of characterizing such an extraordinarily creative and unique project may have deterred the panel."⁶⁶⁴ The letter included signatures from significant figures in the New York City cultural affairs, including the arts patron Christophe de Menil, Hugh Southern (director of the Theatre Development Fund), Richard Lam (director of the Mayor's Office of Midtown Planning), Jacque Nevard (of the NYC Transit Authority) and Howard Klein (of the Rockefeller Foundation). Also

⁶⁶⁰ Colored photographic poster for Times Square (1977). Collection of the Estate of Max Neuhaus.

⁶⁶¹ \$10,950 from the MTA; \$300 from the Creative Artists Public Service Program; and \$4,545 from the Rockefeller Foundation. See Rockefeller Foundation Records. RG 1.3-RG1.8. Subgroup Series 200 Box 926. Folder 6220. "A Proposal for a Sound Installation for Times Square," and "Letter from Helen A. Petrucci to Max Neuhaus (April 14, 1977)."

⁶⁶² Scheweber Electronics provided electronics equipment. See Rockefeller Foundation Records. RG 1.3-RG1.8. Subgroup Series 200 Box 926. Folder 6220. "A Proposal for a Sound Installation for Times Square."

⁶⁶³ Calvin Tomkins, "Onward and Upward with the Arts - Hear," *The New Yorker* (October 24, 1988): 116.

⁶⁶⁴ Letter from Max Neuhaus to Joan Davidson. February 20, 1976. MNP. Box 10. Folder 12.

included was a young Alanna Heiss, who was then still planning the inaugural *Rooms* exhibition at the newly founded P.S.1 (which included Neuhaus).⁶⁶⁵

In a project note from the construction period, Neuhaus considered relocating the work elsewhere, signaling his own lack of faith that the installation could ever be completed.⁶⁶⁶ Neuhaus was also wary of revitalization efforts, focusing on the commercialization of the area: "Ideas such as *Times Square* represent opportunities to... humanize our environment rather than abandoning it to commercialism."⁶⁶⁷ Elsewhere in the letter, the artist emphasized the public orientation of the work, contrasting the museum or concert hall, noting that the piece "would be accessible and enjoyed by thousands rather than dozens of our populace" and would "genuinely work with a larger, more general public."⁶⁶⁸ In 2002, Neuhaus reflected on the NYSCA rejection:

[There is] strong counterforce invented by the bureaucrat to pass the buck: the committee. With its miniscule attention span it manages to reduce what may be the fine minds of its members into the mush of the lowest common denominator. The contradiction of the committee "mediating" art... what would the history of painting look like if it had been mediated to the degree that public art is?⁶⁶⁹

However, some city agents approved of the project. Though they did not offer financial support, city agents such as Feuer, Kenneth Halpern, and Dick Lam provided vocal support for the work. Some, including Halpern and Lam, wrote directly to other city agents and private funders. Feuer spoke candidly to local press outlets about her interest in the work in the late 1980s and early 1990s, especially when the piece was on the brink of collapse. Halpern was a project manager for the Times Square Urban Design Plan, a subsidiary of the Office of Midtown Planning and Development which garnered support and materials for the revitalization of the Times Square district. Halpern wrote to a MTA public relations employee to voice support for the project and request assistance for Neuhaus to access to the site. Halpern said that it was "a pleasure to write in support of [the] project," but was reticent to offer financial support.⁶⁷⁰

The nondescript triangular patch fell (and remains) somewhere between the jurisdiction of the City of New York, the MTA, and the (DOT). Recognizing this peculiar situation, Halpern wrote: "Our office has no jurisdiction over the area in question; however, we are enthusiastic about any project which might lead to a more exciting and interesting Times Square," an appeal to the shared interest in overturning the 'blighted' area into one of cultural pleasure, rather than obscene gratification.⁶⁷¹ Halpern ended with a sincere reach for mutual support: "We believe Mr. Neuhaus' work to be an imaginative approach in a new direction and we hope that you share our conviction."⁶⁷² Lam, the director of the Mayor's Office of Midtown Planning, had a similar view of the project. Lam wrote to the Rockefeller Foundation in 1974, saying: "I believe [Neuhaus's] concept represents an important step forward [in] imaginative innovations" for Times Square.⁶⁷³

⁶⁶⁵ The *Rooms* exhibition opened in June, 1976, as the inaugural exhibition for P.S.1. Neuhaus had two works in the exhibitions: a sound installation in the attic and a version of *Water Whistle* at a nearby swimming pool.

⁶⁶⁶ See MNP. Box 10. Folder 12.

⁶⁶⁷ Ibid.

⁶⁶⁸ Ibid.

⁶⁶⁹ Unpublished electronic memo (June 1987) in holdings of the Estate of Max Neuhaus.

⁶⁷⁰ Letter from Kenneth S. Halpern to Ed. Silberfarb (March 11 1974). MNP. Box 10. Folder 12.

⁶⁷¹ Ibid.

⁶⁷² Ibid.

⁶⁷³ Shenker, "Foundations Get Real and Unreal Pleas for Aid," 45.

Lam further said that the work would "[improve] the quality of life through esthetic approach... [and] reduce abrasive sensory stimuli or to enhance and make them more enjoyable," clearly referring to growing concerns about noise pollution.⁶⁷⁴ In fact, Neuhaus proposed the work to the city as an alternative to noise abatement policy, which sought to eradicate noise, by offering instead to mediate or mitigate stilted urban noise with calming continuous drones. Indeed, stepping onto the grate provides one with a temporary relief from the honking, shouting, busking, and general din of Times Square. Coincidentally, this same year Neuhaus published a scathing rebuke of noise pollution policies in the *New York Times*. Neuhaus argued that federal and city agencies associated with the EPA used propaganda and fear-mongering to garner public support for noise abatement policy. The city and Neuhaus disagreed on rhetoric of noise, but *Times Square* provided a solution that addressed both concerns: the work ameliorated noise, while also offering a prompt for listening. Ultimately, the MTA awarded Neuhaus its donation, \$950 for "installation fees," in addition to the space.⁶⁷⁵

One of the largest institutional problems that Neuhaus ran into after garnering support from a variety of agencies was the requirement for them to cooperate. In particular, the long established feud between the DOT and Con Edison – unknown to many, including the artist—nearly derailed the project before it was complete. The MTA not only provided access to the site, but also seems to have offered Neuhaus electrical power, which he could receive from the subway system attached to the chamber. However, the voltage needed to operate a subway car is much higher than what is needed—or withstood—by oscillators and an amplifier system, meaning that Neuhaus had to find another power source. He reached out to Con Edison to ask if they could provide a power supply to the chamber, but the company was unwilling, even if paid, to run a line onto property owned by administered by the DOT.⁶⁷⁶ Instead of liaising an agreement between two bitter institutions, the artist chose to pay a third party contractor to dig a hole, apparently illegally, underneath the street to siphon power from a nearby lamppost. *Times Square* went live in September of 1977 following four years of "fighting the institutional beast."

Neuhaus lived and worked abroad in Europe in the late 1970s and early 1980s following several large commissions after *Times Square* in the United States that proved overwhelming in production cost and emotional labor.⁶⁷⁷ In his absence, *Times Square* repeatedly fell into disrepair. Following its completion, the majority of Neuhaus's career was spent maintaining and conserving a work that required constant upkeep. There were two recurring problems. First, the analog oscillators drifted out of tune and had to be recalibrated to the chamber. Second, electrical power was often disconnected due to construction or other vibrations. In order to fix the power, which required rewiring a city lamppost, Neuhaus and his assistants wore Con Edison uniforms. Neuhaus also called a nearby payphone from Europe, where he lived from 1980 onward, to ask pedestrians whether or not the work was functioning. In 1986, the installation was temporarily

⁶⁷⁴ Shenker, "Foundations Get Real and Unreal Pleas for Aid," 45.

⁶⁷⁵ Technically, the MTA agreed to charge Neuhaus \$1,000 per month to rent the ventilation chamber for ten years, but the monthly fees seem to have been waived, providing the artist with a rent-free operation. See Rockefeller Foundation Records. RG 1.3-RG1.8. Subgroup Series 200 Box 926. Folder 6220. "A Proposal for a Sound Installation for Times Square."

⁶⁷⁶ Tomkins, "Onward and Upward with the Arts - Hear," 116.

⁶⁷⁷ Permanent works at the Como Park Conservatory in Minneapolis and the Museum of Contemporary Art, Chicago, Both were de-installed shortly after their completion due to conflict over artist intentions and institutional ideology: in both cases, the artist disagreed with the host's request to temporarily turn off the sound installation at different points in the day, in large part to provide respite to garden and museum workers who complained of headaches and other unknown ailments that they believed were cause by the artist's installations

shut down due to these power supply issues: “The electricity dilemma was getting to me... every time there was street work in the vicinity, it would accidentally get disconnected. A work as immaterial as that really has to be permanently there - it doesn’t function at all if it’s only sometimes there. I had to solve that somehow, so I just turned it off.” In 1987, the Arts in Transit program assisted by convincing the MTA to install a power line connected through the subway to a nearby station. However, power was not the only issue. Widespread homelessness and poverty also contributed to its disrepair: there were multiple break-ins to the chamber, which was partly, but not effectively, protected with chain-link fencing. People also broke into the chamber from the subway tunnels. While some guests simply found shelter in the space, others cut the wire fence to strip the electronics of their copper. Unable to maintain the work from abroad or convince the MTA to assume ownership, Neuhaus dismantled *Times Square* in 1992.

Why did Neuhaus choose this location? Neuhaus was not the first artist or composer to consider the strangeness of the site. In 1914, the composer Henry Cowell composed a dissonant and near atonal piano work *Advertisement* (1914), an expressionistic piece that functioned as a sonic metaphor for the phenomenological and psychological experiences of Times Square, a site of mass American commerce and popular spectacle. Cowell’s composition captured the anxious, antisocial qualities of the location. Neuhaus considered these aspects, noting that the dual “aural and visual environment is rich and complex [and] includes large billboards, moving neon signs, office buildings, hotels, theaters, porno centers and electronic game emporiums.”⁶⁷⁸ Furthermore, the artist was interested in people and how they encountered the space: “Its population is equally diverse, including tourists, theatregoers, commuters, pimps, shoppers, hucksters, and office workers.”⁶⁷⁹ Neuhaus also observed the mass density of pedestrian flow, particularly the *non-site* quality of a setting where thousands of people move but never stay. “Most people are in motion,” Neuhaus noted, “passing through the square... the island is sometimes crossed by a thousand or more people in an hour.”⁶⁸⁰

In the 1960s and 1970s, the Times Square district was not a renowned tourist destination (at least not the family-friendly type as it is rendered today). Times Square was seen as a blight on New York City – something to avoid rather than engage. There have been concerted efforts to redevelop the area since the 1970s, in large part to remove the existing businesses that were perceived as illicit or immoral by city agencies, including sex shops, pornography theaters, and street-level drug dealers. By the time Neuhaus began thinking about the location as a site for an artwork in 1973, the area had already undergone a serious economic transition, even if it was nascent. The contemporary revitalization of Times Square can be dated to 1970 with the construction of the Paramount Plaza, a massive skyscraper that housed many business, including two Broadway theaters and several music recording studios. Looking at a slide photograph produced by Neuhaus between 1977-1991, one easily sees pedestrians, automobiles, and an overwhelming number of commercial billboards. The corporate logos of Coca-Cola, Burger King, Canon, and Casio are clearly visible and symbolize Times Square as an emergent international commercialist spectacle. Ironically, a large advertisement for the Japanese electronics company, Aiwa, loudly touts “stereo cassette systems.” Neuhaus carefully frames his unseen sound installation in the visual frame, surrounded not only by corporate ads, but also underneath the towering image of the Paramount Plaza building. The structure stands forty-eight

⁶⁷⁸ Max Neuhaus. *Times Square*. 1992. Colored pencil on paper. Collection of Dia Art Foundation.

⁶⁷⁹ Ibid.

⁶⁸⁰ Ibid.

floors tall and is positioned near the center of the photograph. The ventilation grate which houses Neuhaus's electronics serves as a ghostly shadow of the building, which soars above ground level. There are no other skyscrapers that are seen in the photograph, suggesting that the image was taken prior to the mass investment of capital into the area in the 1990s.⁶⁸¹

The investment in the Paramount Plaza by the real estate developers Harold and Percy Uris decreed the revitalization of Times Square as a profitable neighborhood. The investment reclaimed the surrounding blocks as a cultural space for art rather than vice, replacing the “porno theaters” with musical art: the Paramount Building housed two Broadway theaters.⁶⁸² The construction of the site signaled a broad attempt to revive the New York City economy, an attempt not felt in the 1970s. Similarly, the construction of the TKTS theater-ticketing booth in 1973, a year described as Times Square's “darkest days” by the Times Square Alliance in 2008, also contributed to this early revitalization. Indeed, mass economic turmoil and low municipal profits nearly bankrupted the city in 1975. However, the Paramount building signaled the return of art in Midtown Manhattan. Although overtaken by illicit or lewd activity in the 1960s, in the view of the city, the area had a long tradition in music, both on Broadway and in the numerous music recording studios that once surrounded the area. For example, the CBS Studio Building at 49 East 52nd Street was a major studio for Columbia Records throughout the 1960s. In fact, Neuhaus recorded his album *Electronics and Percussion* at this very location, providing for an enticing comparison between the two works – if the commercial music album signaled the end of his performance career, then *Times Square* signaled the beginning of a viable career in the visual arts. The shared location also provided to Neuhaus a strong biographical connection to the area and might explain why the artist had traveled through the site at all, finding the patch of ventilation grates of particular interest.⁶⁸³ Furthermore, Neuhaus in the late 1960s also performed numerous times at the Carnegie Recital Hall (now known as the Weill Recital Hall) at Carnegie Hall on 57th Street. The artist's first solo recital in 1963 and two subsequent performances in 1964 and 1968 took place at this site. Commuting from downtown, Neuhaus might have exited the subway system at Times Square to perform.

What did the intersection of Broadway between 46th and 47th Streets look and sound like in 1977? How did the Times Square sound installation mix the electronic (generated, controlled) and acoustic (pre-existing, indeterminate) sounds of the site? There is no evidence that Neuhaus recorded audio from the site. Neuhaus did not have a habit of using audiotape for research purposes, though it is possible such tapes may have been preserved.⁶⁸⁴ There are at least two sources that give an impression of what the area of Times Square sounded like as Neuhaus encountered it in the early 1970s, when he first conceived and planned to use the intersection of 46th and 47th at Broadway as an installation site. Both come in the form of composed electroacoustic music. The first source is Jon Appleton's “Times Square Times Ten” from the album *Apleton Syntonic Menagerie* (1969). The nine-minute composition is based on field

⁶⁸¹ In fact, the Aiwa corporate logo dates the photograph prior to 1991.

⁶⁸² The Gershwin Theater was initially called the Uris Theater after the developers, the Uris brothers. For more on the collapse and revitalization of Times Square theater district, see: Timothy White, *Blue-Collar Broadway* (Philadelphia: University of Pennsylvania Press, 2015): 162-200.

⁶⁸³ Aside of course from the obvious vices to which Neuhaus may have been drawn, including the many theaters, bars, and drugs available for purchase.

⁶⁸⁴ If Neuhaus did record audio of the site for test purposes, it has not yet been found or preserved in available archives.

recordings taken at the site in the late 1960s, which are presented initially without any apparent modification, but which slowly are revealed as manipulated via tape (increasingly so to the point that the electronic aspect of the electroacoustic composition takes over almost entirely). The soundscape has the expected noises (automobile engines, honking horns, ambient urban noise) but also surprisingly quiet moments in between these sounds. The sonic sparseness, comparatively speaking, shows a stark shift from how the area and the installation sound today. In particular, it reveals that the site, though completed in 1977, would likely have been much quieter than how we have come to know it. Indeed, the piece had to be turned up in volume during its reinstallation in 2002 to compensate for the increase in environmental noise following the transformation of Times Square district in the late 1990s and early 2000s under mayor Rudy Giuliani.⁶⁸⁵ The second source, Norman Lowrey's electroacoustic collage *In Parallel: Dreaming into Alternate Universes* (2001), uses a recording of *Times Square* from 1979 as an ambient acoustic ground. The recording confirms that the site was quiet, or at least not completely noisy (as it is today, following recent revitalization efforts).

Neuhaus never gave up on *Times Square*. Convicted to reconstruct the work – then his only piece in the United States – the artist enlisted gallerist Christine Burgin to administer its renovation in 2002. *Times Square* was renovated by Burgin with support from local patrons, such as the Times Square Business Improvement District (BID) (a nonprofit organization that funds revitalization efforts). Burgin, who exhibited drawings by Neuhaus in 2000, was the primary force behind the renovation and, most importantly, located funding. Burgin knew that Neuhaus unsuccessfully pitched the MTA and asked the BID to fund the project (which was prohibitively expensive at the projected cost of \$50,000).⁶⁸⁶ Describing *Times Square* as a historical landmark, Burgin persuaded the BID to cover renovation costs. According to a 2002 press release for the renovated *Times Square*, the BID “[works] aggressively to make the neighborhood cleaner, safer and friendlier for all who visit, live and work in Times Square.” The BID achieves this revitalization by supporting projects from a collective pool of funds that is funded by commercial property owners, who pay 0.3% of their building value, and local residents, who pay \$1.00 per year.⁶⁸⁷ In 2004, the BID had an annual budget approaching \$6,000,000. In addition to providing resources for sanitation and tourism management, the BID also funds various smaller projects, or “public improvements [that] promote the area.” Between 2001 and 2002, Burgin solicited contributors to fund the *Times Square* reconstruction – including Arthur Ochs Sulzberger (former publisher and of *The New York Times*). The total cost is not known, but a 2001 invoice placed the electronic system at \$47,572.02.⁶⁸⁸ *Times Square* did not change much over the years from the point of view of the observer, regarding differences between the first realization in 1977 and its renovation in 2002. In fact, the work did change – substantially so, even if the changes are largely not perceived by the human listener. These changes are largely not perceived due to the work's literal hiding of technical components, which are totally out of view from the listener (should they seek to get on their knees and peer down into chamber, they will see nothing but detritus, since the electronic computer and amplification systems are tucked into a small recess in

⁶⁸⁵ Oral interview with Christine Burgin (July 29, 2016).

⁶⁸⁶ See “Max Neuhaus Times Square Install.” Andrews Audio Consultants Invoice. July 26, 2001. MNP. Box 10, Folder 12.

⁶⁸⁷ These numbers reflect the fees as used in 2004. Information sourced from an archived BID webpage. Archived on April 9, 2004. <https://web-beta.archive.org/web/20040613191812/http://timessquarebid.org:80/alliance.html>

⁶⁸⁸ See Asian Cultural Council records (FA427). Neuhaus, Max, 1978-1979, 1983-1986, 1989; Box 214, Folder 4449. Rockefeller Archive Center.

the wall.) Among the costs incurred, Neuhaus listed in a general breakdown: site survey drawings of underground chamber, mechanical drawings for installation, and equipment costs.

The renewed system as it exists today was designed and manufactured by the Andrews Audio Consultants company between 2001 and 2002.⁶⁸⁹ In fact, the system is entirely different from the original and features substantial changes to both the electronic system and physical installation in the chamber space. In particular, the new system implemented several new features that will protect the work against future threats to preservation. Among the scenarios envisioned by the artist and consultants were concerns about inclement weather, electronic failure, power supply, and illicit tampering. In effect, the renovated work was designed to eliminate the need for future conservation by speculating on worst-case scenarios and preventatively correcting them in advance. Firstly, the reinstalled version exchanged the original analog electronics (prone to failure and replacement) with easy-to-update digital computers. Perhaps most drastically, the sine-wave oscillators (i.e., tone generators) of the first version were replaced by AIFF audio.⁶⁹⁰ While simple and efficient, the exchange, in a certain sense, diminishes the live element of the original piece (namely the idea that the sounds one heard were never repeated but continuously generated in perpetuity). With a digital file, the sounds that one hears at any moment are not new but are repeated from an earlier moment: the audio exists as a pre-recorded loop that is *repeated*, and not *generated*. Furthermore, the Alcorn McBride AM3 digital audio player (DAP) used in the system provided limited hard-drive space of only 16 megabytes, which gives two options: the file can have a high bitrate (i.e., high fidelity) and be shorter, or the file can have a low bitrate (i.e., low fidelity) and be longer. The higher quality audio gives a higher rate of repetition and the lower chance of repetition gives lower quality audio. Neuhaus said in 2000: “I don’t use recordings,” a blunt rejection of recorded media just two years prior to the renovation.⁶⁹¹

One can forgive either case considering that the true focus of the work, as Neuhaus suggested, is not in the *sound itself* but rather the *sound in space* – including the space of audition. In other words, the audio source of the recorded MP3 is no less ‘live’ than the analog oscillator, since in the original the piece the oscillator is simply a way to generate a source sound. The artwork is not in the electronic system but in the electroacoustic environment: how the electronic sounds mix and interact with the acoustic space of the chamber, which acts as a mediating force between the electronics below and the listener above. Furthermore, the revised version actually features a complete twin: the consultants, likely asked by Neuhaus, produced an identical passive system that only serves as a backup. It is not known if this second system has ever been used, but it is setup and waits patiently and silently, should it need to be switched on. If one system has some software glitch or mechanical failure, the second system can take over to continue in its place. The block diagram suggests that a caretaker will be automatically notified of the failure, but the system does not appear to be automated for such a switch. Instead, a physical switch of the MP3 players must be done. In addition to the MP3 player, there is also an additional Crown K2 amplifier and a small power supply. The original work siphoned power

⁶⁸⁹ Design layouts for the electronics block diagram is dated to October 10, 2001 and revised (purportedly with direction by Neuhaus) in the following November.

⁶⁹⁰ AIFF is a lossless digital audio format similar to WAV. Unlike a MP3, which is lossy, a lossless audio file does not remove audio frequencies from the sound spectrum to save space. Lossless audio files are thus larger in size than MP3s and other lossy counterparts. See Sterne, 2012.

⁶⁹¹ Bakargriev, “Interview with Max Neuhaus,” 3. Unpublished. See MoMA PS1 Archives. Series II: Press and Communications Office Records. II.A.1170.

illegally from a nearby traffic light box. In contrast, the revised version had a "PWRSMART 450 UPS," the latter three letters being an acronym for an "uninterruptable power supply." Neuhaus did need not worry about an inclement weather situations or a grid outage (such as the New York City blackout of 1977).

As for mechanical failure, the artist and consultants again had a clever idea: setup in front of the three loudspeakers inside the chamber was a small microphone ("EV635") that was constantly recording the audio output from the system.⁶⁹² If there was any sustained silence, or a total cessation of sound, an audio detection circuit analyzing the signal would register silence, thereby alerting the caretaker with a phone call. Indeed, this secondary circuit system (which monitors the DAP audio) was itself connected to the cellular line permanently connected to the work. In addition to the system automatically calling in case of failure, anybody with the incoming number could also *place a call to the system* and listen directly to the audio output.⁶⁹³ As for illicit tampering, the original aluminum fencing was replaced with prison-quality jail doors (that alone cost \$18,750).

Times Square today is, as it always has been, a contested site of culture, corporations, and identity. The work is shared between public and private jurisdiction yet firmly in neither. DAF acquired the piece in 2003, but the MTA still owns the physical site. Furthermore, the DOT has authority to alter the space around the work, above and below the street, without the approval of MTA or DAF. "Times Square is the epitome of a public place," said Neuhaus, "It has [the stereotype] of being a porno center, but in fact it is a major pathway and has a huge variety [and] number of people." The "porno centers" were shuttered by Mayor Rudy Giuliani in the 1990s and commercial tourism was sealed under Mayor Michael Bloomberg in the 2000s, whose 'green space' initiatives are now continued by Mayor Bill De Blasio. Between 2009-2016, the DOT made severe changes to vehicular traffic on Broadway Avenue. Sections of Broadway, including between 42nd and 47th, were blocked from vehicle traffic and converted into pedestrian plazas and corridors. The project was one part of a larger effort by Mayor Michael Bloomberg and DOT commissioner Janette Sadik-Khan, whose joint "Green Light for Midtown" initiative aimed to "improve mobility and safety [via] targeted traffic changes," and in turn create more public space and safer pedestrian flows.⁶⁹⁴ The jaunty street intersections in Times Square created an especially unsafe vehicle and pedestrian flows, particularly as the area boomed between 199-2003 and was transformed into a major tourist commercial attraction under Mayors David Dinkins and Rudy Giuliani.⁶⁹⁵ In 1999, the MTA began doling out \$180 million to completely renovate the Times Square subway station.⁶⁹⁶ Zero of these funds was allocated to restoring *Times Square*. In 2009, The traffic island on which *Times Square* was built was absorbed by a green space public corridor, an architectural change that means pedestrians no longer have to walk upon the surface of *Times Square* to cross the street.

In 2016, there was another environmental change: a long granite bench was installed along the Western edge of the piece. The subtle change modifies the listener's body by redirecting pedestrian flow, raising questions about the limits of preservation and how to adapt an environmental artwork to new conditions (whether or not, perhaps, the work needs to be

⁶⁹² Oral interview with Christine Burgin (July 29, 2016).

⁶⁹³ Ibid. Burgin recalls being woken up in the middle of the night by the system.

⁶⁹⁴ *Greenlight for Midtown Evaluation Report* (New York: NYC Department of Transportation, 2010): 1.

⁶⁹⁵ See Charles V. Bagli, "Mayor Claims Credit for Times Sq. Revival," *The New York Times* (January 27, 2000).

⁶⁹⁶ See Thomas J. Lueck, "Bid Is Awarded for Times Sq. Subway Project," *The New York Times* (January 9, 1999).

retuned to a new material density). The problem asks us to locate *Times Square* in the technology that generates sound or the experience of sonic environment. In 2012, the MTA advised the Dia curators about planned DOT construction on the *Times Square* site. The contractor was provided with “[requirements] for protecting the artwork,” but the exact nature of requirements was not disclosed.⁶⁹⁷ Workers were likely told to not interfere with the electronic system in the chamber. In the winter of 2014 and the spring of 2015, the triangular grate was used as a docking space for construction materials and was completely fenced from the public. The sound equipment and computer system are “located in an alcove two levels below the street,” and were totally separated from construction work above, but one wonders how the broader environmental conditions of the site were changed. Because the ventilation chamber exists *between* the subway and street, neither the MTA nor Dia had control of the work during construction, which remained active despite being inaccessible. The equipment is housed in an alcove two levels below the street, but one wonders how the work’s broader environment was permanently changed – and how these change affect not only the experience by listeners, but also the material composition of the sound work (which is built upon specific parameters of acoustic resonance). During periods of revitalization and urban renewal, how is *Times Square* protected when access is limited by legal and institutional barriers?

The problems discussed raise a question of locating where the art of *Times Square* exists. Does the work exist in the *sound technology* that generates sonic material or the *experience of the sonic environment* once the sounds resonate in the chamber and mix with those on the street? We can look to Neuhaus for advice: “large piles of electronics do not necessarily have anything to do with music,” and the same goes for *sound installation*.⁶⁹⁸ Indeed, in 2002 he stated that “The [art of *Times Square*] for me is not [the sound]... but rather the site.”⁶⁹⁹ Taking a cue from the artist, Dia has not renovated the work following these material changes to the environment. Discussions of change in pedestrian flow or acoustic structure (i.e., chamber resonance) was not an active consideration.⁷⁰⁰ The electronics system upon which the installation operates, including the pre-recorded AIFF sound files, was also not amended following the 2016 construction. *Times Square* remains today as it did in 2002.⁷⁰¹

The Institutions of Sonic Art

Times Square is generally seen as Neuhaus’s *magnum opus* – and for many the beginning of sound installation as a genre. The work was a great consolidation and refinement of decades of artistic research and practice and the emergence for the type of unassuming public sound installation for which he would later be uniquely recognized (if not widely). Neuhaus himself seemed to have considered the work as particularly important in his career, given the amount of energy and resources, socially and financially, that he placed into the work between its conception, original installation and subsequent renovation. However, *Times Square* was also just a point of emergence for a broader artistic practice that continued until his death in 2009, but

⁶⁹⁷ Email from Francesco Lo Galbo to Charles Eppley (July 25, 2016).

⁶⁹⁸ See Max Neuhaus, *Program Notes* (Toronto: York University, 1974).

⁶⁹⁹ See John Sanborn and Kit Fitzgerald, dir., *re: Soundings: Investigations into the Nature of Modern Music* (Purchase, NY: Neuberger Museum, 1983). Video.

⁷⁰⁰ Email from Francesco Lo Galbo to Charles Eppley. July 25, 2016.

⁷⁰¹ *Ibid.*

which came to its ultimate momentum in the 1990s. Primarily, the works of Neuhaus's later period, 1990-2009, were funded by wealthy European patrons, typically private galleries, local municipalities, private companies, and contemporary arts organizations (both private and public). *Times Square* indicated a shift in the tone and type of work produced by the artist, particularly in his engagement with cultural institutions such as museums, arts nonprofits, and federal grant programs, as well as private and/or corporate donors.

There are several aspects that change in this period, set between the completion of *Times Square* in 1977 and the untitled installation at the Como Park Conservatory in 1980. In particular, there is a focus in the late 1970s and 1980s on large-scale public installations and museum commissions. Unlike his earlier events and situations, including proto-sound installations like *Drive-In Music* and *Water Whistle*, the works of the late 1970s and early 1980s were conceived as permanent instead of temporary. This trajectory of permanence characterized the remainder of his career, even if installations were later taken down or eventually 'turned off' sometime after their inauguration (e.g., the stairwell piece at the Chicago Museum of Contemporary Art, which apparently caused anxiety and some fear of sickness, namely nausea, among security and museum staff).⁷⁰² The works of this period, and afterward, also utilize digital electronics rather than analog electronics. The shift arguably had little effect on the result of his artistic practice – the focus is on the listener and the manner in which sound moves through physical space, not the manner in which it is generated). However, analog electronics had been the focus of his artistic practice, especially the practice of handmade electronics and circuit building, whether by the artist or outsourced to others. The shift to digital electronics, personal computers and microchips in 1980 poses a change of media that is significant in his working practice, such as the amount of time spent in a location or the types of services and technical assistance rendered for the realization of a piece.

The use of commercial electronics also indicates a shift in spirit away from the the DIY attitude of his scrappy 1960s and 1970s work, and sparks an increased use of the global technological market. For example, the 1980 Como Park Conservatory installation nearly did not happen due to market restrictions on access to digital audio computer chips, where were being bought up by pinball manufactures, and the later *Times Square* renovation in 2002 replaced the original analog equipment with an entirely digital system sourced from major manufactures, including the exchange of live tone generating oscillators with a digital audio machine to playback a preconfigured MP3 file. Accordingly, the shift from analog to digital electronics speaks not only to the technological and formal construction of his pieces, but also the manners of contact with broader social, economic and institutional paradigms. Such shifts not only supported the artist's move toward permanence – digital electronics are generally more stable than analog electronics, especially within extreme weather conditions – but also his own success as a professional artist: museums, cities and corporate entities would much rather invest in an artwork that they can exhibit long-term and which will appreciate in market value, despite the anti-market nature of site-specific art and especially sound installation (which offers little to see or touch).

This section explores the formal, technological and institutional shifts that Neuhaus embraced following *Times Square*, in particular tracking his movement to permanent installation practices, digital technologies, and concrete efforts to garner broad institutional support, at first in the United States, and ultimately within the context of European arts funding. I will pay close

⁷⁰² The complaints of museum staff were recounted to the author in an interview with Max Pyziur, a student assistant from Queens College music department who helped Neuhaus between 1979-1980. See Pyziur.

attention to the formation of several private companies – such as HEAR, Inc. and Acoustica, Inc. – during this period, which served as mediating bodies through which the artist corresponded and maneuvered through conflicting local, national and international institutions.

Underground Chamber at MoMA

In 1978, Neuhaus was invited to construct a piece similar *Times Square* at the Museum of Modern Art. The work was (and remains) officially untitled but was variably and nondescriptly referred to as *Underground Chamber*, *Ventilation Chamber*, and *Subsonic Loudspeaker* (sometimes Neuhaus referred to the work as simply the “MoMA installation”). I will refer to the work as *Underground Chamber*. The piece was placed in the museum’s sculpture garden – a contentious curatorial site for making noise, as evidenced by the 1959 exhibition of Jean Tinguely’s self-destructive kinetic noise-sculpture *Homage*. The work is significant to Neuhaus in that it represented the artist’s first major museum work. Neuhaus participated in the 1976 *Dokumenta* exhibition in Kassel, Germany, but his work prior to this point was relegated to musical or educational venues in the United States.

Underground Chamber represented a shift in Neuhaus’s artistic career as he received commissions from major arts institutions such as MoMA. However, Neuhaus posed a unique problem for the museum. How does one exactly ‘install’ a sound in the museum, especially without interrupting the overall nature of the museum experience? The sounds that Neuhaus constructed, much like that which he had most recently put in Times Square, are not terribly loud (like La Monte Young), but they certainly maintain an obvious presence. But in the context of the gallery space, how would such long, amplified, and electronic sounds interact with other works of art on view? Paintings? Sculpture? Visitor lobby? Undoubtedly, no matter where inside of the museum they put Neuhaus’s piece, its sounds would interact, or maybe interrupt, the experience of other artworks/spaces: it would be heard in the gallery; down the hall; around the corner; on the floor above, or maybe below; maybe even on the street? Quite simply, they just didn’t know where the sound would go – and that was a problem. We can call this problem: *aural bleeding*: the unintentional dispersal of sound from one work to other spaces in the gallery or in the museum, particularly in a way that alters, interferes, or disrupts a visitor’s experience of other artworks. Incidentally, none of this would have been an issue, and not only because the installation was placed outside, where it interacted with the street/city sounds, but because the installation, while acoustically active, was audibly silent. The MoMA installation circumscribes material, conceptual, and ideological conditions of Neuhaus’s artistic practice at this critical juncture. I will raise the idea that sound waves function as a particularly ephemeral form of information, in addition to being a physical material, in order to position *sound installation* between materialist and textual sound. The section illustrates the biases of sound in the museum setting and also realign our understanding of the materiality and site-specificity.

Underground Chamber ran along the interior wall along the south end of the garden. Today, one can find the site by turning just to the right once one goes down the main steps beyond the current atrium façade. However, as with many of the sound installations of Neuhaus, there is nothing visually to observe. The work was also entirely silent – sort of. In actuality, the work used subsonic frequencies that modulated audible sound waves in the garden space: rather than hearing a particular sound, or series of frequencies, the work changed the way in which you heard sounds other than itself, providing the listener with the effects of its presence without a

direct perception. The subsonic sound, functioning like wind or a black hole, would not have been able to be located or observed by listeners, but only experienced through the distortions it caused within the broader soundscape. Technically, the piece was built in a similar manner to *Times Square*. The use of a large custom loudspeaker, including a cement case, was joined by a series of sound generating oscillators. The whole installation consisted of “several tweeters and a massive 9-by-14-foot speaker” placed in a maintenance pit. Again, the only visual reference was a long patch of metal grating that ran along the ground and a cement wall about two feet tall.

The work also posed a problem for Neuhaus: how to align his work, which since its inception with *Listen* was consciously anti-institutional, coalesce with the rhetoric, architecture, and ideology of the museum space? For one thing, the museum’s curators demanded that the piece be marked so that visitors would know that there was a work present – typically a label is not a problem, but Neuhaus desired his pieces, especially after Times Square, to be unmarked. Rather than directing a person to his work, he preferred the person, a listener, to experience the piece on their own – consciously or unconsciously. The problem is obvious: the museum needs to identify the work less for visitors, but more to its trustees and donors who funded the project. What good is paying for an artwork that is unseen and unheard?

Nonetheless, MoMA placed a small plaque that provided the work’s title and artist name, although Neuhaus succeeded in placing the sign at a sufficient distance as to be ambiguous enough that visitors might not fixate on the connection. Speaking on the situation, Neuhaus spoke of his anticipation for the listener, who he did not want to coerce into thinking about the work, or, rather, thinking about their aesthetic experience through a particular presumption of how to interpret the piece: “I’d rather have people walk through the space unaware of the vibration than force them to react with more obvious sounds or a bigger sign.” *Underground Chamber* was commissioned through the *PROJECTS* series. The recurring curatorial program, which still exists, began in 1971 as a way for the museum to “explore new directions in contemporary art.”⁷⁰³ In particular, the museum used the series to focus on installation, performance, and video/media. In other words, the series was an institutional filter to analyze new art forms that may conflict with standard curatorial practices and values, and functioned as a crash course in curating contemporary art with limited potential blowback from visitors, board members, or financial sponsors. Billed as temporary, short-term exhibitions (lasting between one and three months), the series safely incorporated radical, sometimes objectless, artworks into the museum’s curatorial program. The series was thus important to the transformation of MoMA, long dedicated to *modern art*, into a museum of *contemporary art* in general.

In 1978, following Neuhaus, the program exhibited a new work by Laurie Anderson, *Handphone Table*, which was comprised of a wooden table with embedded audio components, including a tape recorder that played a song composed for the exhibit. In order to hear the music, the listener had to sit at the table and cover their ears while resting their elbows on two divots, below which were hidden speakers that transferred the audio signal through the wood, up the arm, through the hand, and into the cochlea. In contrast to *Ventilation Chamber*, *Handphone Table* was exhibited within the walls of the museum, giving it clear institutional recognition. There were practical/aesthetic reasons for the distinction – Neuhaus wanted to work outside, preferring that his works be ‘discovered’ by accident – but *Handphone Table* was also understood as unquestionably sculptural, not just rhetorically. The exhibition was also unmistakably labeled and cordoned off into its own gallery, giving it the very material presence

⁷⁰³ “Max Neuhaus: A New Work (Underground),” Press Release No. 41. (New York: The Museum of Modern Art, 1978): 2. https://www.moma.org/d/c/press_releases/W1siZiIsIjMyNzE0MyJdXQ.pdf?sha=8da86627295bcbab

that the museum attempted to cast upon Neuhaus's unheard sound. Indeed, Neuhaus was one of only two PROJECTS artists to exhibit outside the museum; the garden itself was a recurring site for extra-institutional programming: dancer Simone Forti and saxophonist Peter Van Riper performed within feet of Ventilation Chamber as part of the Summer Garden series. The PROJECTS series did commission pictorial and sculptural works, but the ephemeral tone was set early on: the first exhibition was a site-specific light environment by installation artist Keith Sonnier. Installation was a recurring feature. The museum would also organize its first sound art exhibition a year later: a group of recorded sound works by Connie Beckley, Julia Heyward, and Maggi Payne. The exhibition was staged in an auditorium gallery, another ancillary space that served as an artistic filter for the museum. In the press releases, Anderson, who was a self-described musician, was presented as an installation artist; in contrast, Neuhaus, a self-described installation artist, was presented as a composer.

Underground Chamber was publicized in the MoMA newsletter using a visual-sculptural language that was not typically used to describe his practice. The press release described the work accordingly: "Like a work of visual art, [the sound of the installation] exists in a constant state which can be explored by the listener at his own pace."⁷⁰⁴ Neuhaus was aware of the limitations of sonic art beyond music, noting that: "The visual arts have been able to make marks on walls for thousands of years... we've only been able to capture sound [since the invention of audiotape]. [The] lag is understandable." Although this comparison is imperfect – prior to audiotape there were other methods of capturing sound, including musical notation – the sentiment holds true: sound may be elusive aesthetically, but it is even more elusive institutionally, something which allows the above rhetorical sentiment to continue today. The artist saw *Underground Chamber* as an extension of his previous post-concert hall events, such as *Listen* and *American Can*, referring once again to the proscenium situation: "The proscenium setting is fine for giving concerts, but so many generations of acquired preconceptions have made people believe the stage is the only place to make music. I just had to get out."⁷⁰⁵

The above clearly situations sound installation the context of his questioning of musical boundaries and the limitations of musical rhetoric. Interestingly, what we also see is an ambivalence to musical framing: Neuhaus is not arguing that what he does is not music in any way, but rather that the way in which we understand what is or is not music is largely irrelevant. Avoiding the musical frame was not an ideological stronghold for Neuhaus, but rather a tactical effort to prevent people from leaning back on their preconceptions of how to listen.

Indeed, one anecdote from *Underground Chamber* that is worth repeating is that on a day when the piece was actually turned off, presumably being tuned, a museum visitor described how much they enjoyed the piece. Although they did not hear anything – i.e., the piece was not affecting the soundscape – they still managed to hear something, even if it was not *Underground Chamber*.⁷⁰⁶ For Neuhaus, this experience was as valid as if they had come on a day when the piece was in fact operational, in part because the visitor had, or believed they had, an experience through sound. In fact, the negation of *Underground Chamber* in this instance can be seen as a covert reframing of *Listen* in its focus on the existing, rather than amended, soundscape.

The MoMA curator Barbara London said of sound art in 1979: "Sound art is another manifestation of the increasing contemporary tendency to extend the range of artistic possibilities by moving between different mediums and exploring new modes of presentation... today sound

⁷⁰⁴ "Max Neuhaus: A New Work (Underground)," 2.

⁷⁰⁵ Neuhaus quoted in "Background Music," *Horizon* (August 1978): 74.

⁷⁰⁶ *Ibid.*

is central to many art, dance, music, and theater events.”⁷⁰⁷ London drew these connections out in the *Sound Art* exhibition, but the rhetoric was not backed up by its curatorial placement inside of the auditorium gallery, a space inside of the museum primarily dedicated to discussion of art and the projection of films (and occasionally the performance of music). London claimed at the time that “sound art... is more closely allied to art than to music, and is usually presented in the museum, gallery, or alternative space,” but the medium was limited, perhaps ironically, to the domain of musical activity within the architecture of the museum. London was not involved with Neuhaus’s garden commission.⁷⁰⁸

The curation of *Underground Chamber* was instead organized by the curator Kynaston McShine.⁷⁰⁹ McShine became famously known for his curation of new art of the 1960s and 1970s, specifically the groundbreaking *Primary Structures* (1966) exhibition at the Jewish Museum and *Information* (1970) at MoMA. There is much to be said of the relation of Neuhaus to mid-1960s minimalist practice, both in music and in sculpture, due to his focus on materiality, spatial inscription, and phenomenology. The boundary-shaking *Information* is now seen as a landmark of conceptualist practice, particularly in its focus on artists whose work was formed by manipulating information, rather than physical materials.⁷¹⁰ It is in the context of these two exhibitions that we may better understand Neuhaus’s 1978 installation, which is one of the only silent pieces he ever made, and which came right after his paradigm-shifting *Times Square*. *Primary Structures* and *Information* pose two competing ontologies for works such as *Times Square* and *Underground Chamber*. First, the materialist and phenomenological perspective, which frames the works as physical, spatial and experiential. Second, the conceptualist and informatic perspective, which frames the works as an inductive, algorithmic and informational. Both works exist between these models: each is informatic and materialist, but their conditions are focused or downplayed according to the exhibition context, namely the coding of an anti-institutional versus institutional frame.

Stairwell problems at the Museum of Contemporary Art, Chicago

In 1979, the Chicago Tribune penned a pre-review of the as-yet-unfinished piece.⁷¹¹ The editorial describes that the work will be built by Neuhaus with assistance from the Graham Foundation for Advanced Studies in the Fine Arts, William J. Hokin, the NEA and the MCA member donations. The author in the title refers to Neuhaus as a sculptor – one of the first times following his MoMA installation – but also reverts back to a musical perspective. In fact, the editorial takes place in the newspaper’s music section, and the author refers to the common description of his work, likely provided by Neuhaus to the publication. The description adds on to previous versions of the press bio, in particular now emphasizing the site-specific quality of

⁷⁰⁷ “Museum Exhibition Features Works Incorporating Sound.” The Museum of Modern Art Press Release No. 41 (1979).

⁷⁰⁸ She was instead busy with setting up the museum’s first collection of video art, which is what likely drew the young curator to sound in the first place

⁷⁰⁹ See Robert Storr, “Projects: 120 and Counting,” *MoMA*, No. 21 (Winter-Spring 1996): 16-19.

⁷¹⁰ Such as Dan Graham, Sol Lewitt, Hans Haacke, Robert Smithson and Dennis Oppenheim See *Information*, MoMA Catalogue

⁷¹¹ See Jorn von Rhein, “At MCA, a New Sculpture Converts Space into Sound,” *Chicago Tribune* (March 25, 1979): 8-9.

the work, and the general practice of not knowing what the final sound will actually be prior to its completion (and the artist's initial in-person experience of the space):

Unlike most composers, who create in isolation and then release their music for performance in a variety of concert situations usually out of their creative control, Neuhaus goes first to the environment, then specifically tailors his work to fit – literally – the nature, shape and everyday function of that space.⁷¹²

Here we see pivotal moment in Neuhaus's decades-long transition from composer to artist, if the rhetoric of music still persists slightly. In particular, the solicitation of more NEA funding along with the Graham Foundation creates an important precedent for the relation of his work in sound to similar works with more clearly physical, and usually visual, sculptural media. Nonetheless, the author refers to the MCA as a "rather orthodox space for his unorthodox music," seeming unwilling to let the musical description go. The description provides a great amount of technical detail: the thirty speakers in the piece were "positioned vertically from top to bottom of the stairwell," and were models procured from the Altec-Lansing company.⁷¹³ Each speaker was said to have "its own sound-generating oscillator and sound mixer," although it is not clear what was being mixed – given that his Como Park Conservatory installation used sound-responsive circuits to modify the sounds heard by the listener according to sounds heard in the space as they walk through it, it seems likely that a similar strategy was used in the stairwell piece. However, the author points out (perhaps warns) the reader that "not so much as a single wire will be visible to the public."⁷¹⁴ If they had expected to see the work, they would not have found anything, as Neuhaus explained: "It's not a sculpture to look at, but to listen to."⁷¹⁵ At the time, the MCA was undergoing a year-long renovation project and were looking to acquire a new piece for their permanent collection.⁷¹⁶ Curators at the museum likely learned of Neuhaus's work through his installation at MoMA, a work that, despite being silent, institutionally amplified the presence of Neuhaus as an installation artist.

Neuhaus at the Como Park Conservatory

The untitled Como Park Conservatory (1980) installation was the second commission following the MoMA sculpture garden piece. However, the work, conceived as permanent like the Chicago stairwell piece, continued the change in scope and scale of his installation practice. The piece was also the second occasion at which the artist garnered a successful patronage from a major institution. *Times Square* was largely unaffiliated with any institution, other than HEAR, Inc., and its various grant sources (such as the Rockefeller Foundation). The MoMA sculpture garden work was an important commission, but it was also deliberately conceived as temporary piece and was contained by the PROJECTS series. The Como Park installation was commissioned through a combination of sources, which included the Walker Art Center, Como

⁷¹² See Jorn von Rhein, "At MCA, a New Sculpture Converts Space into Sound," *Chicago Tribune* (March 25, 1979): 8-9.

⁷¹³ Ibid.

⁷¹⁴ Ibid.

⁷¹⁵ Ibid.

⁷¹⁶ Ibid.

Park Conservatory, the City of Minneapolis, and a festival called *New Music America*. *New Music America* (1979-1990) was a wandering festival that showcased innovation in musical composition and performance, which changed location every year. The first festival was organized in 1979 as *New Music, New York*, an eight-day performance series that premiered at The Kitchen performance venue.⁷¹⁷ Many of the performers and attendees at The Kitchen were once deeply embedded in the late postwar SoHo art scene.⁷¹⁸ In particular, the festival provided an encapsulated view of new musical forms in the 1970s, beyond the early Fluxus compositions that once flooded the neighborhood lofts and streets in the 1960s. In other words, the qualifier “new music” in this context refers to both a rejection of “traditional music,” from a conservatory point of view, as well the “Fluxus music” of the post-Cagean set.⁷¹⁹

The new festival replaced Charlotte Moorman’s Annual Avant Garde Festival of New York, which operated from 1963 until 1980. Notably, the Avant Garde Festival did not occur in 1979 (likely due to Moorman’s diagnosis with breast cancer). *New Music America* subsumed the legacy of Moorman’s lifelong project, which was once a bastion of forward-thinking sonic art. This replacement symbolized a sort of transference of ownership, and authorship, of the musical avant-garde to a younger generation. *New Music America* functioned like the Whitney Biennial in its survey of contemporary musical practice, including sound art. The festival was directed by Nigel Redden, who was the Director of Performing Arts at the Walker Arts Center. Redden worked in this position at the Walker between 1976-1982.⁷²⁰ It is unclear when Neuhaus first met Redden, but the latter was aware of his work, and of *Times Square*, prior to his invitation to participate in the music festival.⁷²¹ In addition to works of performed music, Redden explicitly sound to engage with the new paradigm of sound installation, which was then viewed as an extension, rather than a rejection, of musical composition. Artists like Neuhaus, Amacher, Liz Phillips, and the ambient musician Brian Eno were seen as expanding musical ideas to spatial, architectural, or environmental settings. The inclusion of such environmental sonic art in the festival highlighted the openness of its curatorial perspective, and a continued interrelation of site-specific art with durational sound, music or otherwise. The festival included several works of this kind, including installations by Neuhaus, Amacher, Phillips, and Eno. Neuhaus’s massive multichannel installation was built for the Como Park Conservatory’s bird aviary. Works by Amacher, Phillips, and Eno were spread across the city, spanning an airport, a public fountain, and post-industrial sites.

Neuhaus’s piece was comprised of sixty-four individual speakers installed around a glass dome in the historical aviary. The work utilized a custom electronic system comprised of digital computer chips, which were each controlled from a remote control: each chip could be manually adjusted by Neuhaus (or his engineer Klaus Schleisiek) to control the parameters of the tone and its texture. There were two primary sound characters: bright, high-pitched, and asymmetrical beeping-chirping tones rested atop lower-pitched and undulating drones. The sounds enveloped

⁷¹⁷ In 1979, the venue was still located in SoHo (before relocating to Chelsea in 1987).

⁷¹⁸ Such as Philip Glass, Meredith Monk, Gordon Mumma, Pauline Oliveros, Charlie Morrow, George Lewis, Phill Niblock, David Behrman, Tony Conrad, Charlemagne Palestine, and Steve Reich.

⁷¹⁹ Cage was still around and very active in the 1970s despite his apparent loss of stature outside of the avant-garde music community. See Joseph (2016).

⁷²⁰ Oral interview with Nigel Redden. (November 16, 2016). Redden took a national position as Director of Dance Programs at the National Endowment for the Arts Redden’s hiring followed the departure of Suzanne Weil, who was also once the Director of Performing Arts at the Walker. See “National Arts Agency Names Dance Director,” *New York Times* (July 17, 1982).

⁷²¹ Oral interview with Nigel Redden (November 16, 2016).

listeners around the space from every position on the ceiling, providing a 360-degree coverage, and changed subtly over the course of the day to react to shifts in sonic dynamics. Each speaker was designed as a miniature computer that processed live audio and was modified according to sounds in the environment. Over time, the electronic sounds responded to the acoustic sounds of the space, including conversation and bird song. These environmental sounds adjusted the digital acoustics, providing a constantly changing, yet comforting, soundscape. The music critic Tom Johnson, a frequent reviewer of Neuhaus's pieces, wrote of the piece:

While I have long sympathized with Neuhaus's sophisticated electronic devices and his relentless attempts to install them in public spaces, I have not always liked the results, and have been particularly disappointed in his low machine-like pitches that get lost in the hubbub as they drone on in the caverns below Time Square... the greenhouse project is another story. Here the sounds are little birdlike bleeps emitted from 64 loudspeakers, and the loudspeakers are neat little black circles that run around the dome overhead. They emit their sounds intermittently, as dictated by their individual-computer-driven oscillators, and together they produce unpredictable melodies on four pitches. The pitches remain precisely in tune, and the general effect is lovely. As I passed from the domed room into one of the adjoining rectangular greenhouse spaces, the bleeping could still be heard, but all from one direction. On returning to the space under the dome, I began to appreciate the differences in the directionality of each individual bleep. Even the most sophisticated stereo or quadraphonic system just doesn't place the sound the way 64 loudspeakers do.⁷²²

The unveiling of the Como Park installation seems to have been a fairly anxious moment for the artist, not only institutionally but personally. An audiotape from the inaugural ceremony reveals Neuhaus's thoughts just prior to speaking to a crowd, which included the festival director and the Mayor of St. Paul. Neuhaus abruptly switches a conversation with Pyziur, saying "I got to figure out what I gotta say," followed by nervous laughter. Pyziur added, "You sounded so self-assured yesterday." Neuhaus responded tersely, "Did I?"⁷²³

The work was his largest commission to date – its price tag of \$43,000 was equally daunting.⁷²⁴ Indeed, sound installations, at least for Neuhaus at this time, required large monetary resources. Nonetheless, in a 1980 radio program, Redden described the prominence of sound installations: "Each installation [in the festival] was unique... some required extensive and expensive equipment. None was more complicated than [Neuhaus's]."⁷²⁵ Neuhaus spoke about his own piece as well, discussing his use of public space:

Dealing with a large cross-section of the general public, and putting works in places where people can find them, and take them for what they are and not [deal]

⁷²² Tom Johnson, "New Music America Takes Over a Town," *Village Voice* (June 25-July 1, 1980).

⁷²³ Como Park Conservatory Opening Ceremony (1980). Audiotape held by Max Pyziur.

⁷²⁴ The project was funded by a \$19,000 NEA grant with additional funds from the Minnesota State Arts Board, General Mills Foundation, Saint Paul Foundation, and the Dayton Hudson Foundation. NEA Visual Arts, 1967-1980. Fiscal year 1979.

⁷²⁵ "Max Neuhaus and Como Park Conservatory," Minneapolis: Minneapolis Public Radio (June 2, 1980). <http://archive.mprnews.org/stories/19800602/max-neuhaus-and-como-park-conservatory>

with a cultural indoctrination... [I work] with the premise that the contemporary artist's work should be accessible to anybody in the general public.⁷²⁶

Redden asked Neuhaus how his work related to music, to which the artist responded:

I think music has always been an evolving thing... I'm interested in thinking about music and relating it to what I do as a way of carrying on that evolution, keeping that word expanding... I think that the terms *music* and *sculpture* are institutionally... fifty or a hundred years behind, and it's a mistake for any artist to accept that classification and position.⁷²⁷

Speaking of the Como Park installation, Neuhaus described his artistic process:

I started dealing with this specific space [in 1979]. For me, the process of making a work is not an analytical one, it's a process of growth, of an idea in my mind... not always an idea I can explain or verbalize in any way. As most composers, I use my ears to make decisions... I work within the space with sound. One of the most difficult things is not to [come] to a space with preconceptions, and to [let] the piece grow in the space itself.⁷²⁸

Asked if he was "concerned" at the reaction that the public may have toward the piece, Neuhaus explained his perspective on what entails a "successful" *sound installation*:

I make music for people, so I am concerned... [but] I am not concerned by the success of a piece... counting how many people [like it or not]... I know a good deal from working here... about the people who walk through and how they come into the space, where they are... and that's [my] consideration...⁷²⁹

Martin Friedman, the director of the Walker Art Center, spoke at the opening ceremony. Friedman admitted that: "While it's true that I knew something about Max's work before, I had no idea nor ever had an idea what Max was about to do [in this space], and after I got what I thought was a general outline of the piece."⁷³⁰ Friedman provides a thorough justification for the project, articulating its connection to the 1914 building:

Max's approach was to explore the space, the interior space, of this building and have people be conscious of it through sound. Sound that would change, change its frequency, and would become part of the total environmental experience... not only the sounds itself, but also the birds and children's noises, and of course what I hope will be the rapid and louder sound of plants growing as a part of this. It's

⁷²⁶ "Max Neuhaus and Como Park Conservatory," Minneapolis: Minneapolis Public Radio (June 2, 1980). See also: *KPFA Folio* 32, no. 8 (September 1980).

⁷²⁷ Ibid.

⁷²⁸ Ibid.

⁷²⁹ "Max Neuhaus and Como Park Conservatory," Minneapolis: Minneapolis Public Radio (June 2, 1980).

⁷³⁰ Archival audiotape of the opening ceremony. Courtesy Max Pyziur.

an effort to use the architecture in new and experimental ways... so that one has a total experience of space.⁷³¹

However, the mayor of St. Paul, George Latimer, was at first nervous about the piece because election season was upcoming. The expenditure of public funds on the artwork could have been a political liability. Nonetheless, the mayor advised the audience that: “Art in a city [is] maybe not be necessary [but] to have... a sensitivity [to art is important]... the fact is, public officials, civil servants, make things that are important [and] I’d like you to remember [this piece] the next time you hear about a white-headed bureaucrat... one made this happen.”⁷³²

Nonetheless, like the Chicago stairwell, the work was ultimately turned off due to visitor and employee complaints. Though it was commissioned as a permanent piece and was by far the most expensive work built by Neuhaus up to that point, he rejected the museum, municipal, and conservatory offer to amend its operating hours. For Neuhaus, the work would have ceased to be an installation if it were ever turned off: the break of continuity would relegate the work to sonic background music (or Muzak, which he notoriously hated).⁷³³ In 1975, Neuhaus referenced what appears to have been an early iteration of what became the Como Park piece, called *Music for Huge Interior Spaces*, downplaying its role as a psycho-acoustic filler and lamenting the Muzak corporation’s attempt to out-bid his work (for what appears to have been a pedestrian mall):

Muzak, the corporation which mass-distributes canned sound, corny subliminal music, for lobbies and elevators, wants to appropriate the space in which I have been invited to install *Music For Huge Interior Spaces*... they are supporting their bid with pseudo-scientific arguments, basically technological intimidation... I am going to fight them by giving the general public weapons to articulate its already growing opposition to Muzak...⁷³⁴

The quote highlights the artist’s hardened opposition to not only the Muzak corporation, but to the notion of simply adding noise to placate, or manipulate, an audience (in this case, to provide a calming sonic backdrop to encourage consumerism). In a 1993 *circumscription drawing*, Neuhaus described the work as: “A high bell in a dwelling for plants / Slowly pacing between cardinal directions / Shifting attention from quadrant to quadrant / Accompanied by a many voiced chorus of very soft, fast, hollow drumming.”⁷³⁵ By 1980, Neuhaus had not performed as a percussionist in over a decade, yet the musical specter persisted, sublimated from a *musical* self into a *post-musical* machine (embodied by the electronic circuit).

Taking on the Bureaucratic Beast

The 1970s were not as kind to contemporary art as the 1960s with regards to arts funding, whether from private patrons and (especially so) public sources, such as the numerous NYC municipal arts organizations or the federal National Endowment for the Arts (NEA).

⁷³¹ Archival audiotape of the opening ceremony. Courtesy Max Pyziur.

⁷³² Ibid.

⁷³³ See Joseph, Branden W. “An Implication of an Implication.” In *Max Neuhaus: Times Square / Time Piece: Beacon*, 59-81. Beacon, NY: Dia Art Foundation, 2009.

⁷³⁴ See MNP. Box 1, Folder 9.

⁷³⁵ Max Neuhaus, Como Park Conservatory, 1993. Colored pencil on paper.

Nevertheless, this decade taught Neuhaus how to actively court external sources for realizing his niche projects, which by and large fit outside of standard artistic – and thus funding – categories. Since “ceasing activities as a solo percussionist” in 1968, Neuhaus was not able to depend on the performance fees and recording studio contracts to fund his art and livelihood. The works of the 1970s – a period when he begins making his first permanent installations – reveals how the artist maneuvered, or attempted to maneuver, the often sometimes conflicting and contentious institutions of the art world. In his 1974 booklet *Program Notes*, the artist refers to this process as “the bureaucratic beast.” I discussed how he engaged with museums and arts organizations, like the Museum of Modern Art, Whitney Museum of American Art, Chicago Museum of Contemporary Art and the Walker Art Center. These museums would have paid Neuhaus directly for artist commission and service fees, as well as other tangential installation costs of the piece, such as audio equipment and manual labor. I will here discuss his simultaneous courting of non-museum patronage, including external granting programs from federal sources such as the NEA, as well as private sources such as the Rockefeller Foundation. I will also discuss his subsequent move to European funding in the late 1970s and 1980s, following the near collapse of arts funding in the United States under the conservative economic policies of Ronald Reagan.

Neuhaus received more grants as a musical composer than a visual artist in the mid-1970s. Furthermore, most of his funding awards were directed toward *Times Square*. The long period of construction was stymied by funding problems, as any artwork, but its reorientation of public space required particular care – and particular problems. Neuhaus struggled to get formal approval and support from the MTA, despite its recent formation of the Arts in Transit program. Arts in Transit sought to commission contemporary artists to create work to beatify the aging subway system, which in the 1970s was largely neglected and prone, at least in public perception, to crime. However, the majority of the works were visually grounded, such as murals and sculptures. Despite an official city-wide ban on subway performance since 1904, the MTA largely turned a blind ear to underground music, which was primarily folk, jazz, and Latin American, and, later, Hip Hop. In 1985, the MTA started a robust music program called the Music Under New York (MUNY) through the Arts & Design program. However, the strange quasi/post-musical nature of the *Times Square*, a continuous non-performative sound work, clearly evaded the artistic boundaries of MUNY. Indeed, the work also falls outside of the two categories of subway music described by ethnomusicologist Susie Tanenbaum: officially sanctioned musical performances that celebrate some aspect of the MTA system or commemorate a person or event; and freelance unofficial musical performances by street performers, known as buskers, that play popular music for donations from subway riders.⁷³⁶ *Times Square* was unofficial and non-performative, placing it in neither of these categories.

In 1974, Neuhaus was awarded \$4,000 USD by the National Endowment for the Arts for “[the composition of] a work in the medium of electronic circuitry.” The award was given in the category of music, a small portion of the total \$776,000 given to composers over the preceding two-year period.⁷³⁷ Neuhaus almost certainly used the funds for the development of *Times Square* (but the money also could have been used for *Underwater Music*, a variant on *Water*

⁷³⁶ See Susie Tanenbaum, *Underground Harmonies: Music and Politics in the Subways of New York* (Cornell University Press, 1995).

⁷³⁷ “The Endowment and the Bicentennial – A Progress Report” (1974): 16. John Marsh Files at the Gerald R. Ford Presidential Library. Box 70, Folder “National Endowment for the Arts Program Report.”

Whistle that used analog tone generators and aquatic speakers).⁷³⁸ Between 1974 and 1981, Neuhaus applied for several grants from the Rockefeller Foundation through his private company HEAR, Inc to fund his projects.⁷³⁹ Neuhaus formed the company around 1974 after failing to garner attention from the MTA, which he sought permission from in order to legally install *Times Square*. He also reportedly received advice from the curator Henry Geldzahler to form an independent and nonprofit organization through which to negotiate with municipal and private entities.⁷⁴⁰ He received funding for the creation of an “underground sound installation” from the foundation, but ideally envisioned that the concurrent arts programs in the MTA system would fund the project, if not purchase the piece outright.⁷⁴¹ Neuhaus contacted representatives from the Arts for Transit and Urban Design (today called MTA Arts & Design) throughout the late 1980s and early 1990s. He urged the division to purchase the work and to pay him a retroactive artist fee (“better late than never,” according to the artist).⁷⁴² The MTA was not interested. As discussed, *Times Square* repeatedly fell into disrepair throughout the 1980s and 1990s. In 1987, a year after the work was shut down by the artist because of power supply issues, the MTA provided technical support. However, the artist’s refusal to allow public signage also ensured their limited patronage: “It was inaugurated with a small press conference, but there’s still no plaque. My one concession may be to let the city put it on tourist maps, although I have no idea what they’d call it. ‘Max’s Noise?’”⁷⁴³ The quote reveals not only the artistic intentions of Neuhaus, but also of the institutional ambiguity of patronizing sonic art, especially public sonic art, which does not readily advertise its supporters.

The artist and the Rockefeller Foundation were also at odds over a plaque to designate the work to the public upon its unveiling in 1977. A plaque would verify its source of financial support and ensure that the generous patronage of the foundation was acknowledged, a standard protocol for commissions of public art and donations to museums. However, Neuhaus refused the request to their dismay, and also likely confusion. Instead, he preferred to keep the work entirely unmarked and anonymous, both in terms of the artist and the patron.⁷⁴⁴ The choice went against everything that the NEA and grant recipients typically envisioned for their artwork: on the one hand, to have the existence of the artwork recognized, and on the other, to be publicly designated as an artist worthy of renowned patronage. Both objectives could easily contribute to the awarding of grant funds in the future, but each also conflicted with Neuhaus’s artistic and personal interests. He not only wanted to be unidentified as the artist of the work, but also did not the installation identified as an artwork in any manner – at least publicly. The ideological distance between Neuhaus and the Rockefeller Foundation highlights the struggle Neuhaus felt, and invited, in his pursuit of art that required financial support but dodged the norms and values of patronage. Following the dismantling of the work in 1992, Feuer told the *New York Times* that the MTA “would happily restore [the work] if [Neuhaus] obtained the money.”⁷⁴⁵ The offer was

⁷³⁸ “The Endowment and the Bicentennial – A Progress Report” (1974): 16. John Marsh Files at the Gerald R. Ford Presidential Library. Box 70, Folder “National Endowment for the Arts Program Report.”

⁷³⁹ Rockefeller Foundation records, projects, RG 1.3-RG 1.8 (A76-A82) (FA209) Subgroup 7: Projects (A81) Series 200: United States Subseries R: United States - Humanities and Arts. Box 926, Folder 6219-6220.

⁷⁴⁰ Oral interview with Max Pyziur (July 20, 2016).

⁷⁴¹ Letter from Max Neuhaus to Wendy Feuer, MTA Arts in Transit. 22 June 1992. MNP. Box 10. Folder 1.

⁷⁴² Ibid.

⁷⁴³ Neuhaus quoted in Tomkins (1988): 116.

⁷⁴⁴ See Mike Zwerin, “Max Neuhaus’s ‘Sound Works’ Listen to Surroundings: Been There, Heard That,” *The New York Times* (November 17, 1999).

⁷⁴⁵ See Jennifer Steinhauer, “F.Y.I.,” *The New York Times* (December 19, 1993).

another ambiguous statement of intent – neither an acceptance nor rejection of the piece, but rather an forgoing of responsibility. The comment was prompted by a question to the newspaper, when a reader asked: “For years in Times Square, a wonderful sound came from below the grates on the traffic island that separates Broadway from Seventh Avenue between 45th and 46th Streets. It seems that someone has pulled the plug on it. What was it, and can we get it back?”⁷⁴⁶ The author provided information on the work, adding that “the resulting low drones and soft hums were quite comforting to you and many others who traveled though the cacophony of Times Square.” The question and answer highlight the manner in which the piece, unmarked and largely unknown, was nevertheless adopted by listeners who had no idea what, or who, made the sound.⁷⁴⁷

Neuhaus continued to seek financial patronage and disciplinary recognition for his art. By far, *Times Square* garnished the most attention for him as an artist, aside from perhaps the early coverage he received as a performing percussionist (and the \$19,000 he received from the NEA to create the Como Park Conservatory piece). Newspapers and magazines such as the *New York Times* and the *New Yorker* covered his works broadly, and often *Times Square* specifically, following its inauguration in the autumn of 1977. Neuhaus had even drawn the attention from the White House between 1980-1981. He was invited to visit by the Second Lady of the United States, Joan Mondale, who was an active arts patron (and widely celebrated for her broad support of contemporary art).⁷⁴⁸ In particular, Mondale was interested in the convergence of politics and art (she wrote a book on the subject) and in reusing public urban infrastructure, such as railroads, into art spaces.⁷⁴⁹ She was also positioned as an advisor and chairwoman of the Federal Council on the Arts and Humanities in 1977 upon the inauguration of her husband, Walter Mondale, as vice president in the Carter administration. The relationship between Neuhaus and Mondale was serendipitous: the inauguration of her husband converged with the completion of *Times Square*, which utilized public urban infrastructure as a space for art. Neuhaus gave Mondale a personal tour of *Times Square*. Furthermore, Mondale also served as a board member at the Walker Art Center, which in 1979 invited Neuhaus to participate in *New Music America*. It would have seemed an ideal turnaround for federal arts funding in the late 1970s, especially for Neuhaus, but the positive outlook was quickly dampened following the ousting of Carter and Ford in 1981.

The plan to defund the NEA by Ronald Reagan – one of his first actions as president in 1981 – was reportedly designed to totally abolish federal arts funding.⁷⁵⁰ Reagan’s cultural policy was one of the primary impetuses for Neuhaus’s move to Europe in the late 1970s, which had a stronger tradition for public arts funding. Indeed, Neuhaus depended on public funding to complete projects, which by the 1970s were large-scale, permanent, and increasingly expensive. During his time in the U.S., the NEA was one of the few consistent funding sources for Neuhaus,

⁷⁴⁶ Jennifer Steinhauer, “F.Y.I.,” *The New York Times* (December 19, 1993).

⁷⁴⁷ The sentiment is similar to a young woman who approached during a filming session at the site in 1980 for a documentary for the Soundings exhibition at the Neuberger Museum. The woman approached the artist to ask if it was he who created piece, admitting that she had no idea it was an artwork and that she thought of it as her own private sound. See John Sanborn and Kit Fitzgerald, dir., *re:Soundings: Investigations into the Nature of Modern Music*. Purchase, NY: Neuberger Museum, 1983. Video.

⁷⁴⁸ Mondale’s nickname was ‘Joan of Art’. See Anite Gates, “Joan Mondale, Who Merged Politics with Art, Dies at 83,” *New York Times* (February 3, 2014).

⁷⁴⁹ *Ibid.*

⁷⁵⁰ See William Honan, “Book Discloses that Regan Planned to Kill National Endowment for the Arts,” *New York Times* (May 15, 1988).

in addition to university music departments. Ultimately the NEA was not abolished.⁷⁵¹ However, the programs were severely defunded, particularly among experimental forms. Contemporary art projects that received federal money were generally more traditional than what Neuhaus submitted, and often focused on physical sculptures and other architectural projects.⁷⁵² Despite the emphasis on the rhetoric of sculpture, as discussed earlier in this chapter, Neuhaus still used an immaterial material more easily identified with music rather than visual art. By 1980, Neuhaus succeeded to garner support from art galleries and museums, typically the domain for visual art, but he still struggled to characterize his work as anything but music in the context of federal grants programs. Projects such as *Times Square* fell between sculpture, music, and urban design, yet the support of major works of environmental sculpture, especially public art projects, fared much better than experimental sound.

The funding of traditional music spaces, such as city orchestras and university programs, remained a financial focus in fiscal year 1974-1975 (the year of Neuhaus's *Times Square* grant). The reality for artists making electronic music or constructing spatial sound environments, such as Neuhaus, appreciated limited sponsorship. Where present the majority of listings (in music) that contain the word 'electronic' refer to pieces that utilize electronics within a symphonic or orchestral context, which is to say within traditional instrumentation or to augment traditional instruments, whether through magnetic tape or computer processing: "chamber work for reeds, voice, and electronic tape"; "chamber opera utilizing electronic tape"; "electronic instrument"; "electronic piano"; and "intermedia work... for singers, dancers, actors, lights and electronic sounds" are a few examples of the manner in which electronic music and/or sound was characterized.⁷⁵³ In contrast, Neuhaus's award of \$4,000 ambiguously refers to a "[composition] of a new work in the medium of electronic circuitry," rather than positioning electronics as an instrument for musical accompaniment.⁷⁵⁴ The funding of musical works remained consistent, but this was skewed toward works large symphonic orchestras, music conservatories, or university music departments, or otherwise could be framed as related to those conventional musical traditions. Nonetheless, there were some funds reserved for *new music*, especially the emerging field of *computer music*: "Funds have gone to projects as diverse as the copying and reproduction of two comic operas by John Philip Sousa, the composition of multi-media work for computer, music, dance and light, and the completion of 16 opera translations... within the budgetary limits of the category great care is apparent in the mix of classical and avant-garde."⁷⁵⁵ Nonetheless, the majority of funding went to large organizations, including symphonies in Boston and Detroit.⁷⁵⁶ In 1974, \$266,000 was specifically allocated to national orchestral initiatives. In contrast, grants for sculpture – and especially public sculpture – fell between \$10,000 to \$50,000 USD. The city of Flint, Michigan received \$50,000 for a "sculpture piece... incorporated with the current redevelopment of the city," Hudson Valley Community College received \$10,076 for a "large scale sculpture" on their campus, while the University of Nebraska

⁷⁵¹ One wonders today what will happen to the NEA/NEH under the Trump administration.

⁷⁵² See Donna Binkiewicz, *Federalizing the Muse: United States Arts Policy and the National Endowment for the Arts, 1964-1980* (Chapel Hill, NC: University of North Carolina Press, 2004).

⁷⁵³ "The Endowment and the Bicentennial – A Progress Report," 16. See "The Endowment and the Bicentennial – A Progress Report." John Marsh Files. Gerald R. Ford Presidential Library. Box 70 Folder "National Endowment for the Arts Program Report."

⁷⁵⁴ *Ibid.*, 87. (The following page numbers are estimate sas only the introductory pages are marked.)

⁷⁵⁵ *Ibid.*, 16.

⁷⁵⁶ "The Endowment and the Bicentennial – A Progress Report," 79.

received \$20,000 to “place sculpture along route I-80.”⁷⁵⁷

In 1973, the Judson School choreographer Trisha Brown received \$7,360 to realize *Roof Piece*, a durational environmental dance piece performed along several adjacent rooftops in downtown Manhattan, similar to Neuhaus’s 1967 sound installation *Fan Music*.⁷⁵⁸ Also that year the average visual artist stipend was \$7,500, and was received by a variety of sculptors, filmmakers, and painters: Richard Artschwager, Bruce Connor, Mary Corse, Mary Jay De Geo, Robert Irwin, and Howardena Pindell.⁷⁵⁹ In the ambiguous “Short-term Activities” section, installation artist Michael Asher and filmmaker Peter Campus received \$3,000. The category “Works of Art in Public Space” was allocated a large sum of \$307,440 in total, all of which went to cities and art institutions. However, \$1,142,603 was given to “Metropolitan Orchestras” around the country. In contrast, the “Composer-Librettist Fellowship” category totaled at just \$71,611, which was shared between twenty-two individuals. In this category, Neuhaus received \$4,000 for an unknown musical project – above the average in this section, but well below the large \$10,000 sums given to two other composers (Louis Calabro and George Rochberg).⁷⁶⁰

The NEA gave substantial funding to the category of Architecture and Environmental Arts in these years. Ironically, this category would have probably been most appropriate to characterizing *Times Square* as an artwork. However, the majority of recipients in this category were citizens, politicians and local community action organizations, which sought to devise studies of urban public districts, develop community spaces (such as walking paths) or otherwise address public concerns through municipal renovation. Though “environmental art” as a category of contemporary art practice was well under way, in both practice and in theory, the NEA category of “environmental arts” was aligned with urban planning and renewal initiatives.

The radical departures that Neuhaus had made in the 1960s were doubled-down in the 1970s and he quickly fell beyond the scope of such artistic categorization. What we see then is, perhaps more than in other disciplines, a problem of funding for sound-based art, generally speaking, but also sonic environments and sound installation very specifically in the U.S. In 1979, Neuhaus received \$19,000 from the NEA Visual Arts program (designated under the Art in Public Places subcategory). The large sum was among the largest of single funding sources received by the artist prior to his large scale commissions of the 1980s and 1990s.⁷⁶¹ However, the funds were not awarded to Neuhaus, but were instead managed by the Walker Art Center and the City of St. Paul, Minnesota.⁷⁶² As with *Times Square*, for which Neuhaus formed HEAR, Inc. (at the request of Geldzahler), Neuhaus received more funding when he had institutional support. The Como Park installation (or, according to the 1979 grant report, “a sound environment in the central rotunda of the Como Park Conservatory”) was submitted as a revitalization campaign for the city and its art institutions. This reasoning allowed for a higher (though still low within this category) allotment of funds for what was, essentially, a solo artist work. Moreover, as any artist working in public space knows, the budgeting of funds once received requires layers of communication and approval before transactions are fixed, making it difficult to manage operation, development, and installation costs – especially when the artist does not manage the funds directly, but through a representative agency, such as a museum or a city. For this reason,

⁷⁵⁷ “The Endowment and the Bicentennial – A Progress Report,” 79..

⁷⁵⁸ *Annual Report 1973* (Washington D.C.: National Endowment for the Arts, 1974): 45.

⁷⁵⁹ *Ibid.*, 100.

⁷⁶⁰ *Ibid.*

⁷⁶¹ *Annual Report 1979* (Washington D.C.: National Endowment for the Arts, 1980): 245.

⁷⁶² *Ibid.*

Neuhaus outsourced funding wherever he could, including the local student work programs funded by New York City (a non-federal program that paid his 1979-1980 assistants).⁷⁶³

Receiving grants also presented non-artistic logistical problems, especially for the massive public works taken on by Neuhaus. Unlike a choreographer or a sculpture, who can make a work in their studio, the labor of *sound installation* in public requires managing city agencies and other bureaucratic issues. These issues, including delays in getting access to the ventilation chamber that housed *Times Square*, put tension on the typical follow-up stages of granting programs. Neuhaus had particular trouble with the Rockefeller Foundation, which sent the artist repeated requested for update on completion between 1974 and 1977. The foundation appears to have given the artist a single grant in 1974 of \$4,525, which was not renewed but rather extended into subsequent fiscal years due to lags in the project timeline.⁷⁶⁴ In a letter to HEAR, Inc. from the foundation's financial officer, Howard Bravin, the artist was admonished for his lack of fiscal responsibility: "For accounting purposes, we ask that your organization record the receipt of our grant, together with any expenditures which relate to it, in such a manner... as to enable use to verify that the funds received have been expended for the program or budget for which the grant was made."⁷⁶⁵

Finally, let us consider public opinion. Following several notable uproars about public spending on contemporary art – most infamously, Carl Andre's brick floor sculptures and Richard Serra's steel plates – there was mounting distrust of public arts funding. According to conservative critics, artworks were criticized as representing a misuse of funds that could be used for other purposes.⁷⁶⁶ In addition, the scale of the work might be felt to obstruct movement in a public space, as with Serra's *Tilted Arc* (1981) (which was subsequently removed from its Lower Manhattan installation site).⁷⁶⁷ In 1976, Neuhaus was specifically targeted in the *New York Times* by a public critic of arts spending: "There are serious and reputable people wanting money from foundations. And then there are, the other people, whose bats are in hand and whose Minds seem to have wandered while the lid was off."⁷⁶⁸ The author immediately points out Neuhaus, who is mocked as a "Schubert of the subways." The author also specifically singles out *Times Square* as a perfect example of an immoral and absurd funding culture. They quote the Rockefeller Foundation Director of Information Service, Henry Romney, who said of Neuhaus's proposal:

The zaniest thing that ever came to the Rockefeller Foundation got funded... It was a proposal from a man [Max Neuhaus] whose idea it was to put sound-generating equipment under the subway grating in Times Square, so that people who cross Broadway would be greeted with various kinds of electronically

⁷⁶³ Oral interview with Max Pyziur (July 20, 2016).

⁷⁶⁴ See "Re: GA Arts 7540 to Hear (Hybrid Energies for Acoustic Resources) toward the costs of its creative work." Letter from Howard Bravin to Max Neuhaus. (January 7, 1976). Rockefeller Foundation Records. Projects, RG 1.3-RG 1.8 (A76-A82) (FA209) Subgroup 7: Projects (A81) Series 200: United States Subseries R: United States - Humanities and Arts. Box 926, Folder 6220.

⁷⁶⁵ Ibid.

⁷⁶⁶ To see how the controversy surrounding Carl Andre's sculptures was handled at the time, see: Richard Morphet, "Carl Andre's Bricks," *The Burlington Magazine* 118, no. 884 (Nov., 1976): 762-765+767.

⁷⁶⁷ See Harriet Senie, "Richard Serra's Tilted Arc: Art and Non-Art Issues," *Art Journal* 48, no. 4 (Winter 1989): 289-302; and Gregg Horowitz, "Public Art/Public Space: The Spectacle of the Tilted Arc Controversy," *The Journal of Aesthetics and Art Criticism* 54, no. 1 (Winter, 1996): 8-14.

⁷⁶⁸ Israel Shenker, "Foundations Get Real and Unreal Pleas for Aid." *The New York Times* (September 2, 1976): 45.

generated sound. Not music. I don't think his purpose is to assault us but to educate us.⁷⁶⁹

Indeed, the foundation awarded the artist \$4,525 (a fraction of the \$27,529 first requested by the artist).⁷⁷⁰ The author was astounded that the foundation provided any money to such a request at all, which was described as “improving the quality of life through esthetic approach... to reduce abrasive sensory stimuli or to enhance and make them more enjoyable” by the foundation. Even more shocking was that the Directory of the Mayor’s Office of Midtown Planning, Dick G. Lam, provided official municipal support on behalf of Neuhaus, writing to the Rockefeller Foundation: “I [work] closely with Max Newhouse [sic] [and] believe this concept represents an important step forward [for] imaginative innovations.”⁷⁷¹ The article was something of a hit-piece – and on a large stage of the *New York Times*, which had historically praised the novel works of Neuhaus from his earliest days as a percussionist in the 1960s. Undoubtedly, the article would have struck a nerve with the artist, as he was just then beginning to secure serious funding for his projects. *Times Square* was not even complete, yet the work was already being trashed in public. Why would future granting programs want to fund an artist who once drew so much ire from the public?

In fact, the author took his piece a step beyond appropriate, citing a failed application by Neuhaus to the W. K. Kellogg Foundation, and ridiculing the well-intentioned (if misguided) rhetoric of the artist’s application:

It is hard to imagine the W. K. Kellogg Foundation—in Battle Creek, Mich., far from the sensitivities of the East—giving Mr. Neuhaus so much as a box top. It took no time at all for Kellogg to reject [Neuhaus], who called attention to the terrible conditions of migrant workers and wanted money to pipe inspirational music to them.⁷⁷²

The article symbolized the antagonism of American arts funding – particularly for sound works that functioned beyond typical boundaries of musical composition or performance. Indeed, ever since his 1967 detainment by Buffalo police during the installation of Drive-In Music, Neuhaus had fought “the institutional beast.” The antagonism was not new to Neuhaus, and two years prior he had written in *Program Notes* (1974):

The prevalent concepts of institutional support for the arts have resulted in the equivalent of an active day at the Central Cage in Tangier – it’s obvious who is put in the position of selling.... Eight years of gorilla warfare with the bureaucracy is enough. I want some heavy artillery. I want a regular army.⁷⁷³

The description of his encounters with art institutions and funding programs as “guerilla warfare” in 1974 is exaggerated for dramatic effect. In fact, prior to 1973, when he received his first NEA grant, the artist had little experience with institutions other than universities (primarily

⁷⁶⁹ Shenker, "Foundations Get Real and Unreal Pleas for Aid," 45.

⁷⁷⁰ Ibid.

⁷⁷¹ Ibid.

⁷⁷² Ibid.

⁷⁷³ Neuhaus, *Program Notes*, 8.

as a new music composer). The sentiment was verified by the 1976 article, which embodies the navigation (and survival) of art finance as a career-making or career-ending gamble. It is no surprise then that Neuhaus, at the end of the decade, left the U.S. to secure more stable funding from European sources.

Toward the unfixed site

Against a conception of site-specificity that understands space as an unchanging, static, and fixed set of coordinates, the works of Neuhaus point toward a notion of site that enters heterogeneous space. As Miwon Kwon argues, “the guarantee of a specific relationship between an art work and its site is not based on a physical permanence of that relationship... but rather on the recognition of its *unfixed* impermanence.”⁷⁷⁴ Disavowing the formal and social conventions of the concert hall, Neuhaus cultivated a non-musical and sound-based aesthetic practice, one concerned with nondescript yet immersive sound environments in public space. However, his works in media pose an interesting paradigm: the sound environment is no longer bound to a distinct set of coordinates – as the rhetoric of site-specificity often claims – but is instead multiplied upon itself endlessly and transmitted over vast media networks, wherein the site of display exists in an endless number of locations simultaneously. The rise of site-specific art was contingent upon a radicalized notion of subjective space and it has been my intention to suggest that this was partly enacted through an engagement with sound. From this, we might better understand the role of sound in art history, particularly as it is freed from the rhetoric of a *fixed* understanding of materiality (and thus *fixed site-specificity*).

In the next chapter, I will consider the relation of music, material, and site to concurrent practices by Neuhaus in media art, particularly his work in radio networks. From this, I develop a frame work to understand his work using Kwon’s theory of *unfixed* site-specificity.

⁷⁷⁴ Miwon Kwon, *One Place After Another: Site-Specific Art and Locational Identity* (Cambridge: The MIT Press, 2004): 24. See also Asa Stjerna, “Aspects on Duration: The Vulnerability of Permanence in Site-Specific Sound Art in Public Space,” *Leonardo Music Journal* 23, Issue 1 (December 2013).

CHAPTER FOUR: COMMUNITY

Space, Body, Place: Networks & Ecologies, 1966-1977

Large piles of electronic equipment do not necessarily have anything to do with music.⁷⁷⁵ [Max Neuhaus]

The sensations of avantgarde radiophonic art [are] counter-articulations of a life-force behind the death masks of electronic reproduction... conjuring up the body electric.⁷⁷⁶ [Joe Milutis]

The electronic oasis transcends conventional time/place realities... a life art process.⁷⁷⁷ [Ant Farm]

I don't feel in a position of teaching unless I'm with [the student]. This may mean that our notion of what it is to be with people has to chance. [Maybe] we can be with people but at the same time at a distance.⁷⁷⁸ [John Cage]

Who is listening?

Max Neuhaus did not create sound simply for the act of sounding. In other words, the construction of sound was not seen by Neuhaus within a modernist plastic arts context of *art for art's sake*, nor was it bound to its distant musical relative in the concept of *art music*. Neuhaus did not create sound for space: he created sound for people. Indeed, one of the more frustrating aspects of his career seemed to have been a general lack of engagement with the idea of *listening to sound*, as opposed to a focus on the artist's *construction of sound*.⁷⁷⁹ The majority of Neuhaus's works, especially those after 1973, do not convey how their sounds are produced. Instead, they imply a sound, or a sonic experience, and allow the listener to deduce whatever forms, concepts, and feelings become apparent. These works are, typically, bound to a physical site. However, the artist explored concurrently other modes of sound as a social medium, one not bound to a specific site, or one that is site-specific, but rather multiplied and distributed through multimedia information networks and media channels such as printed matter, radio, and the internet. These works are not only about constructing a sense of site, or inscribing physical space through sound, but also community, social interaction, and a new sonic public.

⁷⁷⁵ Max Neuhaus, *Program Notes* (Toronto: York University, 1974): 7.

⁷⁷⁶ Emphasis mine. See Joe Militus, "Radiophonic Ontologies of the Avant-Garde." *TDR* 40, no. 3, *Experimental Sound & Radio* (Autumn, 1996): 64.

⁷⁷⁷ Kynaston McShine, *Information* (New York: The Museum of Modern Art, 1970): 170.

⁷⁷⁸ Cage, John and Morton Feldman. "Radio Happening I." New York: WBAI-FM, July 9, 1966. <https://archive.org/details/CageFeldmanConversation1>

⁷⁷⁹ He pursued unmarked "discoverable" works after the spectacle of *Water Whistle*.

Neuhaus emphatically claimed in his acerbic artist manifesto *Program Notes* (1974) that he was “not interested in making music exclusively for musicians or musically initiated audiences.” The discipline of music is here characterized broadly. Music as an art form is clearly bound to certain artistic forms, namely the materials and concepts of sound, but also is grounded within specific social contexts and cultural values. Neuhaus countered the idea that people must know this information about *musical sound*, both formal and cultural, instead choosing to simply state: “I am interested in making music for people.” The nature of this music, and of the people who it is made for, is left unspecified. This passage illustrates how the works of Neuhaus may be interpreted beyond their formal and technological innovations, especially when limited to the domain of sonic art, to include the ambiguities of social life rather than stay framed within an explicitly artistic or technological framework. Neuhaus lamented in *Program Notes* his unwanted reputation as a “technologist” due to his use of electronics, a designation that overplayed his use of circuits as a primary artistic goal rather than a means for controlling sound and producing sonic environments. Instead, the sound installations and media systems discussed in this chapter will highlight to their unique and symbiotic relationships to listeners, who perceive and interpret sounds collectively and individually.

Neuhaus repeatedly claimed that the ‘art’ in his artworks could not be found within the sounds alone, but rather in their perception, and interpretation, by a listener. Often this rhetoric includes the too oft repeated idea of “placing sound in space rather than time,” which has the potential of masking the fact that real people actually listened to these works, in addition to them simply existing in space. Neuhaus created artworks to provide something to listen to, not to construct a unique acoustical form (which could otherwise be written on a musical score or generated at an electronic music studio). For this reason most of his artworks, beginning in 1966, interacted with not only *public spaces*, such as the Brooklyn Bridge or Times Square, but with *public bodies*. These bodies – listening bodies – maneuvered the diverse public spaces that were constructed by his sounds, including their unique psychoacoustic and personal reactions to the sound environment. Furthermore, this sonic maneuvering occurred within not only the material world, but also the virtual, as evidenced by his repeated utilization of media formats such as the vinyl record, radio broadcasting and increasingly complex electronic circuit processing systems between 1966 and 1978. Accordingly, this chapter will be concerned less with the question of *what* people heard, *who* listened and *where* that process took place.

The term ‘listening’ implies a listener – a listening body. Broadly defined, a listener is a person who hears sound. This person could have functioning ears (e.g., a cochlea) or some other mode of audio transcription, transposition, or interpretation.⁷⁸⁰ Usually, listeners have human bodies. Generally speaking, those who encounter the sound works of Neuhaus are often human.⁷⁸¹ However, the concept of *machine listening* is also a central component in the history of sound encoding, reproduction, and transmission (e.g., telephone and radio). Many of the works talked about in this chapter utilize such technologies, and in some cases, especially the broadcast works, customized listening-machines were built by Neuhaus. In particular, this chapter examines the concept of “networks,” as delineated by the artist’s use of the term across media forms and systems. In this sense, this chapter looks toward the various scalings of a *networked aesthetics* that maneuvers between printed matter, postal mail, telephone networks, radio broadcasting, and satellite relaying. In this sense, the network, for Neuhaus, was conceived

⁷⁸⁰ The concept of deaf listening comes to mind in this sense. For more on this concept, see the works of artist Christine Sun Kim.

⁷⁸¹ For example, non-human animals also listen to Neuhaus’s public sound.

as a media environment in which people, physically removed, could exist together across space and time.

Accordingly, this chapter asks what it means to listen to, and within, media.

Towards a materialist networked aesthetics

Scholars have pointed out the relation of Neuhaus to artists like Robert Smithson, Nancy Holt, and Gordon Matta-Clark, among other so-called progenitors of earthworks, conceptual art, and other site-specific practices. According to Alex Potts, “[Neuhaus understood] his work as constituted through the audience’s immediate perceptual engagement with it... like many phenomenologically oriented visual artists [his works constitute] an intervention in space.”⁷⁸² Such works are encountered in haptic space, as theorized by Potts, and as an interruption or blockage of spatial expectation. However, site-specific art – and *earthworks* in particular – is not relegated to a hard, unmoving material world, despite the surface implications of dominant models of site-specificity. Not only is the notion of entropy a predominating theme for Smithson, but, as Miwon Kwon and Andrew V. Uroskie have shown, these works existed within – and were dependent upon – social networks and mediated acts. For Kwon discusses how the “‘site’ of art evolves away from its coincidence with the literal space of art, and the physical condition of a specific location recedes as the primary element in the conception of a site” in many site-specific works of the 1970s.⁷⁸³ Additionally, Uroskie has shown how Smithson’s iconic *Spiral Jetty* (1970) is often experienced via photography and film rather than via physical encounters.⁷⁸⁴ The same can be said for Holt’s *Sun Tunnels* (1967). These documents are not merely documents of time passed, captured and thus robbed of its essence, existing as archival objects. Instead, they constitute integral parts of the works themselves. To this end, it is no surprise that many of these artists frequently experimented with printed matter, film, and audio tape.⁷⁸⁵ In a phrase, our preoccupation with space has rendered more immaterial concerns – such as engagements with light and sound – more or less non-existent. Thus it is a ‘red herring’ – to borrow a phrase – to assume that Neuhaus’ installations are determined by architectural space alone. In fact, among his earliest engagements with non-musical sound include experimentations with home-electronics and radio broadcasting. This period – roughly, the mid-1960s to the early 1970s – also reveals his continued engagement with printed matter (e.g., vinyl records and magazines). Paradoxically, the majority of Neuhaus’ earliest experiments with sonic spatialization were also circumscribed by the dispersal of sound through media networks. In this sense, we see a natural duality of two apparent conceptions of *site-specificity* – fixed and unfixed – that while apparently competing are co-extensive.

Media forms such as printed matter, electronic circuits, telephones, radio broadcasts are socially oriented in addition to being technologically distributed. These forms – or in some cases formats, like the vinyl record – are not sustained in sterile or disconnected environments (e.g., an individual network or system). Media thrive on their distribution and adaptation, and cultivate, I

⁷⁸² Alex Potts, “Moment and Place: Art in the Arena of the Everyday,” in *Max Neuhaus: Times Square / Time Piece: Beacon* (Beacon, NY: Dia Art Foundation, 2009): 45.

⁷⁸³ Kwon, 91.

⁷⁸⁴ See Andrew V. Uroskie, “La Jetée en Spirale: Robert Smithson’s Stratigraphic Cinema,” *Grey Room*, no. 19 (Spring 2005): 54-79.

⁷⁸⁵ For example, Robert Smithson’s *Monuments of Passaic* (1967) and Dan Graham’s *Schema* (1967).

argue in this chapter, a sense community that facilitates movement through technological and social environments. In this chapter, I discuss Neuhaus's use of media forms as artistic vehicles, if not a medium outright, to supplement his materialist spatial installation practice. The use of the vinyl record, printed matter, and media networks counteracted the site-specific sculptures and environments that he developed, 1967-1977 (generally, from *Fan Music* to *Times Square*). This excitation of media challenged the locational determinacy, or fixed architecture, of *installation* as an artistic process and genre. In contrast to the fixed concept of site-specificity developed within the context of earthworks, land art, and other environmental practices of the late 1960s and 1970s, Neuhaus's use of mediated structures demands a renewed concept of site, and of place, that exists within the continuum between a *fixed* and *unfixed site*.

I define a *fixed site* in relation to artwork whose site-specificity is determined by spatial and physical connections to a stable, or *fixed*, material space. This model is, generally speaking, is the basis for the broad use of the term *site-specificity* as defined in art historical and musical discourse. In this model, an artwork is destroyed if removed from these very particular physical conditions, or coordinates, from which it derives form and meaning. This *fixed site-specificity* requires that an artwork be situated, or installed, in a clearly defined contiguous material space, even if that space undergoes slight entropic shifts (e.g., Robert Smithson's Spiral Jetty is fixed to its geographic location, despite its propensity for material reconfiguration). In contrast, I propose an alternative model of *unfixed site-specificity*, based on Kwon's model, that does not depend on fixed spatial or physical connections of sound to contiguous material space. Rather, *unfixed site-specificity* in the case of Neuhaus is defined by the relation of sound to both virtual and non-contiguous material, and energetic, spaces that comprise the distribution of information in media networks and infrastructures. Such works do not derive form and meaning from a stable spatial referent, but rather are defined by the negation of material stability. Spectators of such works do not need to congregate or convene at, or commute to, a specific geographic location, but interact with the piece within the conditions of their mediation. For example, consider Neuhaus's live radio call-in broadcast, *Public Supply* (1966), where one-hundred strangers collectively produced the forms and meanings of their experience. Such a work fragments and distributes spectatorship across geographical, cultural, and aesthetic planes, and is defined by the conditions of a network. *Public Supply* – as other of Neuhaus's media projects – existed in multiple spaces, or locations, simultaneously, such that no one specific site was privileged over another; each contributed to a vibrant nodal network maneuvered by the participants.

Media forms are fundamentally networked entities, and to experience a meme constitutes, and necessitates, a theory of *networked aesthetics*. I define the concept of *networked aesthetics* as a field of artistic and cultural production where information is articulated, distributed, and manipulated, through discrete and shared forms that are intentionally, consciously, and systematically composed, distributed, and experienced in dynamic media networks.⁷⁸⁶ A media

⁷⁸⁶ The term 'networked aesthetics' is also used by Sianne Ngai in reference to Bruno Latour and the concept of the *social*. See Sianne Ngai, "Network Aesthetics: Juliana Spahr's *The Transformation* and Bruno Latour's *Reassembling the Social*," in *American Literature's Aesthetic Dimension*, eds., C. Weinstein and C. Looby C (New York: Columbia University Press, 2012): 367-393; Anna Munster in her study on 'anesthetic' networks. See Anna Munster, *Aesthesia of Networks* (Cambridge, MA: The MIT Press, 2013); and Patrick Jagoda in reference the militarization of networks and their aesthetic representation. See Patrick Jagoda, "Terror Networks and the Aesthetics of Interconnection," *Social Text* 28, no. 4 (2010): 65–90. For the use of computer networks in recent media art, see: Roy Ascott, "Is There Love in the Telematic Embrace?" *Art Journal* 49(3) (Autumn 1990): 241- 247. See also Zabet Patterson, *Peripheral Vision: Bell Labs, the S-C 4020, and the Origins of Computer Art* (Cambridge: The MIT Press, 2015).

network, broadly conceived, should be known to encompass any physical and virtual environment in which information is transmitted, received, exchanged, or otherwise interpreted. Neuhaus utilized both physical and virtual networks to question the distinctions of each, collapsing physical and virtual space through delayed or live interaction of strangers, such as in the live radio works *Public Supply* (1966-74) and *Radio Net* (1977). In these works, Neuhaus redefined the concepts of site and place. Therefore, these works seen in relation to concurrent works in spatial sound installation pose an alternative model of site-specificity and place construction.

The concept of a *networked aesthetics* – symbolized by digital visual culture and its emergence in postwar computer art and cybernetics – is informed by a broad history of collaborative artistic production that depends on the interaction of artists and spectators, or spectators-turned-artists, in dynamic and coextensive media environments. There is substantial research to be done on the lineage of postwar avant-garde art and democratic media experiments. In this final chapter, I will focus on the contributions of Neuhaus to this history of networked aesthetics. First, I show how some Fluxus artists of the 1960s established artistic practices based on collaboration within public media networks, including *artist multiples*, *mail art* and *postal art*. I also discuss the avant-garde magazines, *Source: Music of the Avant Garde* and *Aspen*, and their exploitation of self-aware media formats. Neuhaus contributed works to both magazines. These works will illustrate how we interpret media and also how we understand ourselves as mediated subjects. I then discuss the company, Mass Art, Inc., and their production of printed matter for Neuhaus, including the mass-produced circuit-instrument, *Max Feed* (1966-68), and a vinyl LP containing four recordings of Neuhaus's *Fontana Mix-Feed* (1964-66). Finally, I discuss several live radio broadcast works, comprising Neuhaus's "networks" vector, including *Public Supply* (1966-1974) and *Radio Net* (1977). In particular, I situated these pieces against the artist's spatial sound installation practice and within the context of public radio stations, such as WBAI-FM and National Public Radio (NPR), as spaces for community building.

Mediating the post-musical – listening to artist multiples

Neuhaus's sonic multiples

In 1966, Neuhaus produced *Max-Feed* (1966-68), a portable noise-box that transformed the listener's home stereo into an uncontrollable feedback machine. *Max Feed* was manufactured by Mass Art, Inc., a commercial company dedicated to artist multiples.⁷⁸⁷ *Max-Feed* used a low-power FM radio transmitter to send the feedback to the receiver. The feedback was generated by a small internal microphone and speaker circuit system: the microphone was faced toward the speaker to produce constant feedback. The work was effectively a unique iteration of Neuhaus's infamous *Fontana Mix-Feed* performance. Like the concert performance, the portable machine exploited electronic components to create unwieldy and piercing feedback. As Branden Joseph notes, *Max-Feed* stood as a "domestic counterpart" to the artist's concurrent experiments with audio transmission. Works such as *Public Supply* (1966) (and also *Drive-In Music*) provided a virtual counterpart to Neuhaus's emergent spatial practice. However, the sounds of local *Public Supply* broadcasts and international *Radio Net* broadcasts were relayed across vast public space,

⁷⁸⁷ Neuhaus claimed that the device was his first non-musical work, but the claim is specious given its clear connection to *Fontana Mix-Feed*.

whereas *Max Feed* was contained by the home.⁷⁸⁸ *Max Feed* highlights a particular aspect of the artist's nascent installation practice based on small and personal encounters with discrete media objects, rather than broad media environments. We might understand this aspect as a sort of artist multiple practice, which comprised custom circuit devices, vinyl records, and other matter. For example, *Byproduct* was conceived as such: the work's subtitle, *Gift No Value*, relates to artists' attempts to frame the multiple as an anti-commodity. Indeed, *Max Feed* was an attempt to debase Neuhaus's ownership of Fontana Mix-Feed.

Instead of paying to listen to Neuhaus perform the piece, or to rely on his supposed expertise, the listener was invited to use the device to "make your own music," rather than listen to Neuhaus.⁷⁸⁹ Likewise, the use of the vinyl record, to many performers a threat to their artistic and economic values, was exploited by Neuhaus to distribute the recording so that he did not need to perform it live. Neuhaus ended his percussion practice in large part by self-mediation. Prior to capping off his career with the *Electronics & Percussion* LP in 1968, Neuhaus began the process by releasing recordings on two other albums. In 1966, Neuhaus released a LP of four recordings of *Fontana Mix-Feed*, published by Mass Art with the *Max Feed* device. In 1967, Neuhaus released a 7" single for *Fontana Mix-Feed* and *The King of Denmark* as part of *Aspen Magazine 5+6*. In what context were these objects understood as sonic artist multiples? Did the records, in relation to *Max Feed*, signal the artist's desire for a mediated practice? How did they construct or contribute to an emergent *networked aesthetics*?

Mass Art, Inc.

Neuhaus's first commercial music release was commissioned by MassArt, Inc. (MassArt) in 1966. The company was cofounded by Philip Orenstein and Sujana Souri. The two met as students at Rutgers, where Orenstein became familiar with modern art, and particularly the Happenings of his teacher Allan Kaprow.⁷⁹⁰ Their primary interest was in eccentric plastic commodities, or *inflatables*, which were designed by artists and built by industrial manufacturers. Neuhaus used the production tools that MassArt acquired for two projects: a vinyl record, *Fontana Mix-Feed* (1966), and an electronic circuit musical instrument, *Max Feed* (1966). MassArt commissioned works from artists in various stylistic and social circles, including Fluxus and Pop. The company became famous for their plastic inflatable pillows, clothing, jewelry, and furniture, such as couches and chairs. The company produced the very kind of kitschy 'plastic culture' merchandise now typified by the commercial mainstreaming of 1960s counter-culture. The company's kitschy wares were sold on consignment to local shops and boutiques downtown, primarily in the Lower East Side, and also internationally.⁷⁹¹ MassArt was profiled several times by the *New York Times*, which in 1967 described the company as "another firm of artist engaged in multiproduction," adding that the business was "doing wizardly."⁷⁹²

⁷⁸⁸ Joseph, "An Implication of an Implication," 70.

⁷⁸⁹ Neuhaus used this phrase in an advertisement for the WBAI Free Music Store realization of Public Supply, which coincided with the Max Feed device. See Chapter 2.

⁷⁹⁰ Oral interview with Phil Orenstein (July 19, 2013).

⁷⁹¹ Interview with Phil Orenstein (July 19, 2013).

⁷⁹² Grace Glueck, "If It's Art You Want, Try Your Supermarket," *The New York Times* (August 6, 1967): Section 2, D19.

Indeed, the author, Grace Glueck, marvels at the likely unexpected success of an artist-run company: “Launched last July on a \$500 shoestring by sculptor [Orenstein and Souri], a Rutgers classmate, it now employs 60 people and will soon move from its Canal Street headquarters into 80,000 square feet of New Jersey factor space.”⁷⁹³ In the same article, Orenstein said of the company: “We decided to make something useful that would sell on a mass basis,” referring to the opposite effect of his previous work in inflatable sculpture, which he showed at galleries like Graham and Bianchini.⁷⁹⁴ Turning his abstract sculptures into saleable pillows with a pneumatic air pump, Orenstein exploited the commercialization of 1960s counter-culture with mass-produced artistic objects. The artist Bob Watts, who founded a similar company called Implosions, Inc. at the time, reflected on the inability of the gallery market for contemporary art: “The whole gallery scene is no longer viable in relation to our culture and how it’s changing... The museums and galleries are losing contact with the public. They’re becoming reactionary, allowing fewer possibilities for experiment. In our work we try to look at the world and see what people are doing, how they’re involved.”⁷⁹⁵ The interest in artist multiples then was not only the refusal of the emergent white-cube gallery market, but a direct attempt to engage with and support members of the non-artistically-initiated public.

Orenstein described the appeal of directing one’s practice toward the public sphere, even if explicitly commercial in nature, and going so far as to liken mediated factions of Pop Art, such as MassArt and some aspects of Fluxus, as a type of distributed environmental art:

Now the artists themselves have become enamored of the world [the popular image] represents. I see the whole mass-production scene as a medium, a form of environmental art, if you like. Like any medium, it has lots of limitations and a lot of techniques. But you have no idea how exciting it is to get a product out of your studio and into, say, a supermarket.⁷⁹⁶

Neuhaus articulated similar opinions on public access to contemporary art in 1974, when he emphatically stated: “I am not interested in making music exclusively for musicians or musically initiated audiences. I am interested in making music for people.”⁷⁹⁷ In addition to their commercial plastic objects – which included furniture, earrings, posters and others types of inflatable paraphernalia – the company also released musical and sound vinyl records. After all, the vinyl record industry has its backbone in plastics – the company’s primary creative medium. Three albums were released as the inaugural (and only) batch of records between late 1966 and early 1967: Terry Riley’s *Reed Streams* (M-131); Allan Kaprow’s *How to Make a Happening* (M-132); and Max Neuhaus’s *Fontana Mix-Feed* (M-133). The releases speak to three paradigms in postwar environmental art: musical Minimalism, instructive Happenings, and spatial materialist sound (i.e., nascent sound installation practices). I will briefly discuss each according the order of catalogue number.

⁷⁹³ Glueck, “If It’s Art You Want, Try Your Supermarket,” D19.

⁷⁹⁴ Ibid.

⁷⁹⁵ Bob Watts quoted in Grace Glueck, “If It’s Art You Want, Try Your Supermarket,” *The New York Times* (August 6, 1967): Section 2, D19.

⁷⁹⁶ Ibid.

⁷⁹⁷ Neuhaus, *Program Notes*, 5

Riley's *Reed Streams* was the first and most conventionally musical album of the batch. The record contained two tracks, "Untitled Organ" and "Dorian Reeds," which featured the artist's soon-to-be famous minimalist musings. Focusing on two instruments, the organ and saxophone, the two works display directionless repetitions of simple musical forms dislocated in delay, washed in reverb, and heavily improvised. The album is regarded among the earliest of the new musical Minimalist paradigm of the mid-1960s (particularly the pulse-oriented style epitomized by Riley and contemporaries like Steve Reich and Philip Glass). Riley said of the *Mass Art*: "By that time, I was really starting to be my own. My main drawback was that I didn't have any money and any equipment. I couldn't buy a keyboard; I couldn't buy a tape recorder," referring to the necessity of an outside figure, or company, for funding. Perhaps more than in visual art, the funding opportunities were incredibly scarce for composers or performers of new music, especially avant-garde music. Riley continued:

So somebody gave me an old harmonium that had a vacuum-cleaner engine in it, to drive it, to drive the air -- it didn't have bellows, right? I made my first album [Reed Streams] on that harmonium... [Reed Streams] was on *Mass Art* -- a little downtown company. But it was a visible company, because they were doing Andy Warhol stuff and pop art stuff and mostly plastic products like shopping bags that Andy Warhol had designed.⁷⁹⁸

The album was also Riley's first commercial release. Furthermore, like Neuhaus, Riley released an album, *In C*, on Columbia Masterworks in 1968. The record was part of David Behrman's Music of Our Time series like *Electronics & Percussion*.⁷⁹⁹ The comparison of Riley and Neuhaus is interesting, considering the disparity artistically between the figures: both sought to abandon conventional musical forms, but whereas Neuhaus went to non-musical spatial sound, and noise, Riley went to explicitly reductive musical forms to focus on basic structures of consonant (rather than dissonant) melody, harmony, and rhythm.

Minimalist music emerged in the 'Downtown' art and music scene surrounding post-Cagean art in Fluxus and elsewhere, including performance art and especially dance.⁸⁰⁰ Like others in the emerging movement, such as Reich and La Monte Young, Riley came to New York from San Francisco, where he had provided improvised acoustic and electronic music for Anna Halprin's dance studio. That both Neuhaus and Riley would occupy the same artistic space in 1966 (*Mass Art*) and 1968 (*Music of Our Time*) speaks to the interrelation of all sonic activity at the time, regardless of any particular artistic focus. Indeed, Neuhaus too provided live sound for dancers at Judson Church between 1963-1966. The interrelation also highlights the institutional ambiguity associated with new and avant-garde music in the 1960s, particularly how Neuhaus, a non-musical artist, failed to receive the same successes as his apparent contemporaries. *In C* became among the most popular Music of Our Time albums and was printed four more times

⁷⁹⁸ Riley quoted in Mark Alburger, "Terry Riley after "In C" to "A Rainbow in Curved Air," *21st Century Music* 11, no. 2 (February 2004): 4.

⁷⁹⁹ Columbia released Reich's *Live/Electronic Music* the same year, once again produced by Behrman, though not part of the Music of Our Time series. See Steve Reich, *Live/Electronic Music*. Columbia Masterworks MS 7265, 1968. LP.

⁸⁰⁰ See Kyle Gann, "Introduction: The Importance of Being Downtown," in *Music Downtown: Writings from the Village Voice* (Berkeley: University of California Press, 2006): 1-15; and Bob Gluck, "Nurturing Young Composers: Morton Subotnick's Late-1960s Studio in New York City," *Computer Music Journal* 36, no. 1 (Spring 2012): 65-80.

prior to 1990. The work is also a universally known work among postwar art historians, especially among those studying Minimalism and new dance (e.g., Judson School).

Kaprow's record was largely educational or instructional – perhaps, in some sense, poetic. The *How to Make a Happening* LP was an accompaniment to the pioneering book *Assemblage, Environments & Happenings*, which was also published in 1966. The LP includes a description of Happenings from a general artistic perspective and then provides a series of possible Happenings that the listener could organize themselves. There were two versions of *How to Make a Happening*. The first, produced by Mass Art as part of its three-part record batch, was rejected by the artist shortly after release. According to Orenstein, this version includes the clicking (*cachunking*) sounds of Kaprow periodically starting and stopping the tape recorder whilst he dictated the script. Upon finishing his recording, Kaprow sent the tape to Mass Art, which directly pressed the audio onto vinyl without editing out sounds of the tape recorder. The artist felt that these sounds, indeterminate index marks of the recording process, interrupted the listener's experience, who must have envisioned that they would listen to the record as carefully as the read his book. The sounds of the tape machine revealed too much of the recording process, one of mediation, which took away from Kaprow's ideas. Kaprow released a second version of the record with the help of Something Else Press – the recording artifacts were removed to provide a seamless audio experience. Knowles screenprinted the covers for this second version (it is not clear if she had also printed the original Mass Art edition).⁸⁰¹

Mass Art produced the first commercial release by Neuhaus as a solo artist (i.e., without appearing as the B-side to Christoph Caskel).⁸⁰² The album, *Fontana Mix-Feed*, featured four live realizations of the percussionist's take on Cage's composition: Chicago April 13, 1965; New York June 4, 1965; Madrid Nov. 27, 1965; and New York Dec. 1, 1966. The album emphasized the fact that each version was structurally unique – rather than four performances of a specific work, these realizations were distinct from each other. Each was its own artwork. *Fontana Mix-Feed* was released not only with the records by Kaprow and Riley, but also with an electronic device and musical instrument designed and built by Neuhaus.⁸⁰³ The accompanying device – a custom circuit instrument, *Max Feed*, sold separately – allowed the listener to realize the composition on their own (albeit with different parameters and at quieter levels). Mass Art produced about 300 copies of *Fontana Mix-Feed* LP, a rather small production run for a vinyl album.⁸⁰⁴ The record came sealed in a plastic casing, requiring the purchaser (or gifted recipient) to partially destroy the object. Unlike commercial albums that come with easily tearing shrink-wrap or an open plastic sleeve, *Fontana Mix-Feed* was protected with thick industrial grade plastic – the only record of the three released by the company to be hermetically sealed. Ironically, the industrial plastic over time degraded the vinyl record. One owner of the record – an expensive rarity that is virtually nonexistent today – provided photographs of the vinyl damage, including the fusion of the plastic cover with the negative grooves of the album.

⁸⁰¹ Alison Knowles in an email to the author (June 26, 2013).

⁸⁰² Neuhaus appeared on previous ensemble releases, such as: Salvatore Martirano, *O, O, O, O, That Shakespeareian Rag*. Composers Recordings, Inc. CRI 164, 1963. LP. Martirano's piece is composed in a serialist style and this composition was among the last ensemble works performed by Neuhaus. See Appendix.

⁸⁰³ Neuhaus is said to have often utilized outsourced labor for electronic circuitry design and production. Neuhaus likely referenced popular circuit construction tutorials and handbooks, and likely received some technical help from friends, such as David Behrman. This information is provided by Phill Niblock (December 17, 2013) and Liz Phillips (July 17, 2013) in oral interviews.

⁸⁰⁴ Oral interview with Phil Orenstein (July 29, 2013).

Neuhaus not only sealed his record in plastic, but also unintentionally filled in the grooves, making the recorded sounds on the album literally unlistenable over time. According to Philip Corner, the use of plastic was an ironically “elegant” decision that “completely disintegrated” the album over time.⁸⁰⁵ The production design of *Fontana Mix-Feed* reflected a pop sensibility. In general, the use of plastic manufacturing highlighted the commodity status of vinyl records in a commercial market and as a product akin to other household domestic products. The use of plastic also places the work in the context of other avant-garde kitsch plastic art like Fluxus multiples, and also in sculpture as in Orenstein’s own abstract inflatables. The vinyl record itself was also cast as not only a storage format, but an artistic medium – an avant-garde subversion of a commercial material. Furthermore, the Pop mentality is found in the production quirks of the album packaging and visual design. First, the vinyl record was air-sealed shut with a pneumatic press, as if a piece of shrink-wrapped food or a hazardous material. In order to listen to the record, the listener (a consumer) had to first cut open and destroy the art object – a piece of tactile media. The capitalist consumption of music emphasizes selection and purchase of music commodities as more meaningful than actually listening to the recorded music: by the time the consumer leaves the record store, or the artist loft, their consumptive experience of music as a commodity has already diminished. By sealing the record in thick plastic that required scissors or a razor for removal, Neuhaus effectively placed a stopgap in this process: the listener had to make a choice whether they wanted to release the record or not, thereby releasing, as it were, the recorded music into their domestic space. Notably, *Fontana Mix-Feed* was the only vinyl record of the three Mass Art LPs to be pneumatically sealed, placing it in-between the company’s production of records, on the one hand, and plastic inflatable furniture (and jewelry), on the other. Second, the printing of four block color screen-print images of Neuhaus performing the work at Carnegie Recital Hall is a nod to screen-printing as a Pop medium in the works of both Warhol and Rauschenberg, as well as the screen-print paintings of Alison Knowles. (Knowles also screen-printed the cover of the Kaprow’s *How to Make a Happening*). Furthermore, the colors used on *Fontana Mix Feed* were ironically patriotic: the noisy performance cast in cheeky red, white, and blue nods to an American-focused perspective of ‘new music’ – and particularly electronic music – throughout the 1960s.⁸⁰⁶

In addition to the MassArt LP, Neuhaus also produced the custom circuit-instrument *Max Feed*. The instrument produced microphone feedback through a small circuit encased in hard plastic. The user controlled sound variables with two adjustable knobs (e.g., amplitude) and was given limited instructions pasted onto the front and back of the plastic. The circuit functioned like a *no-input* feedback system: sound is generated solely by connecting the output and input into each other to establish a continuous feedback loop (not by utilizing an oscillator tone or other sound generator circuit). Neuhaus achieved this not with a hardwired connection but with a small speaker that faced an equally small microphone inside of the device. When the device was turned on, it amplified its own output (which was picked up by the microphone and fed back into the device’s input, *ad infinitum*). *Max Feed* was a pocket-sized *Fontana Mix-Feed*. Instead of listening to Neuhaus realize the work, the listener produced a similar acoustic environment on their own.

However, the feedback was not loud enough on its own: the audio feedback was transmitted via low-power FM radio signals, which were picked up on a home stereo system (on

⁸⁰⁵ Corner in an email to the author (July 13, 2013).

⁸⁰⁶ The casting of *new music* in America on the international stage was also similar to the heralding of American exceptionalism through Abstract Expressionism.

some occasions, the device was amplified with additional microphones and loudspeakers).⁸⁰⁷ *Max Feed* was first built by Neuhaus alone – later in 1967 the percussionist consulted the EAT engineer Ted Wolf for assistance (their relationship is discussed further below). Neuhaus had a rudimentary understanding of electronics, but was familiar enough by virtue of his use of amplification. While performing percussion music, the use of amplification is sometimes required. Jan Williams, a close friend of Neuhaus and a fellow student at the Manhattan School of Music, affirmed the prevalence of basic electronics skills among his classmates: whether placing a contact-mic on a cymbal or on the underside of a marimba, the percussionist of the mid-1960s was also likely to be familiar with the fundamentals of electronic circuits, if not explicitly modeling and construction. Neuhaus even built a “silent metronome” that ticked with a small light, rather than an audible click, for practicing in his studio loft. Apparently, he found the ticking sound of a regular metronome distracting.⁸⁰⁸ The percussionist also developed an analog circuit instrument that produced high-frequency feedback noise by virtue of the close proximity of an internal microphone/speaker system. The noise could be amplified further by placing the instrument near a home radio/stereo system, which picked up a low-power FM signal transmitted from the device.⁸⁰⁹ In fact, it was primarily conceived as an artist multiple: something for a consumer, or the listener, to purchase and experiment with in the comfort (or discomfort) of their own home. Sometimes Neuhaus employed the *Max Feed* as an artistic device, as when he set up numerous devices in a gallery for the *Sightsoundsystems* exhibition at the Ryerson Institute in Toronto in 1968 (in which Cage and Duchamp famously played chess on a board rigged by the sound engineer Lowell Cross).⁸¹⁰ Those who came to the exhibition could manipulate the noise boxes. The promotional flyer for the event, which was a two-day segment of a larger “reunion” between Marcel Duchamp and John Cage, advised participants that they could “Make your own music and participate in the manifold sounds, sights and smells” of the exhibition.⁸¹¹ The show was called *Supersystems* and included Udo Kasemets, Les Levine and John Giorno. The poster also included information on how to participate in Neuhaus’s CJRT version of *Public Supply*, a live radio collage, held two days prior.⁸¹² The show was described in a newspaper review.⁸¹³

On December 29, 1966, the release of *Fontana Mix-Feed* and the *Max Feed* device was celebrated at the Mass Art Store at 305 Canal Street (an five story building just off of Broadway). A mailed invitation lists numerous individuals slated for performance and presumably with the *Max Feed* device. The names Philip Corner, Al Hansen, Alison Knowles, and James Tenney appear and frame the event as a Fluxus affiliate program. (Neuhaus was not a part of Fluxus in any official capacity.) Additionally, Allan Kaprow and the EAT engineer Ted Wolff, who helped Neuhaus design the circuit, are also listed. However, it is unclear what exactly the artists did at the event. The ambiguous title, “A Grand Feed with Feed,” gives few clues. At least a few have been recalled by attendees of the event and photographic evidence.

⁸⁰⁷ *Max Feed* also interfered with television signals to produce a “clap of thunder,” according to the New York Times. See Glueck (1967).

⁸⁰⁸ Oral interview with Jan Williams (July 18, 2016).

⁸⁰⁹ Neuhaus occasionally used the *Max Feed* device to generate a more active, or entropic, noise environment in *Fontana Mix-Feed*.

⁸¹⁰ See Lowell Cross, “Reunion: John Cage, Marcel Duchamp, Electronic Music and Chess,” *Leonardo Music Journal* 9 (1999): 35-42.

⁸¹¹ Promotional poster for *Sight Sound Systems* (1968). Ryerson Institute, York University, University of Toronto. Collection of the Estate of John Giorno.

⁸¹² *Ibid.*

⁸¹³ “Technology Work in Toronto, March 7-10, 1968,” *Arts/Canada* 25 (1968): 17.

In many ways, “A Grand Feed” was a sort of elegy for the artist – a symbolic death of Max Neuhaus, the musical virtuoso. However, it may have also been the birth of Max Neuhaus, sound artist. Neuhaus was not listed as a performer on the invitation but rather *presented* the event. The performer transformed into a producer. Indeed, the release of *Fontana Mix Feed* symbolized for the artist the end of his percussion career – and the birth of one as yet unknown. *Max Feed* ensured that people no longer even needed the artist to perform, since they could realize his famous noise themselves. What was the artist’s purpose now? The event was a celebration of the record release, and oriented as a sly pitch for “the sale of Max-Feeds.” The event was not a typical concert, but was rather, ostensibly, a party with an occasional artistic intervention. Some of the situations were conceived as musical performances. Others were *performative* or simply *present*. Presumably, most artists used the *Max Feed* (but this has not yet been confirmed). Indeed, the devices were displayed for sale on a table during the event. The use of the device would have highlighted its function as an instrument rather than an artwork and also manifested as a marketing ploy: what better reason could there have been to purchase *Max Feed* other than seeing it used by your favorite Fluxus artist? In reality, Neuhaus seems to have gifted most of the devices away.⁸¹⁴

At the 1966 event, Corner used *Max Feed* to perform his work *Do' (for) (with) Max-Feed* (1966-1967).⁸¹⁵ As the title suggests, the work was composed for the device and was very likely premiered at the Mass Art event. In this composition, Corner used the device to “[manipulate] the parameters of electronic distortion.”⁸¹⁶ The terse description makes the piece sound structurally similar to Neuhaus’s *Feed*. However, Corner’s use of *Max Feed* was somewhat conventional. To Corner, *Max Feed* was an instrument to generate sounds to be used in a linear musical performance: his “manipulation” of feedback produced dynamic noise textures that unfolded over time. To Neuhaus, the tympani-microphone setup in *Feed* was a living electroacoustic system that was not composed but *managed*, held in equilibrium, and which unfolded primarily in space (or was at least consciously oriented around spatial rather than durational parameters). Corner used noise to improvise music. Neuhaus used noise to articulate space. According to Corner, the evening was astonishingly noisy: “It practically blew my ears out.”⁸¹⁷ Much of that was Kaprow’s fault. Kaprow used *Max Feed* in an unconventional way (at least unconventional to musical performance). Kaprow set himself up in the building elevator rather than inside of the Mass Art studio. In the elevator, Kaprow set up at least one device – possibly several – and amplified noisy feedback from a large loudspeaker. When a guest arrived to the 305 Canal Street building, they were first met with Kaprow, who graciously blasted them with electronic feedback during their short ride. When the elevator door opened on the third floor, the welled-up noise let loose outside of the small space and into the larger artist loft (or any other floor on which it opened). The work, if we want to consider it as such, was more theatrical rather than musical. Hansen and Knowles also performed but the details of what each did are not entirely clear. Photographic evidence gives a partial view. In one photograph, Hansen is seen with the device while crouched on top of a table and next to a tape recorder. Knowles did not recall having used *Max Feed*.⁸¹⁸

⁸¹⁴ Phil Niblock was gifted his device after the two collaborated on a series of expanded cinema performances titled *Environments* in the late 1960s. Oral interview with Phill Niblock (December 17, 2013).

⁸¹⁵ Corner in an email to the author (July 13, 2013).

⁸¹⁶ Philip Corner, *'Do' (for) (with) Max-Feed*, 1966. See: <http://composers21.com/compdoes/cornerp.htm>

⁸¹⁷ Corner in an email to the author (July 13, 2013).

⁸¹⁸ This is also supported by photographic evidence. Oral interview with Alison Knowles (June 26, 2013).

There are two possibilities as evidenced in oral interviews. The first possibility, as told by Orenstein, is that Knowles realized a version of #1 – *Proposition (October, 1962)* (1962) – otherwise known as *Make a Salad* – in which Knowles made a shared meal for the audience. Orenstein suggested that this particular version involved the cooking of eggs. However, Knowles did not recall that she performed the proposition piece – nor cooked eggs.⁸¹⁹ The second possibility, as told by artist Daniel Lauffer (who attended the event), involves the more likely scenario of a live screen-printing Happening: “[Knowles made] silk screen repetitions of [Albrecht Dürer’s’s woodcut print *The Rhinoceros* (1515)] on a roll of paper.”⁸²⁰ The photographic evidence supports Lauffer’s recollection. Images show Knowles working on a large flat tabletop, diligently screen-printing rhinoceroses. The animals are paired with text and photo-collage elements, including spray-paint stencils. On the opposite side of the table, Cage looms to watch Knowles carefully; in his hand is a pristine copy of the *Fontana Mix-Feed* LP. Tenney likewise seems to have performed with Max Feed – another photograph depicts the musician kneeling in front of what appears to be a small transistor radio. The Max Feed is not seen directly, but given Tenney’s concurrent (and established) interest in noise textures (i.e., his primary research topic at Bell Labs) the modulation of feedback would be a likely paradigm, despite the composer’s apparent ambivalence toward performance. It is not known what Wolff produced for the event. One can assume that the artists used the device to create a performance, situation, or an environment, similar to Kaprow and Corner. Two photographs show the device being used by unknown persons, possibly in performance. The first shows a hand holding a Max Feed in the air, opened and presumably emitting microphone feedback. Another depicts a Max Feed splayed upon a flat table with its interior casing removed, set just to the side of the main body. (In the 1966 version, the device had both a primary casing and a secondary acrylic box on the inside, which could be removed and controlled in some manner.) The device is shown amplified by an exterior microphone, rather than the microphone embedded in the larger case, which would produce a much higher decibel level. The device is not performed upon as a musical, or situational, instrument (like Corner or Kaprow had done), but is rather left alone to sound on its own. The device acted as an autonomous feedback system and operated as a live sound sculpture: a sound with no beginning or end.

Furthermore, Lauffer also recalled that “[Mass Art] was in the same building on Canal as the Fluxus Store. The address label [on the *Max Feed* mailed advertisement] was [also] similar to the ones from mailings [by] Something Else Press.”⁸²¹ George Maciunas did operate a store on Canal Street, but the Something Else Press office was located at 160 Fifth Avenue (about two miles north).⁸²² The connection emphasizes the Fluxus orientation of the event and the social connection of Fluxus to Mass Art – as well as Mass Art to Something Else Press (SEP). SEP was an artist-focused publishing business operated by Knowles and Higgins, both of whom Neuhaus knew personally and were central to the formation of Fluxus. The connection to SEP highlights the fracturing of Fluxus as artists created their own organizations, and also reveals how Fluxus aesthetics were appropriated by less avant-garde entities, such as Mass Art. Neuhaus operated

⁸¹⁹ Oral interview with Alison Knowles (June 26, 2013).

⁸²⁰ Dan Lauffer in email to author (October 18, 2013).

⁸²¹ Ibid. Lauffer also indicated that the *Max Feed* advertisement was mailed via the postal service. For more on Lauffer, see: Jed Birmingham, “Interview with Brown Paper’s Daniel Lauffer,” *Reality Studio*. Originally published August 7, 2007. Web. Accessed Nov. 22, 2016. <http://realitystudio.org/bibliographic-bunker/bunker-interviews/interview-with-brown-papers-daniel-lauffer/>

⁸²² See Tom Finkelpearl, *What We Made: Conversations on Art and Social Cooperation* (Durham, Duke University Press, 2013): 21.

somewhere between Fluxus anti-commercialism and the ‘cool capitalism’ of Mass Art and other artist-run business (such as SEP and Implosions, Inc).

SEP did not have its offices at 305 Canal Street, but one of its proprietors – Knowles – lived around the corner at 423 Broadway (roughly one block away). The close proximity could explain why Knowles was tapped by Mass Art to run screen-prints for the cover of Kaprow’s *How to Make a Happening* LP in 1966 and her involvement in the Max Feed event. It was not the first time Neuhaus and Knowles interacted: they shared a mutual friend in James Tenney, and Neuhaus had performed just the year earlier in Higgins’s *Danger Music*. The two would shortly collaborate on the previously discussed *House of Dust*. However, there is another point of connection between Neuhaus and Knowles that is directly related to the Max Feed event. In 1968, SEP published the collection of musical scores, *Notations*, which was edited by Cage and Knowles. The book contained numerous reproductions of musical scores that explored the extreme boundaries of musical notation, focusing on *graphic scores* of new music and avant-garde composers like Cage, Stockhausen, and Feldman and others of the ‘post-Cagean’ school that evaded conventional musical languages. There are two tropes in *graphic notation* of this period: either the composer created their own detailed and logical system that the performer interpreted according to specific parameters, or they totally ignored any logical meaning and presented functionless evocative signs that the performer ascribed with their own meaning.⁸²³ The reception of the book, and of graphic scores, was mixed among non-specialists.

One New York Times critic asked his readers “How do you draw a pictures of musical sounds, and why?” He was not totally won over as he joked that “This one definitely looks like a Rothko, that one like a Jackson Pollock, and that one – well, your cab driver’s 8-year-old child could do it.”⁸²⁴ *Notations* also includes Fluxus-inspired text-based compositions that used textual descriptions, instructions, and suggestions, rather than musical symbols (i.e., neither logical nor evocative). However, included in the book is an outlier: the circuit schematic for *Max Feed*. The inclusion of a circuit schematic in a book of musical notations falls outside of the graphic notation and textual prompt models; there is no way to perform a circuit schematic, other than to simply turn it on and let it run – or run-through – its operations.

The exact number of *Max Feed* devices is unknown. Neuhaus claimed to have made 500.⁸²⁵ That number was refuted by Orenstein, who said that Mass Art only produced about 50 copies for the inaugural event (about this number are seen in photographs).⁸²⁶ However, neither estimate seems accurate. The artist made at least two editions of *Max Feed*, suggesting that there are more than the Mass Art copies. However, the higher estimate is unlikely given the rarity of the device: only about four are extant.⁸²⁷ For context, of the 300 copies of *Fontana Mix-Feed*, only one is extant today. Neuhaus produced multiple versions of *Max Feed* between 1966 and 1968 to make adjustments to its functionality. The devices sold in 1966 are different than the one gifted to Niblock in 1967-68: the acrylic cases have different proportions, opacities, and clamp structures; most drastically, the later version has more user controls for manipulating feedback output. In contrast, the device owned by Allan Kaprow is the same as those sold at the Mass Art event.⁸²⁸ One reason for these differences is that the materials Neuhaus used to produce the

⁸²³ See John Cage and Alison Knowles, eds., *Notations* (New York: Somethine Else Press, 1969).

⁸²⁴ See Donal Henahan, “What, You Never Learned to Read Music?” *The New York Times*. (November 30, 1969).

⁸²⁵ Max Neuhaus in an email to Dasha Deklava (July 26, 2001).

⁸²⁶ Oral interview with Phil Orenstein (July 29, 2013).

⁸²⁷ Max Feeds are known to be owned by, or in the estate holdings of, Allan Kaprow, Phil Niblock, Philip Corner, and David Tudor (Wesleyan University David Tudor Instrument Archive).

⁸²⁸ Kaprow’s device was shown in the exhibit *Between Sound & Vision* (2001) at the University of Chicago.

devices were bought from local electronics shops on Canal Street. The plastic casings and electronics used in each series of the device depended on what was available at the time that materials were purchased. On the other hand, the addition of new controls in later versions suggests that Neuhaus conceptually modified the device; the 1968 schematic in *Notations* likely reflects this later design.

Neuhaus built the first *Max Feed* edition on his own in 1966 – prior to the Mass Art event, but in association with the production of the *Fontana Mix-Feed* LP. The *Max Feed* marked the end of the artist’s percussion career, specifically his realization of *Feed*, which could now be realized by the listener. The artist produced at least one more edition between 1967-1968. In 1966, Neuhaus brought the original circuit to the Wolff, an EAT engineer. The meeting clearly occurred prior to the production of the Mass Art Max Feed, since Wolff participated in the program.⁸²⁹ In a 1969 interview with Neuhaus, Wolff recounted his memory of *Max Feed*:

You just sort of brought the *Max Feed* in one day. You just walked in and introduced yourself and turned this *Max Feed* on and said, “This is it, this is what it does, and I’d like it to do a little more of this and a little less of that, and how do you think I could do it? I’d like it to influence the radios a little more from a greater distance and how can I do that cheaply?” Because you had found some effect more or less by chance and you felt that you’d like to understand them so that you could develop them even further. Because it was a working model as you had it, but it wasn’t very influential at a distance.⁸³⁰

Neuhaus replied, emphasizing his interest in learning and a willingness to ask for help, especially with regards to technical or specialized knowledge:

The most I’ve gotten out of the working thing is a learning process. A part of learning that you can’t get by yourself. You need someone to explain it to you. You can get a certain amount from reading [and thinking] about something... but there’s always some kind of misconception you have about it that you don’t understand... [You] just have to be able to ask one question [to] straighten out a lot of things... Ted has a very good [mental] storage, storehouse... walking encyclopedia Wolff.⁸³¹

This basic sentiment framed much of Neuhaus’s work throughout his career: the formation and cultivation of specialized relationships to complete a particular task or project. Neuhaus’s relation to Mass Art was more or less the same as EAT. The legacy of Mass Art itself has yet to be fully told (Orenstein is currently writing a book on the history of the company). The company engaged in the kind of ‘cool capitalism’ often associated with Fluxus and the artist multiple.

⁸²⁹ This meeting would later contribute to the realization of *Byproduct*, followed by *Fan Music* and *Drive-In Music*, which used EAT-designed light/sound sensor and modulation systems. Oral interview with Julie Martin (May 25, 2016).

⁸³⁰ Simone Whitman, “Interview with Max Neuhaus and Ted Wolff,” *Techne: A Projects and Process Paper*, Vol. 1, No. 1 (April 14, 1969): 4.

⁸³¹ *Ibid.*

However, Mass Art also produced viable commercial objects, including vinyl records. The vinyl records were not as popular as other items, such as the pillows and furniture, which took up the majority of the production process. The large warehouse in New Jersey was nearly dedicated to such items prior to its abrupt shuttering due to funding issues).⁸³² Mass Art was one of the earliest artist-founded companies to succeed on such a large production scale. In contrast, consider the artist Bob Watts and his short-lived Implosions, Inc., a company that was primarily dedicated to stickers (or “stick-ons”).⁸³³ As for Neuhaus, his encounter with Mass Art was formidable: Neuhaus himself later took on the personhood of a company under various titles: Hear, Inc., Acoustica, Inc., and Sirens, Inc.. Each company was privately owned by Neuhaus – rather than being a nonprofit – and was started produce, or propose, unique artistic and design projects (mostly, sound installations and an emergency vehicle siren). While none of these managed the scale, and viable business model, of Mass Art, it seems clear that the latter likely informed the capitalist mindset of Neuhaus’s projects – especially as he began to engage public spaces, municipal agencies, and arts funding foundations in the 1970s. Neuhaus cleverly benefitted by an exploitation of capitalist structures in a period of arts funding drought in the 1970s; the artist rarely spoke of Mass Art and did not appear to be close to its founders, but the company provided Neuhaus an opportunity to produce something particular that he would not have been able to do alone. Neuhaus developed this strategy of artistic self-preservation throughout his career. *Max Feed* and the *Feed* LP point toward a nascent interest of Neuhaus in distributed media. The objects were conceived to spread out through the structures of capitalism, such as postal mail-order. Indeed, 1966 also gave the artist’s first realization of *Public Supply*, a seminal live radio environment that is based on a de-structuring of fixed space in a virtualized distributed framework, which listeners participates in from a distance. Likewise, versions *Listen* also were increasingly mediated through printed matter that allowed people to participate in the work without the artist’s direct guidance. Neuhaus marked his exit from the concert hall by going into public space, but also by manufacturing new media ecologies and encounters with virtual space. How did Neuhaus’s mass-produced multiples relate to concurrent experiments in Fluxus and other postwar avant-garde media experiments?

Aspen – the magazine in a box

Aspen, first published in 1965, was also among the earliest experimentations with the magazine format in postwar art. *Aspen* existed within a lineage of the modern magazine. The founding editor, Phyllis Johnson, was formerly an editor at *Womens Wear Daily* and *Advertising Age* and was familiar with corporate publishing. However, *Aspen* became an experimental and multimedia spectacle. *Aspen* used the magazine format as an alternative site of exhibition that resisted gallery economics.⁸³⁴ The magazine positioned itself against the burgeoning art market by rejecting the boundaries of the white cube, spatial and ideological, and by exploiting the form of the magazine as a space, and medium, for art creation. The magazine served as an alternative, and radically mobilized, exhibition space. *Aspen* may be juxtaposed against the institution of the

⁸³² Oral interview with Phil Orenstein (July 29, 2013).

⁸³³ See Glueck (1967).

⁸³⁴ Gwen Allen, *Artists’ Magazines: An Alternative Space for Art* (Cambridge: The MIT Press, 2011): 43.

gallery space, a displacement of the exhibition site that valued a fractured and mediated mode of spectatorship over the austere singularity, or ideology, of the white cube.⁸³⁵

The theme of participation was especially important to *Aspen*, which functioned as an alternative exhibition site to artists seeking to challenge the austerity of the white cube gallery. But the magazine format also offered itself as a potential medium. In general, magazines are cheaply produced, ephemeral products of popular culture. For this reason, the magazine format became a poignant model for conceptual artists, who utilized the linguistic parameters of the magazine as an artistic medium – and when *media* is turned into a *medium*, formal structures brush against social and institutional boundaries. According to Benjamin Buchloh, conceptual artists like Robert Smithson and Dan Graham, both contributors to *Aspen*, utilized the magazine format to signal the “radical possibilities of an alternative form of distribution that might replace the privileged space of the museum with a more direct and democratic experience.”⁸³⁶ The magazine as such became a discursive, rather than consumptive, site. *Aspen* served as a network of distribution – of ideas, objects, people – and reconfigured the terms of artistic medium and aesthetic experience, orienting each toward mediation. *Aspen* was a mobilized and distributed project. This sentiment is reflected in the full title of the publication, *The Magazine in a Box*, underscoring its increasingly ephemeral structures. The full title situates *Aspen* within the history of the modern magazine: the magazine, unbound, and open to reconfiguration.

Ten volumes of *Aspen* were published between 1965 and 1971. Each was an assemblage of materials including essays, photographs, filmstrips, flexidisc records, artist multiples, and other sculptural objects. Similar to Maciunas’s *Fluxus 1* and *FYB2*, the contents were always unbound, or *unfixed*, and manipulated by the reader. Johnson prided herself on making the publication interactive, inclusive, and participatory – one did not read the magazine, but touched, felt, heard, viewed it. In many ways, they moved through it. Johnson included a letter in the magazine’s first edition that described *Aspen* as the “first three-dimensional magazine.”⁸³⁷ The letter extols the magazine’s aesthetic, emphasizing its tangibility and denoting its departure from traditional binding techniques: “Since [*Aspen*] comes in a box, our magazine need not be restricted to a bunch of pages stapled together... We can put in all sorts of objects and things to illustrate our articles.”⁸³⁸ The statement distances *Aspen* from traditional magazine formats and characterizes the project not as a site of display, but *encounter*.⁸³⁹

The magazine was from its outset circumscribed by a radical notion of mediation and participation, echoing earlier media experiments by Fluxus artists like Maciunas, Shiom, Brecht, and Vautier. Dan Graham joined Maciunas to edit a Fluxus issue of *Aspen* in 1971. The double issue No. 5+6 (1968) included a number of similar names, including Neuhaus. I will discuss this issue as well as another – No. 4 (1967) edited by Marshal McLuhan and Quentin Fiore – in this section, focusing on the materials and affects of mediation as they relate to *Aspen* as a whole, on

⁸³⁵ I use the phrase “white cube” to refer to the social and institutional boundaries of the museum and gallery complex as defined by Brian O’Doherty. See O’Doherty (1976).

⁸³⁶ Benjamin Buchloh, “Conceptual Art 1962-1969: From the Aesthetic of Administration of the Critique of Institutions,” in *Conceptual Art: A Critical Anthology*, eds., Alexander Alberro and Blake Stimson (Cambridge, MA: The MIT Press): 515.

⁸³⁷ Phyllis Johnson, “Letter from the Editor,” *Aspen 1* (1965).

⁸³⁸ Ibid.

⁸³⁹ *Aspen* can be viewed in relation to Lippard’s concept of *dematerialization*, framed within a proto-conceptual linguistic field where the format of the magazine – as a manufactured, mediated entity – becomes an artistic medium, one able to critique consumer culture by appropriating commercial forms. See Lippard and Chandler (1968).

the one hand, and Neuhaus's mediated practice, on the other. The art historian Gwen Allen has noted the relation of *Aspen* to Maciunas's Fluxus media projects.⁸⁴⁰ Discussing *Fluxus I*, Allen observed that a "fundamental capacity [of *Aspen*] to bring together different types of things... [was related to other experimentations] with multimedia and unbound formats in the 1960s."⁸⁴¹ Though socially distinct from Fluxus, *Aspen* operated in very similar territory with regards to its anti-commodity and subject-oriented focus. The materials that were included in *Aspen* were not just serviced by the mechanisms of media distribution (i.e., they were not just mailed to a subscriber). Their forms and meanings were inextricable from the given media networks, manufacturing systems, and social interactions.⁸⁴² This sentiment was echoed by Maciunas, who said: "Fluxus objectives are social, not aesthetic... Fluxus is definitely against the art-object as non-functional commodity."⁸⁴³ Maciunas disrupted commodification by creating art that attacked originality, a symbolic order from which art attains authenticity, and, in turn, market value.

This alternative model of authorship and economics reflected the increasingly deskilled strategies of *post-Cagean aesthetics*. From this perspective, one can tease out its politics of non-authorial communication, and as radical notions of *unfixed site-specificity* and democratic, collaborative production.⁸⁴⁴ This was primarily achieved by emphasizing the object-oriented nature of the publication, which consisted of an assemblage of materials, generally including a number of essays, photographs, film strips, flexidisc records, artist multiples, and other objects. This practice can be understood in relation to post-Cagean models of collaborative and participatory production, wherein the viewer is implicated in the construction of the work by having to actively manipulate its formation. That this aspect came to define the publication as a whole is rather significant, a rhetorical strategy that ultimately allowed the magazine to be conceived as an alternative site of exhibition. This similarly reflected the increasingly performative strategies developed within and against minimal and post-minimal artistic practice, which, like post-Cagean models of performance, can be understood most evocatively as an encounter, underscoring the persistent engagement with notions of temporality. The first two issues of *Aspen* were primarily textual, consisting of a heavily essay-based format, an underlying concern for performativity is articulated with increasing clarity with each issue. However, the conception of the magazine as a site of encounter was apparent from its inception. The notion of mobility is an important theme in terms of both rhetorical and structural strategies of the magazine. This aspect has not yet been settled through dominant interpretations of the publication, which is often simply described as a "miniature traveling gallery."⁸⁴⁵ Beyond this, an understanding of it in terms of the notion of dematerialization is also well received, situating

⁸⁴⁰ Allen, 43.

⁸⁴¹ The rhetoric encompassing an 'unbound' magazine was echoed by Johnson, who stated in an advertisement for the publication: "Aspen give you actual works of Art! Exactly as the artist created them. In exactly the media he created them for." See Allen, 43.

⁸⁴² This sentiment was echoed by Maciunas: "Fluxus objectives are social, not aesthetic... Fluxus is definitely against the art-object as non-functional commodity." Maciunas disrupted commodification by creating art that worked against originality, a symbolic order from which art attains authenticity, and, in turn, market value. See Julia Robinson, "Maciunas as Producer: Performative Design in the Art of the 1960s," *Grey Room* 33 (Fall 2008): 58.

⁸⁴³ *Ibid.*

⁸⁴⁴ Although the first two issues of the publication were primarily textual, essay-based publications, an underlying concern for subjective and durational experience is clear from its inception. The theme of mobility is especially important. However, this aspect has not been sufficiently understood in popular accounts of the publication, which often characterize *Aspen* as a sort of "miniature traveling gallery." While this assessment is true, the theme of encounter is of utmost important to the magazine's aesthetic program. See Allen, 43.

⁸⁴⁵ Allen, 43.

the work within a proto-conceptual linguistic field wherein the format of the magazine becomes a medium itself. While both of these are true of *Aspen* – indeed, it is impossible to understand the publication without these insights – it is necessary to look beyond the themes of exhibition and medium alone, expanding to their peripheries in order to better evaluate the magazine’s underlying *flexibility*. In this context, the notion of *site-specificity* is destabilized in the magazine, allowing the *site* of the magazine to become *unfixed*.

Marshall McLuhan and Quentin Fiore framed their co-edited the fourth issue of *Aspen* as an active site of experience. They conceived of the magazine as a dynamic information environment that allowed the readers to receive, move, maneuver, and interact with information. By allowing the reader to control their own experience, the editors hoped that they might see themselves within a larger field of mediated production: a media ecology. The concept of a media environment was a thematic cornerstone of *Aspen*’s fourth issue. The issue’s box evidenced this perspective through offset printed text that wrapped each of its sides:

All media work us over completely. They are so pervasive in their personal, political, economic, aesthetic, psychological, moral, ethical, and social consequences that they have no part of us untouched, unaffected, unaltered. The medium is the message. Any understanding of social and cultural change is impossible without a knowledge of the way media work as environments.⁸⁴⁶

Information cannot be separated from the material and social substrates that facilitate its transmission and presentation. In *Understanding Media* – published in 1964, three years prior to their *Aspen* issue – McLuhan suggests information flows in dynamic environments. Information, he argues, continually shifts in form and meaning as it meanders through media networks, and is simultaneously local and universal. McLuhan and Fiore infused *Aspen* with this idea, and the magazine became explicitly self-referential, engaging themes of reproduction, spectatorship, and participation.

Their issue included a facsimile of the duo’s popular graphic essay, *The Medium is the Message: An Inventory of Effects* (which was also published in 1967).⁸⁴⁷ There are many accounts of this counterculture screed, which nonchalantly assembled image and text in a mass-information-age collage aesthetic, as well as its widespread popularity upon publication. I will simply add that it is important to understand that McLuhan and Fiore actually chose to publish two different versions of their work simultaneously: one with a large, international publishing house, Bantam Books – now owned by Random House – and one with a small, independent, and ostensibly avant-garde outlet.⁸⁴⁸ This duality not only speaks to the ability of the authors to maximize the coverage of their *message*, and to thus ensure its effectiveness of its *massage*, but also in understanding that the meaning of the work will shift according to publication format. If we take McLuhan’s dictum that “the medium is the message,” then we must come to terms with how the meaning of each version shifts within its own unique context. Notably, the version

⁸⁴⁶ See Marshall McLuhan and Quintin Fiore, eds., *Aspen 4* (1967).

⁸⁴⁷ See Marshall McLuhan and Quentin Fiore, eds., *Medium is the Message* (New York: Bantam Books, 1967).

⁸⁴⁸ The Bantam publication was produced as a mass-market paperback, which means it was intended for a general audience at a low price-point, while *Aspen* produced a limited edition, somewhat inaccessible alternate version meant for a discrete, specialized audience at a high price-point. Both versions were published concurrently in the same market territory, and in the same language. This is an unusual strategy for a major publishing house like Bantam, suggesting that the *Aspen* version was likely sanctioned in a one-off license agreement.

published in *Aspen* is incredibly reduced. Printed on a single, double-sided Xerographic sheet, the work has lost the majority of its original content. Indeed, the version published by Bantam is comprised of nearly 160 pages of text and image, spread loosely across an entire book. In order to make an easily digestible, portable counterpart, most of the images are scaled down, or cut entirely. Many of the original images also took up full pages, and were paired with sparse, quotable text in a diptych formation – a striking composition that was entirely undone in the *Aspen* version, which instead appears busy and visually unclear as a result of its new format. In order to accommodate this shift in scope and scale, Fiore, who spearheaded the design, organized each side of the sheet into a 4x4 rectilinear grid. This new layout may have minimized the visual impact of the imagery, but it also placed the pamphlet squarely in dialogue with analogous trends in conceptual art, examining the concept of the grid as a compositional and epistemological construct.⁸⁴⁹

However, the printout was not presented to the viewer as a flattened out sheet of paper. Instead, it was folded over several times, such that only two sections of the grid faced outward (carefully resting just below the names of each author).⁸⁵⁰ To the keen eye, the sections are easily recognizable from the original manuscript: one panel depicts a fetishized image of a pair of lace-covered, crossed legs – likely taken from an advertisement – while the other is a sparse, black-and-white arrangement of text that reads:

When
information
is
brushed
against
information...

The opaque, fragmented sentence does little to confide its meaning, but manages to invoke an intriguing (if beleaguering) question for the reader: What happens when information is brushed against information? In order to find the answer, one would need to reference the primary Bantam manuscript, which states on the following page: “the results are startling and effective... the perennial quest for involvement, fill-in, takes many forms.”⁸⁵¹ Information is codependent, following the binary logic of transmission and reception. For information to flow, there must be a speaker and a listener, an exhibitor and a viewer, a precept and a percept. In other words, the reader is presumed and must be involved. The alternative version published in *Aspen* achieves something that the Bantam version does not: a physical incorporation of the reader/viewer’s body, and a temporality defined by the experience of *Aspen* as a mediated object. An emphasis on the body is present in the original manuscript, but the idea of tactility – of experience – is exaggerated in the *Aspen* version. This encounter with a media object is achieved largely by the necessity of having to fold, unfold, open, flip, turn, and refold the paper while reading, a psychosensual experience. The reader has a set of materials but is given agency through their ability to reorient, and thus redefine, the formation and meaning of the publication’s contents. The editors facilitated of the reader’s authorship.

⁸⁴⁹ See Marshall McLuhan and Quentin Fiore, “Medium is the Massage,” in *Aspen* 4 (1967).

⁸⁵⁰ Ibid.

⁸⁵¹ McLuhan and Fiore, *Medium is the Massage*, 78

In the original manuscript for *The Medium is the Massage*, McLuhan and Fiore state that: “Authorship – in the sense we know it today, individual intellectual effort related to the book as an economic commodity – was practically unknown before the advent of print technology.”⁸⁵² They continue to say:

[Xerography] heralds the times of instant publishing. Anybody can now become both author and publisher... As new technologies come into play, people are less and less convinced of the importance of self-expression. Teamwork succeeds private effort.⁸⁵³

The process of Xerography had radical implications: it was grounded upon the ideas of instantaneity and reproduction, a revolutionary practice in cultural labor where artistic genius and originality are thrown out the window and exchanged for de-skilled, democratic production. In this regard, the reduced, paraphrased version of *Massage* artfully reinforced the anti-authorial rhetoric outlined by Johnson in the first issue of *Aspen*. In turn, Neuhaus’s own experience with the magazine in 1968 circumscribed his sonic experiments through his emergent use of media forms – and the production of mediated encounters. Spatial encounters were developed more clearly in later issues, perhaps most famously in issue No. 5+6.⁸⁵⁴

Notably, issue 5+6 was published in 1968 – the same year that Neuhaus released *Electronic & Percussion*. This double issue was edited by critic Brian O’Doherty and focused on works by minimal and conceptual artists. The issue contained three essays – including the original version of Roland Barthe’s “Death of the Author” – five records, four films, a musical score, and several other texts and projects relating to conceptual, including works by Marcel Duchamp, Merce Cunningham, Robert Rauschenberg, Dan Graham, Sol LeWitt, Tony Smith, Robert Morris, Stan VanDerBeek, John Cage, and Max Neuhaus. The issue clearly converged figures working in a variety of media and disciplines, underscoring a multidisciplinary scope. The works contributed by Cage and Neuhaus are of particular significance to the present study. Included in this issue are two recordings of Neuhaus performing Cage’s *Fontana Mix* (1958) and Feldman’s *The King of Denmark* (1963-64). These repertoire works were the final percussion pieces that Neuhaus released publicly. Though *The King...* was composed to negate Stockhausen’s *Zyklus* (1958), the pairing here poses the significance of Feldman’s composition for Neuhaus. Indeed, the composition was written for Neuhaus (the percussionist suggested a collaboration). Its inclusion relays a personal tone to the overwhelmingly sterile issue. In contrast to *Fontana Mix-Feed*, a noisy affair, *The King...* provided a subtle antithesis. In fact, the pairing was well-thought out by Neuhaus: the instrumentation listed for each piece is, respectively, *electronics* (Feed) and *percussion* (King) (a casual acknowledgement to the artist’s forthcoming release on Columbia Records). Neuhaus took the opportunity to play with the conditions of the Aspen release, recognizing its unique format as an opportunity to create an interplay with his concert and studio practices, as well as interlinking media objects. The version of *Fontana Mix-Feed* was recorded newly for *Aspen* on Nov. 6, 1967.⁸⁵⁵ The recording was made in a monaural

⁸⁵² McLuhan and Fiore, *Medium is the Massage*, 123

⁸⁵³ Ibid.

⁸⁵⁴ See Brian O’Doherty, ed., *Aspen* 5+6 (1968).

⁸⁵⁵ See Max Neuhaus, *Fontana Mix-Feed*, Nov. 6, 1967/*The King of Denmark*. In *Aspen* 5+6, ed., Brian O’Doherty. New York: Roaring Fork Press, 1967. Flexidisc.

setup, meaning that the acoustical and ecological conditions of the piece were negated by a flattening of the original spatial context into a one-dimensional recording. Furthermore, the realization was substantially shorter than a concert program version, given the shortened time allotted by the 7" format (cutting the length in half). Neuhaus knew the limitations of audio recording and playback, printing a warning on the disc, stating: "Due to the nature of these sounds, it was necessary to reduce their loudness to transfer them to a record. The listener can compensate for this by turning up his record player volume to about twice the normal level."⁸⁵⁶ Accordingly, Neuhaus produced the record with the foresight to its playback conditions, advising the listener, who may not be familiar with his piece, to adjust their expectations. By turning up the volume, the listener, at home, can reproduce (to a degree) a sensation of hearing the work live, realized by Neuhaus. The advice was taken from the artist's Mass Art record, which similarly instructed the listener to exceed the volume threshold of their stereo.

In contrast, the Feldman composition instructed the listener to do the exact opposite: "[play] at very low volume – 'so that you almost don't hear it,'" quoting an anonymous source. The unnamed person was likely David Behrman, producer of the *Music of Our Time* series that released the *Electronics & Percussion* LP. In addition to a level adjustment, the disc includes a thank-you note from Aspen magazine: "Aspen wishes to thank [Behrman] for cooperation in producing this record," a tacit acknowledgement of the potential copyright and marketing issues involved with releasing Neuhaus's recordings at the same time as his commercial release.⁸⁵⁷ In addition to recordings, accompanied by performance notes, the issue also included facsimiles of each score.⁸⁵⁸ Notably, the scores (discussed in Chapter One) are listed in the magazine index as "print – data," contrasting the works of "print – poetry." The categorization of sound as data and information reflects the materialist and procedural inclinations of these works, as well as the minimalist and conceptual art focus of the issue.

The score for *Fontana Mix* is comprised of a series of curved lines and dots, printed on ten sheets of paper and twelve transparencies respectively, as well as a printed grid and straight line. The pages are unbound, unnumbered, and are to be superimposed upon one another according to will of the performer. Indeterminate in terms of sound source and compositional structure, the performer is given a considerable amount of agency in constructing the character of the piece. The recording by Neuhaus uses amplified feedback as a primary sound source, and consists of several minutes of continuous, piercing tones. The character of the recording is related to live performances from the mid-1960s, in which Neuhaus manipulated microphone feedback placed on top of kettle drums, and in front of loudspeakers, by adjusting their volume, and, in turn, modulating the intensity.⁸⁵⁹ The pages of the score, overlapping and arranged according to the performer's self-direction, served as a poignant referent for the collaborative nature of the magazine itself. Unlike models of participation in which the viewer is limited to fulfilling a set of performative actions – "a snapshot of the quotidian" – the realization of

⁸⁵⁶ Max Neuhaus, *Fontana Mix-Feed*, Nov. 6, 1967/*The King of Denmark*. In *Aspen 5+6*, ed., Brian O'Doherty. New York: Roaring Fork Press, 1967. Flexidisc.

⁸⁵⁷ Ibid.

⁸⁵⁸ The role of sound in this context is worth noting, as is its lineage in the Fluxus event scores published by Maciunas in *Fluxus 1* and *Fluxus 2*. For more on the relation between sound and text, see: Liz Kotz, "Post-Cagean Aesthetics and the 'Event' Score," *October* 95 (Winter, 2001): 54-89.

⁸⁵⁹ Joseph, "An Implication of an Implication," 70.

Cage's score affords the performer genuine contribution.⁸⁶⁰ This is achieved in part by not delimiting the aural content of the work, allowing Neuhaus to utilize electronic feedback – an inherently unstable source – as well as relinquishing authorship in a number of other ways.

The structural logic of issue 5+6 is found within George Kubler's essay "Style and the Representation of Historical Time," which articulates a durational notion of history wherein: "Every work of art is a fragment of some larger unit... a bundle of components of different ages, intricately related to many other works of art [within] a network of incoming and outgoing influences."⁸⁶¹ The decentralized format of *Aspen* magazine "encouraged multiple rhizomatic connections among its components," a gesture underscoring the magazine's investment in the *activation* of the reader as an autonomous actor.⁸⁶² The multifaceted and performative nature of the issue also echoes the anti-authorial sentiments found within Roland Barthes's seminal text "The Death of the Author," which was commissioned by O'Doherty for this issue.⁸⁶³ The inclusion of this text, according to Allen, must be considered in terms of site-specificity, as it was both "informed by and meant to be read alongside" the contents of this issue.⁸⁶⁴ The notion of site-specificity is integral to understanding the magazine form, specifically as it is realized within the aesthetic program of *Aspen* (and, I argue, Neuhaus's own conception of a *networked aesthetics*). Signaling not only the dematerialization of the art object, but locating this dematerialization within the emergence of an anti-commodity politics, the production of site-specific art was contingent upon a radicalized notion of subjective space.⁸⁶⁵ Within this context, according to Miwon Kwon, "the guarantee of a specific relationship between an art work and its site is not based on a physical permanence of that relationship... but rather on the recognition of its unfixed impermanence, to be experienced as an unrepeatable and fleeting situation."⁸⁶⁶

Despite their impermanence, magazines serve as vehicles of social critique and have a capacity to reflect, and engender, larger public spheres. Jurgen Habermas has claimed that magazines have in the past supported the public sphere by "fostering a participatory sort of communication among a public too large to converse face to face... by allowing individual readers to see themselves as part of a larger, ongoing conversation."⁸⁶⁷ *Aspen Magazine* facilitated a unique form of public discourse by mediating a shifting network of authors, printers, and readers, and by giving a connective platform to groups of individuals who were otherwise disconnected. In this regard, the open form of the unboxed magazine fostered participatory communication. The material structures of media networks greatly influence forms of mediated content. These structures also determine the processes of shared production, where the material substrate not only facilitates the transmission of information, but also colors its interpretation, in terms of both content and meaning. By addressing these issues, Fluxus and *Aspen* utilized anti-authorial modes of production to induce viewers to manipulate forms, organize content, and

⁸⁶⁰ Kahn quoted in Lina Dzuverovic, "The Politics of Sound / The Culture of Exchange." Online panel discussion (January 31-March 23 2005) with Douglas Kahn, Kenneth Goldsmith and John Oswald. 29. http://www2.tate.org.uk/intermediaart/discuss/d_culture/politics1.shtm

⁸⁶¹ George Kubler, "Style and the Representation of Historical Time," in *Aspen* 5+6, ed., Brian O'Doherty (1968).

⁸⁶² *Ibid.*, 57. In the context of *Aspen*, the death of the author was joined by the birth of the reader.

⁸⁶³ See John Logie, "1967: The Birth of 'The Death of the Author'," *College English* 75, no. 5 (May 2013).

⁸⁶⁴ *Ibid.*

⁸⁶⁵ Kwon, 12.

⁸⁶⁶ *Ibid.*, 24.

⁸⁶⁷ Jurgen Habermas, *The Structural Transformation of the Public Sphere* (Cambridge, MA: The MIT Press, 1989): 41-42

otherwise control the terms of their aesthetic experience. This collaborative gesture defined the Maciunas collections, but also relates to progressive art of the postwar era in general, which consistently experimented with decentered sites of production.

Aspen similarly analyzed our experience of participating in media networks, especially the manners in which their material structures can limit or encourage the contributions of the reader or viewer. Indeed, the concepts of participation and collaboration are recurring themes in both the work of Fluxus artists and throughout *Aspen* magazine.

The concepts of participation and collaboration are often posed as defining features of both Fluxus and *Aspen*. However, Douglas Kahn has suggested that our understanding of these terms is often confused. The terms connote different paradigms but are conflated arbitrarily. On the one hand, Kahn asserts that genuine collaboration requires an equality between contributing authorships; on the other hand, participation entails a lack of equality, where one contributor has only limited authorial power. The degree to which a reader can actually contribute authorship affects the level of shared production, or co-authorship. The author and reader can only be placed on equal ground when contributions are of similar magnitude. Contributions of a reader are often limited by the author, or severed altogether. Shared authorship is possible in the former, allowing for true collaboration, but in the latter a reader merely assists the original author, resulting in participation. These concepts are not synonymous and to regard them as such threatens our understanding of collaborative aesthetics. Such distinctions have important consequences when interpreting durational, performative, or interactive art of the 1960s. In thinking about Fluxus, *Aspen*, and Neuhaus's nascent media practice, the role of the participant, or collaborator, should be carefully analyzed.

How did these printed matter works, which were material and haptic, relate to Neuhaus's prior and subsequent works in broadcast media, which were virtual and acoustic?

Sonic art, public radio

Radio has inspired many encounters with sound as a creative medium since its inception, whether scientific, popular, or avant-garde. Electrical engineer Thomas Watson listened eagerly to sounds of *natural radio* that interfered with early telephone systems, as Douglas Kahn has shown. Watson appreciated the uncontrolled noises as an earthly *music of the spheres*.⁸⁶⁸ Later in the twentieth century, popular radio plays captivated an American public with romantic, criminal and paranormal tales. Modernist artists in Europe experimented with radio as an artistic format and medium, exploring, as the Surrealists did, with the concept of the radiophonic. Composers like Cage and Stockhausen utilized radio as a means of indeterminate musical form. Some radio works on public stations like WBAI in New York City and KPFA in Berkeley explored how to create virtual sonic space, soundscape design that transported listeners psychologically to spaces other than their physical locations. These projects were undertaken either for novel experiments in sonic spatialization or to develop a new coextensive public space, or community, through tactics of mediated sound. In each case, radiophonic experiments encouraged *interactivity with radio* rather than *consumption of radio*.

⁸⁶⁸ See Douglas Kahn, *Earth Sound Earth Signal: Energies and Earth Magnitude in the Arts*. (Berkeley, University of California Press, 2013): 1-7.

Beginning in the mid-1960s, Neuhaus participated in a decades-long transformation of the radiophonic. His live listener sound collages, such as *Public Supply*, and circuit systems, like *Radio Net*, provided listeners an immersive broadcast. The works also used call-in telephone integration to allow listeners to mix their sounds and voices with those of friends and strangers, establishing broad geographic and virtual community. The locally-bound *Public Supply* was realized in at least five cities and culminated in the massive international broadcast *Radio Net* (1977). Neuhaus was not alone in his pursuit of a new radio art based around spatial presence: artists such as Maryanne Amacher, Keith Sonnier, and Robert Barry also produced radio-based works that cast a new perspective on postwar dematerialization, anti-form, and authorless composition. Before discussing these recent radio works, I will first briefly provide an overview of some radiophonic pieces that gave *Public Supply* and *Radio Net* a thematic foundation on which to rest. There is no evidence that Neuhaus knew of these works, but the connection is necessary for viewing his own practice in larger artistic, historical, and technical contexts. I will articulate the differences between such pieces and Neuhaus's novel construction of not only *listener-oriented*, as theorized by but also *listener-produced* radio art.

In the postwar era, figures in Europe and in the United States further developed field recording and sound design techniques for dynamic radio broadcasts. Sound recordists like Tony Schwartz in the United States and radio producers like Walter Ruttman and Peter Leonhard Braun in Germany adopted recording and radiophonic techniques to redevelop the concept of a sonic public in radio through soundscape broadcasts. In this context, the radio conveyed a type of public sphere. Their recorded sound works signified material, virtualized sound, in the context of an emergent media and information age. Schwartz's field recordings of New York City and elsewhere globally received moderate commercial success in the 1950s and 1960s. Vinyl albums such as *New York 19* (1955), *Sounds of My City* (1959), and *The New York Taxi Driver* (1959) presented the soundscape as a poignant collection of cultural information. In particular, the recording of urban settings – the sounds of the city – were of immense interest to a national dialogue on postwar economic change and population shifting, particularly as cities such as New York experienced both mass infrastructural growth, yet a decline in some populations (notably, white flight to the suburbs). The leveling of architecture in neighborhoods once occupied by lower-income residents and immigrants, such as in the Lower East Side, and the construction of steel-and-glass skyscrapers in Midtown Manhattan, contributed to wide popular appeal of these albums, which captured the city, and thus America, in an unknown state of transition. In fact, the commercial albums were not always the primary goal – nor the primary vehicle for public reception – of Schwartz's sound work. For example, the miniature album *Sounds of My City* (1959) was first commissioned as a public radio program for WNYC-FM. The recordings "City Street Sounds," "People Sing, Dance & Play," and "Sounds Outside My House" were broadcast publicly prior to its release as a vinyl record. In fact, WNYC was among the first public radio stations in both New York City and in the United States and was the official broadcasting agency for the city until 1994 (when mayor Rudy Giuliani sold the station to a private owner, claiming that radio was no longer an essential city function).⁸⁶⁹ Before this sale, WNYC was the official radio station of the city and was designed, both conceptually and legally, as a public asset. *Sounds of My City* was presented as an official program of the city – an attempt to preserve and celebrate the unique sounds of a city and its soundscape.

Schwartz produced at WNYC a weekly radio program called *Adventures in Sound*. The program featured snippets of his urban soundscape recording and character or theme-driven

⁸⁶⁹ "Don't Sell Out WNYC," *The New York Times* (February 28, 1994).

sonic vignettes: children playing with a Yo-Yo; business owners discussing their experiences; a conversation between Schwartz and a talking doll in a toy store. The segments were produced for over thirty years. In 1970, Schwartz produced a short piece titled “Is it Art?” that considered the current state of postwar artistic practice – and what counts or not as art according to the public taste. The segment begins by assessing public confusion at contemporary art, suggesting many do not know whether it is art at all. Schwartz begins: “We have Pop Art, we have Happenings, we have monkeys painting, people shooting paint at canvases, multiple screen projections that happen by accident, and so forth. Many of us wonder ‘Is this art?’” The introduction is fairly typical of the kind of media piece about the public’s fascination, or distaste for, postwar post-painterly artistic practices. By 1970 – four years after the ‘summer of Happenings’ in 1966 – such things were introduced not only to New Yorkers, but also much of the U.S., especially following the public displays of Happenings and Fluxus events associated with the Annual Festival of the Avant Garde. However, Schwartz pivots from the typical perspective, poignantly stating noticing a similar situation in the musical arts: “I think the same question could be asked in relation to sound in music.”⁸⁷⁰ The connection between radio sound, or the *radiophonic*, and the embodied world was explicitly harnessed both in radio programs and by composers of new music.⁸⁷¹ Writing on Cage’s compositions that use indeterminate radio signals, and specifically *Speech* (1955) which pairs radio signals with dictated newspaper clippings, the *Village Voice* music critic Tom Johnson highlighted the interrelation of radio to the public sphere:

[Cage’s] radio pieces are among the strongest [cultural] statements of our time, both sociologically and musically. Cage’s radio scores are really mirrors which reflect the environment whenever they are performed. They put a frame around the world we live in and force us, through the medium of radio, to look at it.⁸⁷²

A similar perspective can be taken in understanding Neuhaus’s own radio pieces, such as the recurring *Public Supply* (1966-1973) and the nationwide *Radio Net* (1977). Neuhaus did not work with WNYC on *Public Supply*, but the openness of WBAI, another public station, is similar in its curiosity and interest in how to use the radio network to support public thought, even when supporting avant-garde or experimental art. Public radio, as an institution serving a public audience, was invested in developing and supporting new types of programming, some of which laid extremely outside conventions of the medium.

Local Broadcast: Public Supply (1966-1973)

Neuhaus produced a handful of live experimental radio broadcasts beginning in 1966. The works were produced under the collective title of *Public Supply* – a title that refers to both a literal sound source (i.e., public voices) and metaphorically casts the listener as a public asset or resource, such as clean water (and to a lesser degree, electrical power). The basic premise of the work was founded on a simple yet radical idea: a radio listener could participate in the very radio

⁸⁷⁰ See Tony Schwartz, “Is it Art?” *Adventures in Sound*. September 8, 1970. New York City: WNYC-FM. Accessible online at: <http://www.wnyc.org/series/tony-schwartz>

⁸⁷¹ See Militus (1996).

⁸⁷² Tom Johnson, “John Cage at the Kitchen (December 13, 1973),” in *The Voice of New Music New York City 1972–1982* (Eindhoven: Apollonhuis, 1989). See also: <http://tvonm.editions75.com/>

broadcasts to which they were listening. Rather than staying a passive observer, one could actively participate in a radio broadcast by contributing their own sounds.

The public contributions, directly funneled into the broadcasts by a makeshift automated telephone answering system, created a two-way street – a signal, and a response. In a little over an hour, Neuhaus had unraveled a century of domestic radio use. This co-extensive model of radio broadcasting established new points of contact between radio listeners, radio stations, and a larger listening world. Unlike typical broadcasts of the 1950s and 1960s – often consisting of scripted or otherwise pre-determined programs to which the listener ‘dialed’ or ‘tuned in’ – the model developed by Neuhaus was radically inclusive. The first broadcast was formed under relatively inconspicuous terms.

Neuhaus was already respected as a classically-trained musician – one who had two years prior performed solo at Carnegie Hall – and was invited for an interview on the New York City public radio station WBAI-FM. Neuhaus was a guest on WBAI once before in 1963, one year out as a graduate from the Manhattan School of Music and a recent Darmstadt Summer School student. By 1966, following a successful tour of Europe with Stockhausen, Neuhaus was familiar with the radio studio and interview process. Disinterested in the initial offer, he counter-proposed another idea: to experiment with the interview format itself, live on the air, subverting the institution of radio by turning the broadcasting structure inside-out. Instead of answering questions, most of which he had answered before, Neuhaus would invite the listeners to take his place. He provided the public with a handful of telephone numbers, gave them the time of the broadcast – from 8:30 to 10:00 pm on Saturday, October 8th – and instructed them to “[call] and make the sounds you have chosen.”⁸⁷³ Now given an opportunity to be heard, the previously silenced radio-subjects spoke, sung, and yelled – they made noise. When these callers spoke, sang, and yelled, we must remember they were doing so not only to others, to distant strangers; they were speaking to themselves.

Because of a slight delay in signal transmission, exaggerated by the makeshift telephone system sorting and routing incoming calls, any given caller could hear their own voice, or sounds, played back through the radio. The once silenced radio-subjects were now enlivened, even confronted, by their own speaking voices – a radiophonic mirror-stage. Sound artist Joe Milutis has discussed how the radio, and particularly radio art, has long been a fascination of the avant-garde in its ambiguous ontological state: the voice on air, once broadcast, is irrevocably stripped from its source (the body) and is subsumed by what he refers to as the *radiophonic*.⁸⁷⁴ The radiophonic is that interstitial space between the pre-broadcast voice and its radio-reception by the listener, emphasizing the fact that “radio is matter,” and that this matter (or matters) affect and transform the voice into something other than itself. On the one hand, a caller to *Public Supply* might recognize their own voice on the air – an act of Lacanian self-recognition, or as Johnson noted, a “mirror reflection” of society – but, on the other hand, this doubled voice is entirely separate from their own body, as it has been distorted and manipulated by the microphone, transmitter, radio-wave distortion (i.e., environmental conditions), receiver, amplifier and speaker: the radiophonic voice is a double of oneself in physical form. Milutis concisely refers to this electrified self as the *body electric*: the mediated and broadcasted convergence of the body and its radiophonic form. This idea of joining one’s physical and electrical body, ideally as a way to instigate a new sense of self and of others through the radio, is at the heart of *Public Supply*.

⁸⁷³ *WBAI Folio* 7, no. 11 (October 1966).

⁸⁷⁴ See Milutis, “Radiophonic Ontologies of the Avantgarde,” 65.

The *Public Supply* broadcasts were not actually meant to be recorded; it is somewhat of an accident that we have them at all today. As with many of his post-concert hall works, Neuhaus insisted that the radio broadcasts constituted a unique experience, that they were durational, unrepeatable, and wholly subjective. Accordingly, he maintained that it would be impossible to experience the work through an audio recording.⁸⁷⁵ For Neuhaus, the act of recording strips a work of its aesthetic integrity, because it privileges a singular point of view (i.e., the microphone or mixing board in the studio) within an otherwise inter-dependent, and largely decentralized system. As such, the co-extensive structure of the broadcast would be sterilized, resulting in an aural relic as a recording, offering only a dead sound.⁸⁷⁶ Nevertheless, the agreement between Neuhaus and the radio station engineers must have been entirely verbal, because at least two of them – first in New York, and then in Chicago – recorded the broadcasts anyway.⁸⁷⁷ Neuhaus must have known that further versions of *Public Supply* would, or could, exist. In the WBAI folio announcement for the piece, which also served as a graphic score to illustrate how the piece functioned technically, the artist included the description: “WBAI Version.”⁸⁷⁸ This began the artist’s fascination in the late 1960s and 1970s with staging multiple versions of the same piece, much like he would have realized multiple versions of the same score. Following the creation of *Times Square* in 1977, Neuhaus never repeated his works, which were primarily spatial and physical sound installations and conceived as permanently and totally unique to a *fixed* site. In contrast, the *Public Supply* broadcasts pointed to an alternative method, where sites are conflated within an *unfixed* radio network.

Over nearly a decade following the original version in 1966, there were three additional (official) broadcasts of *Public Supply*: CJRT-FM in Toronto (1968); WBAI-FM in NYC (1970); and WFMT-FM in Chicago (1973). However, there was also at least one other fifth broadcast, which was somehow stricken from the official list prepared by Neuhaus in the early 2000s (as he developed his website). (The version last appeared on an artist biography from the mid-1970s.) Taking place in February 1967, the fifth broadcast was conducted on a student-run radio station at SUNY Stony Brook, where Allan Kaprow worked as a professor between 1961 and 1969. The broadcast may have been dismissed by Neuhaus, or intentionally forgotten, for several reasons. First, the broadcast was run on a low-powered, geographically limited, and non-FM network, which had a severely limited range and utilized live microphones to capture ambient audio rather than telephone callers.⁸⁷⁹ Secondly, the broadcast reportedly suffered a number of mechanical failures, resulting in dropped audio signals and a thinned aural texture. In a 1967 interview with students, moderated by Allan Kaprow (who taught in the art department), Neuhaus was attacked for what appeared to be failures of the work to function.⁸⁸⁰ These numerous realizations of *Public Supply* developed alongside another infamous project based on collective listening: *Listen*. The relation of *Listen* to *Public Supply* is striking when considering how the performance dates merge together. Between 1966 and 1973, there were at least four instances where sound

⁸⁷⁵ See Grubbs (2014).

⁸⁷⁶ On rhetoric of ‘deadness’ in radio, see Militus (1996) and Allan Weiss, “Radio, Death, and the Devil: Artaud’s Pour en finir avec le jugement de Dieu,” in *Wireless Imagination: Sound, Radio and the Avant-Garde*, ed., Douglas Kahn and Gregory Whitehead (Cambridge, MA: MIT Press): 269-308.

⁸⁷⁷ As Neuhaus discussed, this light betrayal underscores a tendency for commodification of art, including sound, as well as the potential for rebroadcast and a fear of so-called ‘dead air’. In fact, some versions of *Public Supply* were in fact rebroadcast (no longer live) on WBAI and KPFA.

⁸⁷⁸ *WBAI Folio* 7, no. 11 (October 1966).

⁸⁷⁹ For a description, see: Kaprow, Allan. “The End of the Concert Hall.” *The Statesman* (May 3, 1967). 4-5.

⁸⁸⁰ *Ibid.*

walk events and public radio broadcasts occurred in the same year: 1966; 1967; 1968; and 1969/1970. However, if participants in *LISTEN* were instructed to remain silent, those of the *Public Supply* broadcasts were actively encouraged to speak – that is, encouraged, and perhaps even tempted, to make noise.

These works were explicitly modeled as alternative forms of communication and it is worthwhile to consider their material qualities. According to theories of *media ecology*, which account for movement of data through information networks, transmission technologies are understood as fields of activity within larger media environments.⁸⁸¹ In this sense, space collapses in on itself, becoming directionless as it is pulled through media networks. Considering Neuhaus' works for radio, it is difficult to speak of a site of exhibition, as the works exist in multiple spaces simultaneously. If we simply understand such works in the context of Neuhaus's later spatially-oriented installations, and take the radio studio or bedroom as points of origin, the installation space quickly dissipates. In *Public Supply*, there is no particular site to which the work is specific, but rather an environment and connection of electrical signals, physical transmutations, and points of transmission and reception. The audio signal is sent from the microphone to the transmitter, broadcast through the air and picked up by a receiver, then amplified and routed to speakers. It is thus of little use to privilege one particular space over any other: each stage of the process contributes to the efficiency and productivity of the system as a whole.

Again, the rhetoric of public supply serves us well in analyzing the work in such a frame. The contents of any *public supply*, such as water, are collected and stored in a central location, processed in some manner, and then delivered to a consuming public. The public uses the stored materials for a domestic, commercial, or industrial purpose. In the case of a reusable public water, the consumer sends back the spent materials through an underground public plumbing system to the public supply location, at which point it is collected, stored, processed, and again redistributed. The consumer – perhaps a different consumer – receives the material and uses it for some purpose, sends it back to be cleansed and redistributed, and so on *ad infinitum*. Effectively, a public supply chain is a physical feedback system, similar to what Neuhaus envisioned for the *Public Supply* realizations. Rather than a concrete installation – of taking a sound and putting it in space – these works point toward a second model: taking multiple sounds from multiple places and organizing them in a shared virtual space, which is not located in one site but indefinite sites along a broader chain of distribution. These models pose two theories of site-specificity: *fixed*, in which the site is stable and locatable, and *unfixed*, in which the site is unstable and non-locatable.

The space provided by *Public Supply* was particularly unique because of its synthesis of telephone and radio technologies. According to Neuhaus: “The telephone forms a two-way virtual space in the aural dimension; we function in it aurally as if we were in one real space... The radio on the other hand gives us a live ear view into a space which can be anywhere or nowhere; it can also be completely electronic.”⁸⁸² Accordingly, the social codes of telephone culture were often disregarded in *Public Supply*. In the place of polite conversation, with its appropriate speaking tone and moderate voice intensity, we hear whoops, cries, growls, burps, bad music. Decorum was thrown to the wayside. But there is an important ontological shift as

⁸⁸¹ Here I refer broadly to the writings of Gregory Bateson, Marshall McLuhan, Tony Schwartz, and Neil Postman. R. Murray Schafer created similar paradigm for thinking about natural soundscapes, called *acoustic ecology*.

⁸⁸² Max Neuhaus, “The Broadcast Works and Audium,” in *Zeitgleich: The Symposium, the Seminar, the Exhibition* (Vienna: Triton, 1994).

well, as Neuhaus astutely notes how the project synthesized disparate communications infrastructure, particularly as a way to establish a new and inclusive public sphere: “If we combine the public telephone network and radio broadcast [systems], we can make a virtual aural space in which a large number of people can be at the same time.”

Not everyone saw the potential of a populist radio space. The media theorist Neil Postman was quite critical of the American media sphere, particularly the propensity for pure consumption of popular entertainment on television. Postman believed that radio, while useful for “rational thought,” had been infected by television:

Television is the command center [that orchestrates] our use of other media... through [television] we learn what telephone system to use, what movies to see, what books, records and magazines to buy, what radio programs to listen to. Television arranges our communications environment for us in ways that no other medium has the power to do.⁸⁸³

In fact, he viewed the infection of television as a cultural catastrophe:

When a population becomes distracted by trivia, when cultural life is redefined as a perpetual round of entertainments, when serious public conversation becomes a form of baby-talk, when, in short, a people become an audience and their public business a vaudeville act, then a nation finds itself at risk; culture-death is a clear possibility.⁸⁸⁴

It is unclear what Postman would have thought of Neuhaus’s radio experiments. Clearly in its incitation of noise, *Public Supply* was not much interested in “rational thought.” On the other hand, nor was the work interested in the anti-rationalism of Surrealist radiophonics. *Public Supply* provided a space for listeners to make their own decisions and make their voice, and thoughts, heard by themselves and a general public. The piece operates outside of Postman’s television regime to some degree. If radio was infected by television, *Public Supply* was a modest antidote to dampen its isolationist effects, providing a self-contained radio environment where people could exist together without the pretense of commodity consumption. *Public Supply* could only have worked – and was only ever produced – on public and/or nonprofit (e.g., university) radio stations, which have pointedly anti-commercial values and structures.

WBAI & Listener Sponsored Radio

In 1966, John Cage asked Morton Feldman: “What would you say giving a concert of your works in an architectural situation where something else [was audible]? Let’s imagine [that] the concert is in a room and that one door [is] open and in the [next] room [radio music] is audible. Must that door remain closed or [could it be] left open?” Feldman responded tersely, “I would like the door to be left open – but without the radio.”⁸⁸⁵ The exchange characterizes the

⁸⁸³ Neil Postman, *Amusing Ourselves to Death* (New York: Penguin Books, 1985): 78.

⁸⁸⁴ Postman, 155-156.

⁸⁸⁵ Quotes taken from John Cage and Morton Feldman. “Radio Happening I.” New York: WBAI-FM, July 9, 1966. <https://archive.org/details/CageFeldmanConversation1>

complicated relationship of new music to radio in the 1960s. The response follows a back-and-forth between the composers on the first of several “Radio Happenings,” which were broadcast on WBAI between 1966 and 1967. Feldman opens the radio program by describing a bothersome experience. The composer visited a beach and was annoyed by the presence of transistor radios “blaring rock n’ roll music, all over.” The composer called the radios an “interruption” into his experience and asks Cage whether or not he had similar feelings toward radio broadcasts. Cage responded: “I made a piece using radios. Now when I hear radios, I think, well, they’re just playing my piece.” Feldman scoffed at the idea of the radio as an artistic site, exclaiming: “I can’t imagine some brat turning on a transistor radio in my face and say, ah, the environment!” Cage replied, “All that radio is, Marty, is making available to your ears what was already in the air and available [but] you couldn’t hear it... [radio makes] audible something that you’re already in – you are bathed in radio waves, [television] broadcasts, telepathic messages.”⁸⁸⁶

They discussed the nature of listening to sound while producing visual art: Franz Kline listened to Wagner while David Tudor listened to multiple radios and a television at the same time.⁸⁸⁷ Cage described a time “in the ‘40s [when] painters still attended concerts, and we spoke of the renaissance of new music,” describing the relation of 1950s art and music:

Varese was beginning to be played again... I [sat] next to De Kooning and [it was clear that] they were talking about the crumbs that fell on the tablecloth. Bill was discussing whether or not this [situation] was art and concluding that this wasn’t [art]... [it] was a difference that had already appeared between myself and Bill. I remember him saying once to me: ‘The difference between us is I want to be a great artist and you don’t.’”⁸⁸⁸

Feldman retorted: “In order to be a great artist, do you have to turn off the radio?” Even among the most successful composers of new music, the utility of the radio – as a compositional tool or a broadcast format – remained unclear. However, from the perspective of radio programmers, the realm of new music was explored as a means to garner new, and younger, audiences. Along with the rise of talk-shows, political commentary, and other community programming, public radio stations like WBAI increasingly featured experimental sound.

Public Supply dovetailed nicely into the development of listener-funded public radio as a cultural institution. The work initially began while Neuhaus was still, technically speaking, a performing musician. In fact, the very beginning of the artwork came on the heels of a European musical tour, after which he was invited on the air by a WBAI music programmer to speak about the artistic paradigm of new music and his experience realizing the complicated works of Cage and Stockhausen. In this sense, it could be tempting to view *Public Supply* as a work of music, a live sound collage in which the audience makes sound, instead of silently listening to incidental ambient sound (as in Cage’s *4’33’’*). This interpretation would be largely correct: the work is at its core a musical composition and was described as such through at least 1968: the CJRT realization occurred after the release of *Electronics & Percussion*, but the work was consciously billed as a “concert over [the air].”⁸⁸⁹ However, the work is as much about redefining how people

⁸⁸⁶ See John Cage and Morton Feldman. “Radio Happening I.” New York: WBAI-FM, July 9, 1966. I am indebted to Joe Militus’s article “Radiophonic Ontologies of the Avant-Garde” for directing me to this artifact.

⁸⁸⁷ Ibid.

⁸⁸⁸ Ibid.

⁸⁸⁹ Quote pulled from a promotional poster for the *Sightsoundsystems* exhibition (1968). Ryerson Institute, York University, University of Toronto. 1968. Estate of John Giorno.

interact in social spaces, particularly those of the radio and the burgeoning realm of public radio, which was an alternative to the concurrent rise of commercial radio, which eagerly broadcast and monetized the audio materials and radio programs from privately owned news organizations and the popular music industry (which of course have very clear institutional goals, namely generating profit, that are not necessarily aligned with the community interaction and discourse services offered by public radio).

WBAI became one of the leading non-profit public radio stations in the country after 1960, when it was purchased by New York City philanthropist Louis Schweitzer. Schweitzer, who long believed in the social importance of public radio – and a theory of listener-sponsored, or funded, radio – donated the station to the nonprofit Pacifica Foundation.⁸⁹⁰ In 1966, the year of the first *Public Supply*, WBAI expanded its broadcast range with a new antenna placed atop the iconic Empire State Building. Neuhaus's call-in collage took place during a moment of mass transformation, and a (desired) increase in listenership. The work was equally social as it was formal. WBAI remains today under the guidance of Pacifica, although its programming operates independently. WBAI was mired in the 1960s by federal investigations into its perceived ties to communism, Black radicalism, and support of homosexuality.⁸⁹¹ As previously discussed, the station also saw a loss in listenership in the 1970s and it struggled to make enough profit to cover operational and staff costs (leading to a staff barricade of the Empire State Building antenna in 1977, which was sparked by staff cuts and alleged racist management).⁸⁹²

Public radio stations associated with the Pacifica Foundation, especially WBAI (NYC) and KPFA (Berkeley) were utilized by sound artists and new music composers to experiment with the format of distributed sound. Rather than simply presenting recordings of electronic music or host a live studio concert, some artists, such as Neuhaus, Keith Sonnier, Kenneth Werner, and Maryanne Amacher. These artists used the entire radio infrastructure, instead of simply the transmitter, to conceive and implement novel audience-oriented, and at times audience-constructed, radio programs and environments. These projects highlight the use of the radio not as a transmission and reception utility, but an active site of experimentation for cultivating live mediated encounters and correspondence, a virtual telematic and radiophonic space unhindered by spatial dis-contiguity. By looking at these projects, we can see how, on the one hand, the public radio system became a locus for experimental music and sound art, but also, on the other, how some artists actively engaged their listening audience with situations around the site and presence of virtualized media space. Neuhaus discussed the reception of radio art in the New York City art community in 1977. The artist focused on what he perceived as its underwhelming understanding of new music and sonic art. Specifically the revived realm of radio and telematic art. In his casual statement – apparently made after several glasses of bourbon – Neuhaus lamented the “art world” types who suggested that his recent work with radio plagiarized the artist Keith Sonnier.⁸⁹³ Neuhaus intimated that he had heard rumors that others had inferred that he copied Sonnier, whose project *Air to Air* (1975) transmitted live telephone signals from Leo Castelli Gallery in New York City to Ace Gallery in Los Angeles (these two cities also played an important role as signal hubs in the forthcoming *Radio Net* broadcast, perhaps instigating gossip

⁸⁹⁰ For the history of WBAI, see: Eleanor McKinney, ed., *The Exacting Ear* (New York: Pantheon Books, 1966).

⁸⁹¹ “The Federal Communications Commission Decision,” in *The Exacting Ear*, ed., Eleanor McKinney (New York: Pantheon Books, 1966): 319-324.

⁸⁹² See “What Happened?” *The Fight to Save WBAI*, Issue 1 (April 1977). http://www.wbai.net/hist/tab_77_1.html

⁸⁹³ The recording was found on an unpublished piece of audiotape made on the evening prior to NPR's broadcast of *Radio Net*, suggesting that Neuhaus felt sorely about this gossip prior to one of his most visible, and structurally complex, piece to date. See MNP. Box 38. CD 24.

and resentment). Neuhaus felt that these unnamed people were unaware of his early experiments with the medium, specifically *Public Supply* (which predated *Air to Air* by a decade). Still, Sonnier also produced radio works throughout the 1970s, including: *Send/Receive/Send* (1973; 1977) at The Kitchen and at the Ace Gallery respectively; *Radio Mix* (1974) at the Leo Castelli gallery, and also the *AM/FM Radio Installation* (1979) in Brussels.⁸⁹⁴ Neuhaus worked with Castelli on a 1974 realization of *Water Whistle*, and one can appreciate his frustration – the *Public Supply* works were not remembered or thought of as art, but rather music. Like his reaction to comparisons between he and Christo, Neuhaus was noticeably bothered that people celebrated Sonnier, a sculptor who embraced formlessness of sound and radio, for his “innovative work,” which was in actuality produced in the wake of the former’s earlier experiments (but which were not known among the visual art world in the 1970s).

Kenneth Werner is another notable artist to highlight in relation to sonic radio art and the use of public radio stations. Werner was the host of a recurring freeform and hybridized sound collage and call-in radio show and an active voice in the new music scene surrounding the Bay Area in the early 1970s.⁸⁹⁵ Werner used the pseudonym ‘Phil Harmonic’ for his experimental broadcasts in New York and the San Francisco Bay area, as well as occasional live events and sonic situations based on the impromptu recording and playback of a location’s incidental soundscape. Werner began experimenting with the radio format while he lived in New York in the 1960s. He was already deeply engaged with the new music scene through his friendship with the artists of the ONCE Group, such as the composer Robert Ashley and electronic musician Gordon Mumma.⁸⁹⁶ Werner performed with the music collective Sonic Arts Union (which included Ashley and Mumma with David Behrman and Alvin Lucier) as early as 1966.⁸⁹⁷ Werner attended the California Institute of the Arts and received a BFA in 1971, and shortly later received a MFA from the nearby Mills College (1973).⁸⁹⁸ Prior to moving to California, where his work explicitly intersected with conceptual, collectivist and feminist art practices, Werner lived in New York City, partaking in its still active new music scene of the late 1960s. For example, Werner organized the “Evening of Continuous Music” program in the NYU dormitories, an unprecedented durational sound event that lasted at least four hours, and featured a contribution by Neuhaus.⁸⁹⁹ Additionally, Werner was particularly interested in the work of Charlotte Moorman, whose festivals set the populist tone of Werner’s radio programs, which included a mixture of popular music, sound collage, electronic music and sounds sourced from previous programs. The collage was overdubbed with live listener call-in conversation, mediated by the artist, who did not so much compose the mix as rather let it occur in an ad hoc and non-linear development, or rather an accumulation, rather than an organization, of sound over time.

⁸⁹⁴ Leo Castelli turned one project into an artist edition vinyl record. See Keith Sonnier, *Air to Air*, Los Angeles: Gemini Gel, 1975. LP.

⁸⁹⁵ Loren Means, “Oakland’s Mills College Sounds the Way for New Music,” *Berkeley Barb*, Vol. 26, Issue 21 (642) (Dec. 2-8, 1977): 28.

⁸⁹⁶ Like Neuhaus, Mumma was one of the leading experimental sound artists to design, build and utilize live electronic circuits in performance and on recordings. Mumma’s circuit score *Bandoneon* was included in Cage’s *Notations* along with Neuhaus’s *Max Feed*.

⁸⁹⁷ See <http://www.lovely.com/bios/harmonic.html>

⁸⁹⁸ Mills College was particularly a center for electronic music (notably the Buchla synthesizer). The three-tape mix series, “Seven Years of Crazy Love Music From the Center for Contemporary Music 1969-1976,” was compiled in 1977 by Bob Sheff and is annotated at: <http://o-art.org/history/70s/CcmCrowd70s/SevenYears/7YearsTape1.html>

⁸⁹⁹ It is unclear if Neuhaus and Werner had any extended or serious interaction. See Chapter 1

Neuhaus's *Public Supply* was obviously an influence on Werner's exploration of the radio as an artistic tool for mediated public sound construction. However, Neuhaus and Werner had notably different approaches to the radio as an artistic material, media format and a social space. It is very likely that Werner knew of Neuhaus's prior broadcast works, which began in New York City in 1966 on the Pacifica Foundation's WBAI. In 1976, Werner would later use the foundation's station in Berkley, KPFA, for his own multi-hour live sound event. (Neuhaus will unveil his 1977 live radio event *Radio Net* on the national NPR network in late 1976.) Like Neuhaus, Werner was interested in using the radio not as a means of transmission of recorded material or scripted interview conversations, but rather as an ad hoc space for creation, both on the part of the artist and the attentive participating audience. In other words, the radio was not seen as a canvas, or an exhibition space, so much as a site for its production. In this sense, the works of each are strongly aligned with social practice, both as an art form but also as a cultural reality, or the idea that people share physical space and could do the same in the virtual space of the radio broadcasting system. Their works are thus as much social as they are aesthetic. Werner described the numerous manifestations of his artistic practice as "(always) not strictly musical composition and performance, but rather suggestions towards unconventional modes of attention," adding that he was specifically interested in "[demystifying] the relationship between people and art and technology."⁹⁰⁰

Werner began his *Radio Music* series in 1968 in New York City. The title of the piece is a shortened version of *The Radio Music City Hall Symphony Orchestra*, an absurdist mixture of the famous popular music and broadcasting venue, Radio City Music Hall, and the attribution of a nameless "symphony orchestra," a prominent feature of any culturally aspiring city or geographical region (such as the Boston Symphony Orchestra). It is unclear exactly how many times Werner realized the work, but the artist described the project as "accumulative" in nature, suggesting that there were several versions (or at least more than two). He used his disguise as the radio personality 'Phil Harmonic' (another terrible pun on the category of *philharmonic* orchestral music) to mix unrelated sounds and pre-recorded music, including audio recordings from previous versions, together live on air. The telephone number for the station was given out (likely on air) and the audio signal was fed into the on-air mix, providing a similar 'feedback' concept to what Neuhaus used in *Public Supply*. The listener listened to the broadcast as they were contributing to the broadcast. It is unclear technically how Werner's call-in system worked, but there seems to have been only one caller at a time. Werner talks to the caller about the work and themselves, sharing a strangely intimate conversation over the air for others, who are not part of the conversation – or at least not yet – to hear. In contrast, Neuhaus generated a system to hold multiple callers at the same time, and calls were fed directly and automatically into the mix. Neuhaus also did not speak to any caller, nor was there any direct conversation (although some did call out to friends who had already called or were trying to call unsuccessfully, a slow and delayed communication). Werner released a recording of *Radio Music* on a 1980 six-disc 7" box set that featured music by various artists on the avant-garde music label Lovely Music (founded and operated by artists Robert Ashley and Mimi Johnson).⁹⁰¹

The recording is a special mix created for the vinyl release rather than a direct live or on-air construction, having stated that: "[In] this version, for magnetic tape alone, four channels of

⁹⁰⁰ See Kenneth Werner's liner notes for Various Artists, *Lovely Little Records*, Lovely Music LP 101-06. 1980. Box set of six 7" vinyl records

⁹⁰¹ Various Artists, *Lovely Little Records*, Lovely Music LP 101-06. 1980. Box set of six 7" vinyl records. See: <http://www.ubu.com/sound/lovely.html>

changing radio information were mixed "intuitively" down to pseudo-stereo." It is worth noting that Werner refers to the sound sources – sound on audiotape – as *radio information*, suggesting a clear understanding of sound as a type of transferable data, or as a logical organized material that can be shared from one place to the next (transmitted) but also re-organized (remixed).⁹⁰² Several minutes into the four-channel *Radio Music* tape mix, a poignant conversation takes place between a caller and the artist. The dialogue highlights how *Radio Music* was received by (some) callers, and how it operated within the audience-space of radio listenership, notably by breaking down barriers between the listener and the host, as well as the social or class restrictions imposed upon radio listenership. The voice of the artist is heard: "Hello, you're on the air," a signal to the caller that they reached the host and were being broadcasted live. The voice of an unknown woman hesitantly responded, "Hello? Can you hear me?" And so goes one of the clichés of of telematic interaction. "I can't believe the program is so interesting... I don't know, I just couldn't turn it off," said the caller (of a noticeably older age). "Everyone seems so lively. The [program] isn't structured or linear. It's sort of casual – well, it isn't casual, it's just real," she continued.

The artist responded, "Wonderful. I'm glad you get the idea!" The caller responded "Do I?"⁹⁰³ Despite not knowing whether or not she understood what the artist was trying to do, and perhaps also what she was actually listening to, the caller asked Werner, "Will you be on again?" "God knows whether we'll be on again," he responded, perhaps recognizing the unlikelihood that any radio station would find the structure-less (and music-less) *Radio Music* appealing as a recurring program, and probably also as a single experiment.⁹⁰⁴ "Oh, well it's fun because I've never called a program, because they're so dumb," confessed the caller, recognizing the uniqueness of the situation and also seeming surprised that she felt compelled to call in at all. Werner responded by saying that "Most radio shows are so insulting," a comment that speaks toward the class barriers that radio programs support, or construct, especially on topics of politics and art. The broadcasting of classical music in particular, the primary theme of most public radio music programs, is steeped in centuries of elitist attitudes about what constitutes good musical composition and taste. The caller ends: "This is another thing you have, the warm sympathy, the empathy. The realness of you... keep going will you?"⁹⁰⁵

On April 6, 1976, Werner went on the air at KPFA in Berkeley. He was invited to the station by his friend Howard Moscovitz, who hosted a "semi-weekly" program of new music. Werner used the opportunity to host an "unannounced radio broadcast," subverting the structure of the KPFA schedule and also the FCC. Unannounced and unplanned, Werner's "The The Rolling Tones Radio Hour" inverted Neuhaus's announced and intensely planned shows like *Public Supply* and *Radio Net*. The three-hour freeform program broadcast recordings of various events and situations initiated by Werner, and included other environmental sounds, such as the Pacific Ocean, and site-based field recordings. Werner invited people to call into the program to discuss anything that they desired, stating during the broadcast that the show was an

⁹⁰² This version appears to contain sound materials – radio information – from the late 1960s through the 1970s. The earliest date indicated comes from the inclusion of a clip from the rock-and-roll song *You Can't Always Get What You Want* (1969) by the Rolling Stones, which will be a prominent fixture in later versions of "The The Rolling Tones Radio Hour."

⁹⁰³ "The The Rolling Tones at the Co-Op Natural Foods," on Various Artists, *Lovely Little Records*, 1980. Lovely Music. Vinyl.

⁹⁰⁴ "The The Rolling Tones Radio Hour," on Various Artists, *Lovely Little Records*, 1980. Lovely Music. Vinyl. The audio excerpts included here can be heard on this album.

⁹⁰⁵ Ibid.

“opportunity to work within the format of unannounced radio broadcast, sharing my ideas with others who wished to talk.” The concept was similar to *Public Supply* (with the exception of Neuhaus’s notably silence) and was perhaps slightly more explicitly social.⁹⁰⁶ Werner asked one caller, “How do you like [the program] so far?” “Well, uh, I can say it’s interesting” said the caller, adding “you’re trying to [put] across the people.” “Well, instead of hypnotizing people with synthesizer music,” Werner said, “I’m meaning to be pretty direct about desiring feedback from listeners... as you imagine that synthesizers are more important than people, I remember that people are more important than synthesizer, or art objects.”⁹⁰⁷

Neuhaus spent considerable time around Berkeley in 1968 to work with Alison Knowles on their collaborative architecture-installation *House of Dust* (1968-1970). Neuhaus worked with Knowles to rebuild and maintain the piece throughout the year, following its initial arson destruction in Chelsea in 1967 and then the repeated student ‘sonic vandalism’ of the work on campus (the students at CalArts apparently liked to adjust the tone oscillators and ‘re-tune’ the work to their own liking, much to the dismay of Neuhaus). However, his time in Berkeley produced another version of *Public Supply*, which like its 1967 counterpart at Stony Brook University – along with *House of Dust* – was eventually forgotten by the artist. Whereas the 1967 WUSB-FM version at Stony Brook was seen as a failure due to technical problems and a lack of campus support, there is no clear evidence why the KPFA-FM version was intentionally forgotten by the artist. One possibility is that the broadcast conflicted with the narrative of his abandonment of music upon the release of his Columbia LP, given that the broadcast took place in November and was presented as a musical composition. However, the artist’s reprisal of radio in the 1970s does not support that argument, considering works like *Public Supply III* (1970) at WBAI-FM in New York, *Public Supply IV* (1973) at WFMT-FM in Chicago, and *Radio Net* (1977) on the national NPR system. The KPFA station published a folio of upcoming programs each year. In November 1968, they listed *Public Supply* as such in their folio publication:

A composition for radio audience by Max Neuhaus. The listeners supply the sounds used in the music. Anyone may phone in any sound he wishes. Tune your radio to KPFA or KPFP and be sure your telephone is within two feet of your loudspeaker. (If this is impossible, you can call anyway.) Keep your radio volume fairly high. Dial 848-4425, 848-6767 or 981-7730 (San Francisco). No one will answer. When the phone stops ringing, make the sounds you wish to make. Your call will be fed directly into the music. You may continue as long as you wish, or until your call is terminated. All sounds will be monitored, mixed or altered by the composers and broadcast. This work will be continued on The Wallace Berry Slum later tonight. Peace.⁹⁰⁸

There are several interesting aspects of this terse description. The work – here called a *composition* firstly rather than a *musical composition* – was scheduled for a prime early evening mid-week slot: Wednesday, November 13th at 9:15-10:30 PM.⁹⁰⁹

This slot is notable for two reasons: the first is that the hour follows immediately after the daily evening news report – in particular, at least at KPFA, the hour of 8:15-9:15 was a

⁹⁰⁶ “The The Rolling Tones Radio Hour,” on Various Artists, *Lovely Little Records*, 1980. Lovely Music. Vinyl.

⁹⁰⁷ Ibid.

⁹⁰⁸ *KPFA Folio* 19, no. 11 (November 1968): 17.

⁹⁰⁹ Ibid. The broadcast was also relayed to neighboring KPFB.

supplement to the daily 6:30 half-hour report; while the latter was called “KPFA News,” the former was ambiguously called “Open Hour.” This hour appears to have been music-free and is listed as being “for timely public affairs coverage,” probably recited by a rotating cast of radio station on-air personalities and show-hosts. In this open hour, the station could address local issues, rather than the national news and in particular the station-specific information, such as listener questions and concerns or changes in format and upcoming shows. In this context, we can see *Public Supply* as a very particular subversion of the “Open Hour” slot that transformed the discussion of “public affairs” to one of “public supply” (i.e., discrete information-sharing and signal output turned into a collective noise-making input/output feedback loop). In fact, Neuhaus seemed to have hosted several version of *Public Supply* on KPFA during his time in California. In addition to the November 13 version, Neuhaus had previously hosted one on February 6 that same year. Similarly, it was structured between an early 9:00 PM beginning slot and a following slot at 12:00 AM. On this occasion, the work continued on music critic John Rockwell’s program “Structures,” which had no obvious ending (meaning that *Public Supply* technically continue all night until the next broadcast at 7:00 AM).⁹¹⁰ It is unclear how exactly Rockwell and Neuhaus approached the broadcast, a sort of collaboration, but notably the folio listing suggests that more than one person was controlling the mixer: “All sounds will be monitored, mixed or altered by the composers.”⁹¹¹

There were no “public affairs” discussed during *Public Supply* – at least in the same manner, or on the same scale, as the previous hour. There is a difference of scale as to what is important to one or two persons versus what is important to a whole city or region. The second reason is that typically the on-air hour following “Public Affairs” was given to conventional musical broadcasts (mostly classical music) that could be listened to casually following the evening news and prior to going to sleep. In this case, Neuhaus provided an anxious follow-up to the news rather than a calm relief – a cacophony rather than respite. For example, the same slot an evening prior was given to a hosted music program called “A Leisurely Tour Through Keyboard Music,” a title that conveys an incredibly passive counterpart to the non-leisurely radiophonic calamity that took its place the following night.⁹¹² Anyone expecting to listen to such a program on Wednesday evening would have been quite surprised (if they had not first checked the station’s program folio). In this contrast we can sense not only an inversion of the 8:15 news program (i.e., signal into noise) but also the the 9:15 musical broadcast (i.e., music into noise). The contrast emphasized each of the musical, anti-musical and post-musical qualities of *Public Supply*. Furthermore, the folio description indicates that the broadcast work actually took place in two separate segments: the first took place between 9:15-10:30 and was “continued on The Wallace Berry Show.” Unlike the WBAI version, the KPFA version of *Public Supply* was cut-off by two other programs and then reconstituted for another period. The first program that cut Neuhaus off was a hosted show called “Contemporary Literature,” which presumably consisted of readings and thoughts on literary writing of the period. The show was broadcast from 10:30 to 11:30 and appears to have been somewhat scholarly in tone. One can imagine the disdain with which its host may have felt toward Neuhaus, if he had been asked to volunteer his slot for the young New Yorker’s absurdist experiment. The show that followed on the 11:30-

⁹¹⁰ *KPFA Folio* 19, no 2 (February 1968): 7. Notably, Rockwell had previously reviewed several of Neuhaus’s works as a performing musician and would continue to write about his *post-musical* art.

⁹¹¹ *Ibid.*

⁹¹² *KPFA Folio* 19, no. 11 (November 1968): 17.

12:00 slot was simply called “About Plastics,” an interview with a Caltech professor on “the properties governing the strength of plastic [and rubber] and the effect of smog constituents.”⁹¹³

There is also the connection of the plastics industry to public health concerns and the emergence of the EPA in 1970 – keep in mind that the term ‘public supply’ also refers to environmental and ecological paradigms (e.g., the public water supply and other public resources). In any case, the second portion of the KPFA broadcast occurred at 12:00 AM, giving the artist (and his friends in the studio along with the radio public) enough time to mentally prepare for the broadcast, or otherwise imbibe alcoholic drinks (or other substances) to ensure a lively contribution. Notably, there is no ending-time listed for the piece and no evidence circumstantially to know how long it was broadcast (presumably until the artist became bored, the station manager upset, or listeners stopped calling). The official program listing following *Public Supply* was the 7:00 AM morning news. Similar to WBAI, the program was surrounded broadly by lots of contrasting and diverse programs, including one on psychedelic drugs, astronomy and cosmology, the “struggles against racism [by] the NAACP,” and a program dedicated to “a subjective approach to the homosexual subculture.”⁹¹⁴ Perhaps such concerns were also discussed on the previous “KPFA News” or “Open Hour” segments. How did *Public Supply* intersect with these socially-conscious programs? How did Neuhaus’s use of the radio factor in not only the *public supply* of the radio listener, but the *public use* of radio as a format – and radio as a *public sphere*?

Radio Net (1977)

Radio Net (1977) was structurally similar to *Public Supply*. The public was given instructions to call a series of numbers, within a certain time period, and be able to provide source audio for an extended, experimental broadcast. Once again, Neuhaus mailed out postcards for the event; and, being held on the NPR servers, it was also given on-air advertisements as well. As Neuhaus had done in *Public Supply*, all of the calls were routed into a single studio and mixed live on the air.⁹¹⁵ However, *Radio Net* was by far a much larger endeavor – nationwide rather than citywide. Although *Radio Net* was conceived in direct relation to *Public Supply*, there are several key points of difference. Not only was the topography enlarged, but *Radio Net* transformed five independent NPR networks into looping hubs, constructing a series of a closed-circuit round robins. There were five unique radio loops, separated by region: East (New York), Southeast (Atlanta), Midwest (Minneapolis), Southern (Dallas), West (Los Angeles). Each group connected to the central studio in Washington D.C., which Neuhaus used as a home base for mixing incoming signals. Each round robin loop came through the NPR studio for processing, filtering, and was fed back into its primary circuit, only to return for another passing, and so on.

⁹¹³ While at first glance appearing to have zero relation to Neuhaus, it is interesting that this program should follow *Public Supply*. On the one hand, Neuhaus at this point was experimenting with plastics on his own – as was the Fluxus group generally – through the *Max-Feed* device and vinyl album *Fontana Mix-Feed* (1966), which was itself made of plastic but also encased and air-sealed plastic by the Mass Art, Inc. company (which made its money selling inflatable furniture).

⁹¹⁴ *KPFA Folio* 19, no. 11 (November 1968): 17.

⁹¹⁵ The mixing process was again largely intuitive, but also maintained formal regularity. As Neuhaus noted about *Public Supply*, “I saw myself as a sort of moderator; I tried to form interesting combinations of callers on the air and counterbalance the extroverted with the introverted.” See Max Neuhaus, “The Broadcast Works and Audium.” In *Zeitgleich: The Symposium, the Seminar, the Exhibition*. Vienna: Triton, 1994.

There were five unique broadcasts occurring simultaneously, over a network that was “fifteen-hundred miles wide and three thousand miles long,” and it was Neuhaus’s job to keep them stable: “It is touchy when you put a wire that long in a loop; even if you do have [control], each loop is in a sense a living thing – they could get out of hand very quickly.” A video produced by NPR captured the bizarre, at times frenetic, scene in a short-form documentary. Throughout the odd twenty minutes, we witness the event unfold, at times anxiously, as studio assistants tried to accommodate the “nonsense” (as it was called by one engineer) that was about to take place. Indeed, Neuhaus reflected on the experience in a later interview: “NPR was in shock.”

Neuhaus spent years nearly four planning *Radio Net*. Steve Rathe, a chief producer of the program and the network’s first point of contact to Neuhaus, described a period of three years that led up to the final program on January 2, 1977. Like *Times Square*, *Radio Net* required substantial funding and, perhaps more difficultly, substantial logistical planning with numerous radio network departments and outside agencies, such as the FCC. The NPR engineers worked overtime to test a system that had never been used for a nation-wide call-in program, much less one with decentralized points of frequency modulation in five cities. There was serious concern among leadership that *Radio Net* might physically damage the immense radio, electrical, and telephone systems that the network used to distribute and broadcast audio. The technical engineers did not even know if the project was possible from a technical point of view. This troubleshooting and infrastructural work happened after regular hours and during low points in the broadcasting schedule. In other words, *Radio Net* was worked on by the engineers in the crevices of normal broadcast operations, and mostly, as Rathe recalls, out of intense personal interest in the program. Only on few occasions, such as the program day, was normal broadcasting interrupted – and even less so for such an experimental use of the network, which presented what was effectively a puzzle to the engineers, who eagerly examined the artistic and technical limits of their system.⁹¹⁶

It is useful to recall some telephone mechanics from the mid-1970s. In particular, the fact that to participate in the work was not free to all, and that the nature of the ‘public’ in this sense was limited to those with active telephone connections (and thus telephone subscriptions, or money to pay for a direct call). In a promotional advertisement in the *Eugene Register-Guard*, the paper warns the caller that “the call will be charger to the whistler.”⁹¹⁷ The audience was thus likely one of primarily middle class (and white) individuals. NPR was a young organization in 1977, and there was no specific perspective that mandated its radio programs.

NPR was founded in 1970 as a non-profit multimedia organization, and was “[launched] as a radio network by a group of public radio stations.”⁹¹⁸ NPR had its first official broadcast on May 3, 1971 with an episode of *All Things Considered* (its flagship program). The network was largely staffed by people who came from field of non-commercial public radio.⁹¹⁹ The interest in public radio was a counterpoint to the rise of commercial radio, and functioned, at least philosophically, as a new public forum for social engagement and discourse. NPR is now a large network of radio stations with a massive production schedule - and a massive budget. However, in its early days, NPR had more in common with the smaller listener-funded stations that served local communities, such as WBAI (New York City), KPFA (Berkeley), and WFMT (Chicago) (all of which Neuhaus had previously worked with). By 1977, NPR had decent funding for a new

⁹¹⁶ Oral interview with Steve Rathe (June 8, 2016).

⁹¹⁷ “Wanna Whistle?” *Eugene Register-Guard* (December 30, 1976).

⁹¹⁸ National Public Radio, Fact Sheet (2016): http://www.npr.org/about/press/NPR_Fact_Sheet.pdf

⁹¹⁹ Oral interview with Steve Rathe (June 8, 2016).

organization (though not the nearly 193.1M budget it received in 2016) and little programming oversight. NPR – and particularly Rathe – saw an opportunity to experiment with the capabilities of its new network with *Radio Net*.⁹²⁰

The production facility largely produced syndicated programs for its smaller independent stations, such as *All Things Considered* and *Morning Edition*. These shows were some of the earliest live radio shows broadcast on a national scale, and could be picked up for free by the local stations, which either received 1) a reel-to-reel tape of a pre-recorded program, or 2) plugged into a dedicated phone line network to receive a signal from the main production studio in D.C. (where *Radio Net* was produced). Each option had negative and positive effects. On the one hand, magnetic audiotape ensured a quality of the program in both artistic and production terms, and allowed for precise controlled editing as well as high fidelity playback, but the tapes had a longer production schedule: the conception, organization, recording, mastering, editing, copying, and distribution (via ground mail service) required substantial time schedule. On the other hand, the live telephone broadcast system – a network of telephone lines, owned by AT&T, which were nearly identical to the public service used in homes – provided near instant signal reception, allowing for live news shows as well as performances, but the live aspect allowed for more errors and mistakes, say, if the orchestra messed up, or if there is telephone interference. The signal quality of the telephone system was notably poor as well, and provided a sub-standard audio fidelity. The low quality sufficed for news and talk radio, but was ill-equipped for musical composition due to its narrow bandwidth and notably tinny and canned timbre.⁹²¹

NPR produced a short documentary film to preserve *Radio Net* as an artwork, and also, in many ways, justify its programming relevance and significant expenditure.⁹²² The video provides direct insight into the project, including interviews with the artist and the NPR producers. NPR had hosted live music in the studio, including orchestral concerts, but an experimental broadcast piece like *Radio Net*, which had no clear musical or artistic structure, provided new grounds, both artistically and technically. The use of phase-shifting circuits, which processed live audio, was exceptionally difficult due to the necessity to build complex circuits (rather than purchasing prefabricated systems).⁹²³ Some engineers and administrators were wary of the project, but *Radio Net*'s producer, Steve Rathe, was able to secure funding (and trust). Another producer, Jay Kernis, claims that the radio engineers were particularly excited to work on the project, given its unique approach to electrical engineering problem-solving and customized circuit designs.⁹²⁴ However, the work was a behemoth to organize and an anxious gamble for local stations that subscribed to the burgeoning NPR network, many of which did not initially care to carry the broadcast. The engineers mailed custom electronic devices that controlled electronic processing to the local stations, minimizing their responsibility and offering a plug-and-play approach that opened the work to non-specialist engineers.

Following its completion, the general sense among participating producers and engineers was that a project like *Radio Net* would never happen again.⁹²⁵ Thankfully, there are numerous audio recordings of the broadcast. As David Grubbs has argued, sound artists of the 1960s and 1970s were suspicious of audio recording. Like *Public Supply*, a similar situation presented itself

⁹²⁰ Oral interview with Steve Rathe (June 8, 2016).

⁹²¹ Oral interview with Jay Kernis (April 15, 2016).

⁹²² Margaret Gregg, dir., *Radio Net*, Washington D.C.: National Public Radio, 1977. Video.

⁹²³ Oral interview with Steve Rathe (June 8, 2016).

⁹²⁴ Oral interview with Jay Kernis (April 15, 2016).

⁹²⁵ Ibid.

to Neuhaus with *Radio Net*. Recordings of *Radio Net* exist, but the work was conceived as a one-time broadcast. Neuhaus had no intention of presenting the work in a recorded format. However, the engineers had to make recordings to oversee their broadcast system and ensure that signals were flowing – or feeding – properly to each node of their network. In many ways, the work was both *site* and *time-specific* in structure, and a recording could not convey its *durational* parameters. However, like the use of media by emergent environmental and performance artists, the video format provided a form of documentation that preserved the work in a mediated fashion without attempting to replace it entirely. NPR of course would have also had an invested interest in commodifying the event as much as possible, so making a video documentary resolves the financial problem of not being able to re-broadcast the work as a recording in the future.⁹²⁶

As Rathe remembers, there was a widespread sense of excitement and experimentation with what radio could be, how it would be, and for whom it might serve. There was also substantial fear of experimentation with the radio network itself, as well as its branding as a new media company. *Radio Net* took part in this important moment of self-articulation as the network figured out the nature of their audience and itself. During a promo-spot recorded to be played in the weeks prior to, and even during, *Radio Net*, Neuhaus explained the piece. He professed his disinterest in musical establishment: “I am not interested in making music exclusively for musicians or musically initiated audiences. I am interested in making music for people.”⁹²⁷ From a philosophical view, the statement reflects the Cagean ideas Neuhaus internalized as a musician, specifically his rejection of the ideology of the concert hall and embrace of *subjective listening*. From a practical view, the NPR producers sought to provide the audience with some context for the noisy frequency modulations and feedback that comprised *Radio Net*: firstly, they would hear sounds that did not seem like typical classical music; secondly, they were in fact the intended audience; and thirdly, that the NPR system, or the home radio, was not broken.⁹²⁸ The broadcast was not only Neuhaus’s own challenge to musical conventions, but to the very definition and institutions of music among the producers and listeners of public radio.

During a recorded discussion the night prior to the New Year’s Day realization of *Radio Net*, the artist lamented at how many contemporary painters that would scoff at the idea of making work in the style of Renaissance painting, but “[have] no problem listening to composers from the eighteenth century” while they work.⁹²⁹ Neuhaus’s suspicion indicates his conflict in positioning *sound installation* between the concert hall and the white cube, as well as the general misunderstanding of his work in both musical and artists contexts. Of electronics, Neuhaus also said that his “goal for a very long time has been to find a way of dealing with things [that] I have, [and then] make a model of that in the form of an electronic system.”⁹³⁰ By seeking to build an electronic system instead of composer’s piece of music, Neuhaus is able to solve, or at least sidestep, the problems posed by the *proscenium situation*, in large part by reducing or removing any recognizable forms of traditional musical composition and performance. Once these aesthetic forms are removed, or more specifically reconfigured, then the ideologies of music and musical listening are also excised.

Despite the insistence by Neuhaus that he stopped being a musician in 1968, the promotional materials produced by NPR – with assistance by Neuhaus – display a much more

⁹²⁶ The radio station WBAI did in fact rebroadcast a version of Public Supply in 1966.

⁹²⁷ See MNP. Box 38. CD 2. “RadioNet Promos.”

⁹²⁸ Oral interview with Jay Kernis (April 15, 2016).

⁹²⁹ See MNP. Box 38. CD 24. “Saturday Evening, Sunday Morning.”

⁹³⁰ Ibid.

conservative approach to the nature of his artistic practice, which they clearly describe as musical. In the documentary film, an overdubbed voice (which was also used for on-air station calls during the broadcast) says:

Neuhaus has composed music for concerts that have taken place under water, at sidewalk installations, along roads, [and] at the entrance of a New York subway ... January 2nd, NPR invites you to participate in *Radio Net* by Max Neuhaus, a live nationwide composition designed for the NPR system, and all you have to do is whistle [dial and key tones].⁹³¹

The opening clip is a clear embodiment of how NPR wanted to pitch the piece, which could not really have been called composed in a typical sense, by claiming that Neuhaus had “composed music for concerts,” a turn of phrase that emphasizes conservative notions of musical composition, form, and performance, the very ideologies and “social and political practices” that Neuhaus specifically wanted to avoid, as discussed in the opening segment of the documentary. There is this a rhetorical and philosophical conflict in *Radio Net*, which exists in two versions effectively: the *site-specific radio installation* (rejecting musical ideology) and the *experimental musical composition* (extending centuries of Western art music).

There was some truth to the pitch: the project, developed by Neuhaus with the assistance of Rathe, was constructed over a period of six months with repeated testing and troubleshooting of the customized system. The head NPR studio, based in Washington D.C., did not typically function as a live studio. The studio functioned rather as a production facility for conceiving and producing syndicated programs, such as *All Things Considered* (which Neuhaus appeared on in the mid-1980s to discuss his ongoing, and never finished, emergency vehicle siren redesign project).⁹³² Leading up to the broadcast, the nationwide system built for *Radio Net* was tested to check for errors in its round-robin connections, given its novel reconfiguration, and the engineers worked with Neuhaus to make alterations, such as managing the levels and degrees of pitch shifting and frequency modulation, and also test audio signal strength and distribution. In other words, *Radio Net* was carefully practiced. In fact, these testing sessions required booked studio time – sometimes displacing scheduled shows – and were also referred to as *rehearsals*. This rhetorical shift further places *Radio Net* within a lineage of practiced musical performance, and live radio production for classical music programs.

The focus on new music was of particular interest to Rathe, who was an executive producer at NPR from 1974-1981. Rathe was responsible for creating its massive fourteen-part series *RadioVisions* in 1981, prior to leaving, which highlighted new American music, including experimental and avant-garde composers. In hour-long segments that combined portions of music with spoken word descriptions and interviews with artists, the NPR listenership was comfortably greeted by the music of Laurie Anderson, John Giorno, Orenette Coleman, and Anthony Braxton. The series was inaugurated with the music of Henry Cowell.⁹³³ For Rathe, the first program “lit a lamp” on how to introduce experimental music to NPR listeners, who he claimed would go out of their way to not listen to contemporary music (instead, Classical and

⁹³¹ See Margaret Gregg, dir., *Radio Net*, Washington D.C.: National Public Radio, 1977. Video. The promo spots are also included on MNP. Box 38. CD 2. “RadioNet Promos.”

⁹³² See MNP. Box 38. CD 25. The sirens project is of great interest to my research but as yet is too far beyond the scope of this monographic study of Neuhaus’s career, 1957-1980.

⁹³³ Michael Anthony, “A New NPR Series Tunes in New Music,” *New York Times* (October 11, 1981).

Romantic music was preferred, in addition to traditional jazz and swing).⁹³⁴ *Radio Net* was among the first of many experiments to introduce new music to the NPR audience in a novel and accessible package (i.e., not simply playing a recording).

Prior to NPR, Rathe worked at WBAI from 1970-1974. Neuhaus was obviously familiar with the station following his 1966 program of *Public Supply*. *Public Supply* served as the foundation for *Radio Net* in concept and structure, generally speaking, despite the latter being much more technically sophisticated and far-reaching (*Public Supply* reached only the greater NYC area while *Radio Net* was international in scope). Rathe did not meet Neuhaus during the initial 1966 broadcast at WBAI, but it is possible that he heard of the project during his time at the station. Indeed, Neuhaus staged another version of *Public Supply* at WBAI in 1970, the very year that Rathe began working as a producer. Neuhaus probably reached out to Rathe following his move to NPR in 1974, correctly sensing that a mutual connection to WBAI (and an interest in freeform radio) might have spawned a professional relationship.

The local stations were subscribers and affiliates to the main NPR network, rather than directly a part of its institutional infrastructure. Accordingly, there was sometimes – especially in its early phases – trouble in convincing local program managers to pick up the more eccentric programs, including new music generally. The majority of NPR affiliate stations at the time played classical music primarily, adding folk music sometimes and rarely jazz. *Radio Net* was lucky enough to have been taken up by the main studio, much less by the comparatively conservative stations beyond the primary participants (five local urban stations in New York City, Atlanta, Minneapolis, Dallas and Los Angeles). Sensing that it might be difficult to get the more rural areas to broadcast the piece, Rathe decided to unleash a heavy media campaign. The campaign took off publicly and internally through public-interfacing radio spots, which described the piece and how to participate, as well as internal project merchandise and promotional materials that were distributed via postal mail to every participating station. If you were lucky, you could have also obtained a *Radio Net* t-shirt. Rathe admitted that the real reason for producing *Radio Net* apparel (one of the only instances of such a phenomenon in Neuhaus's career, beyond perhaps his earlier Fluxus-inspired multiples, but even those were not worn on a body, save the *LISTEN* stamp) was to allow the lone station managers and technicians to “feel as if they were a part of the program,” which he described as thematically and conceptually unprecedented.⁹³⁵

There was also some disagreement within NPR about the project. According to Neuhaus, some NPR administrators were concerned about the title *Radio Net*, because the term “Net,” a shortened form of “network,” was not yet in popular parlance:

At the time the word ‘network’ didn’t exist, really. I called it *Radio Net* for *network* but NPR first wouldn’t let that title go through... they thought I was naming it for their competitor, National Educational TV – NET... because ‘network’ didn’t exist as a public word; it was an engineering term.⁹³⁶

One of the clearest differences between the *Public Supply* broadcasts and *Radio Net* was textual: while the former attempted to preserve the input of each contributor (mostly, voice and speech),

⁹³⁴ Michael Anthony, “A New NPR Series Tunes in New Music,” *New York Times* (October 11, 1981).

⁹³⁵ Oral interview with Steve Rathe (June 8, 2016).

⁹³⁶ Neuhaus in email conversation with Dasha Deklava. January 2001.

the latter obfuscated the input signals into an electronic wash, using pitch shifters and filters. If Public Supply functioned as an act of self-realization, then Radio Net was an act of de-differentiation; and while Public Supply was a cacophonous display, Radio Net was far more subtle, minimal, and, for lack of a better phrase, sonically smoothed out. Neuhaus explained: “[In Public Supply] I had left the nature of the sounds phone in for each caller to decide. [Here I wanted to] move them past the “Listen, it’s my voice on the radio” stage and towards listening to one another. [How does one indicate] something to perhaps half a million people with their diverse backgrounds, intentions, and ways of interpreting? [I asked them] simply to whistle.” For Neuhaus, the act of whistling created a sort of even playing field; everyone could identify, everyone could participate. This was especially emphasized by the heavy processing, which transformed whistles into drones, softened radio feedback, and added textural flare and electronic filigree. Unlike the Public Supply broadcasts, Radio Net was never repeated. Perhaps NPR was still “in shock” and had no interest in reproducing the event; maybe Neuhaus simply pushed the idea to its ridiculous endpoint: a non-verbal, nationwide, telephonic-radio communications system; no signal, all noise.

The response was mixed. NPR reported to the artist that between eight to ten thousand calls were made to the network – an “outstanding success.”⁹³⁷ The letter continues to describe the response, including those of the telephone companies that serviced local stations:

I understand that Telco threatened to cut off phone service to KUSC because the exchange was being overloaded by the volume of calls.”; “Artistically, the response has been predictably mixed. One station indicated that they received numerous calls during the piece, ranging from statements that this was one of the finest things that public radio has ever done to inquires as to when this damn thing is going to end. This demonstrates to me that people were interested, they listened, and they were affected by the work. They were moved to respond.”⁹³⁸

Indeed, the program director of WUNC said that he received nineteen complaints from callers, among a “telephone campaign” to punish the station, including one person who recommended that Neuhaus “jump off a lake.”⁹³⁹ The director argued for the opportunity, and necessity, to test the expectations and limits of public radio:

I’m still not prepared to defend the composition on musical grounds, but the market for sound nowadays, the structure of broadcasting, records, concert halls, is such that innovation and experimentation are rare. To have a medium for experimentation, sound such as public radio, is really important, even when the experiment fails, and in this case I’m not so sure it did... we won’t do it again, but we will try different things... we hope they will be worth it, and that they help people think and perceive in different ways, and [*Radio Net*] did that.”⁹⁴⁰

Similarly, the engineers at the BBC, which carried the Radio Net signal with Radio France, was confused by the intentions of the artist, and the sounds of the composition. Following a sample

⁹³⁷ Letter from NPR representative to Max Neuhaus (Jan 6, 1977). See MNP, Box 1, Folder 12.

⁹³⁸ Ibid.

⁹³⁹ See MNP, Box 16, CD 14.

⁹⁴⁰ See MNP, Box 16, CD 15.

signal, the engineer asked Neuhaus: “And you hear music in what we just heard now?” Neuhaus responded, “Yes.... I think my definition of music is certainly... not conventional... but usually new music never is.” The engineer, still confused, asked “How do you define music?” The artist responded, “I don’t in words, I guess...”⁹⁴¹

Radio Net was quite prescient in its scope and structure. The use of a live call-in format of course became a standard for public radio, still prevalent today, and its wide use of the NPR telephone system pointed toward larger scale broadcasts which had never yet been attempted. Not only did these programs subvert the institution of radio at a structural level, but they also pointed toward a new understanding of space altogether. At the very heart of this project is not only a fascination with technology, but a reconfiguration of space as fluid, malleable and immaterial. Neuhaus claimed that his telephonic-radio hybrid established a new type of social space, one where people could shed their inhibitions, but at the center of this idea is a radical conception of a flattened, and contiguous, space.⁹⁴² The collapse of geographic space was not limited to the United States mainland, but also implied a subtle connection between materials on an astronomical scale. Specifically, the use of satellite imagery in an engineering map and promotional image indicates an explicit interest in low-orbit communications and space exploration technologies.

It is thus no coincidence that the map chosen by Neuhaus to illustrate Radio Net system is a topographical representation. This is not an abstract map, delineating the borders of cities and states – at least within the United States – but one that shows land mass, elevation, distance, etc., in purely photographic terms. In fact, if we focus in on the lower right hand corner, we can see a small inscription. The text reads: “Space Portrait U.S.A.: The first color photomosaic of the 48 contiguous United States.” As the first image of the “contiguous United States,” the map conveys coded symbolic values – unitedness – and can be understood as a sort of collective image: of the United States, its citizens, its public.⁹⁴³ The images used to create the photomosaic – produced from some 500 images – were initially taken by the Earth Resources Technology Satellite (ERTS-1), launched in 1972 in a combined effort of The United State Government, The National Aeronautics and Space Administration (NASA), and General Electric (under the retroactively named Landsat program).⁹⁴⁴ The satellite was equipped with state-of-the-art photo-imaging and video technology, and sent data back to the earth for nearly a decade. The goal was to undertake a geological survey project, cataloguing the topography of the United States at different points in time to account for ecological change (note: launched two years after the formation of the EPA). The program served to document in entirety the surface of the United States in order to track and preserve landmass imagery and data for future use in ecology, communications, and surveillance. Results from this study were first published in 1976 by the Department of the Interior in an

⁹⁴¹ See MNP. Box 16. CD 15.

⁹⁴² Writing on these experiments later on, Neuhaus claimed that “I think of an electronic system as a special kind of statement of idea.” See Max Neuhaus, “The Broadcast Works and Audium,” in *Zeitgleich: The Symposium, the Seminar, the Exhibition* (Vienna: Triton, 1994).

⁹⁴³ In fact, a version of the map was published as an insert in an issue of *National Geographic* in 1976 (i.e., one year prior to *Radio Net*). Although Neuhaus had proposed the project to NPR as early as 1973, the publication of the first detailed photographic image of the United States, seen from a satellite, is unavoidable. Clearly Neuhaus was aware of the study as he used just-published map to sketch out his network, and he may have even known that participants might themselves own the *National Geographic* insert. “Portrait U.S.A.,” in *National Geographic* 150, no. 1 (July 1976). Photographic insert.

⁹⁴⁴ The satellite was launched on July 28, 1972. See Richard S. Williams Jr. and William Douglas Carter, “ERTS-1, A New Window on our Planet,” U.S. Geological Survey 929 (1976). <https://pubs.er.usgs.gov/publication/pp929>

article titled “A New Window on Our Planet.”⁹⁴⁵ The article included a number of infrared photographs taken by the satellite. In 1976, these were the highest resolution photographic images of the earth’s surface, taken in infrared and color-adjusted, typified by this image of the Upper Chesapeake Bay (more or less the same location from which Neuhaus would conduct Radio Net one year later).

Featured in *National Geographic*, the images became a part of a shared social consciousness, beyond their scientific insights into the welfare of our earth – and, likely, military pursuits. The images from this satellite also offered, for the first time, a complete view of the United States as a unified entity – not just metaphorically, but physically.

NPR began working on its current satellite distribution system shortly after the completion of Radio Net. The Public Radio Satellite System (PRSS) was launched in 1979 just two years after the Neuhaus experiment.⁹⁴⁶ The PRSS provided a more stable and high fidelity system for real-time audio transmission (lagged with a slight delay), as well as more dynamic interactions between the central distribution (output) station and the localized receiving (input) member stations. With the PRSS, the member stations were able to use the satellite to both receive signals from the Washington D.C. studio, as well as send their own, allowing for a more dynamic distribution feed network. There are thus many basic structural and philosophical overlaps between the PRSS and its antecedent *Radio Net*. Notably, the concept of geo-spatial contiguity provides a general framework for a whole and global view of the United States landmass, an idea pictorialized literally as a satellite photograph of the conjoined United States used in the various images and promotional documents created for the *Radio Net*. The metaphor of contiguity constructs a type of virtual public space, embodied by the live on-air connection of bodies and voices that are geographically distant yet sonically intermixed. This idea is further emphasized in the function of satellite circuitry, which hovered above the Earth to act as a transit hub, or mixing board, for social electroacoustic interaction.

The PRSS was first linked to Westar 1, which was launched in 1974 and was the first domestic and commercial communications satellite in the United States. The PRSS linked with later versions of the satellite as it was upgraded with more transponders.⁹⁴⁷ Both Neuhaus and NPR were thinking in astronomical terms in the mid-1970s, specifically with regards to the connection of people within dynamic communication systems that seemed to blur, if erase, their separation by great geographical distances. The original Westar 1 had twelve transponders in its system, allowing for a multiple uplink/downlink transmission between stations on the ground. A transponder in the field of communications is a device that receives, mixes, and amplifies radio signals between two or more points, often by folding, or encoding, the signals into their own frequency bands. In essence, the satellite received uplink (transmission) signals from local NPR member stations which it then bussed (routed) on a downlink (reception) channel housed in the Washington D.C. studio.⁹⁴⁸ Once received in the ground studio – a reception satellite facility known as an earth station – the engineers in D.C. mixed or distributed the signals as needed. NPR was not the only organization to use, and effectively rent, bandwidth and signal space on the Westar 1. The communications non-profit Public Broadcasting System (PBS), another philanthropic organization, used the satellite, as did the private corporation Home Box Office

⁹⁴⁵ See Richard S. Williams Jr. and William Douglas Carter, "ERTS-1, A New Window on our Planet," U.S. Geological Survey 929 (1976).

⁹⁴⁶ For an overview of the PRSS, see: <http://www.prss.org/about-us#node-27>

⁹⁴⁷ See "Westar 1 and the War of the Talksats," *Science News* 105, no. 17 (Apr. 27, 1974): 269-270.

⁹⁴⁸ Oral interview with Steve Rathe (June 8, 2016).

(HBO). The Westar 1 synthesized electromagnetic signals along with the social, political, and economic infrastructure and ideology of public and private entities. According to Rather, NPR's interest in satellite technology, and the idea of virtualized distribution, was partially inspired by Neuhaus's expansive *Radio Net*.

We may extend our reading of the topographical *Radio Net* map, and its emphasis on unity, of contiguity, to *Radio Net* and its attempt to create a new sort of space, a virtual site of sonic communication. Furthermore, the notion of contiguity is not only central to *Radio Net* specifically, but also extends to *Public Supply* broadcasts. We can view these radio experiments not just as musical curiosities, but as a sonic reconfiguration of space.

The environment built affirms space not just as a material phenomenon, but a social paradigm, and one that is virtual rather than physical. *Radio Net* highlights a nascent media culture, not only the interactions of people through media objects, as in *Aspen*, but within the particular conditions of a sonic media environment. Sometimes it revealed the complications of such networking, such as, during a test session, when the engineers tapped into an emergency service line, and were warned by the operator to immediately hang up. The bridging of bodies in virtual space – through acoustic, electroacoustic or electromagnetic waves – was a lifelong endeavor for the artist. The title of *Public Supply* refers to the siphoning of phone calls from the public, as a medium, and the egalitarian format of public radio broadcasting. Likewise, *Radio Net* highlights radio as a public utility, a mediated network for interaction. When a broadcast is not commercialized, it can engender meaningful social interactions. Neuhaus's media experiments orient his formal sound installation practice toward a broad popular, and populist, culture. Neuhaus used sound to examine, and challenge, the values of media ideologies and political structures, both socio-economic and geopolitical.

Postscript

Defining the post-musical

The music critic John Rockwell once offered a pithy analysis of the new field of *sound installation*. Rockwell contrasted Max Neuhaus's droning and permanent *Times Square* with Liz Phillips's frenetic and temporary *Windspun* (1981), which transposed data from weather sensors into modulating oscillator sounds. Like *Times Square*, *Windspun* was public, but it was installed at a South Bronx community garden rather than midtown Manhattan. Phillips exhibited a version of the didactic work at *New Music America* in 1980 (alongside Neuhaus's meditative installation at the Como Park Conservatory). I have focused on Neuhaus in this dissertation, but other artists, including Phillips, offer a multitude of perspectives on the methods and concepts of *sound installation*. Notably, Rockwell described their environments, though divergent in intent, as an "aural equivalent of a visual-arts *earthwork* or a Christo wrapping," adding that they typically "consist of electronically generated sounds that in some way interact with the environment – either passively, when an unchanging sound or pattern of sounds is heard mixed in with everyday life, or actively, if the system is continuously modified by the environment itself."⁹⁴⁹ Rockwell highlights a difference between these artists, and within *sound installation* as a whole, in a desire for either continuous or modulating environments. Rockwell noted the differences between Neuhaus and Phillips, arguing the former was "an example of the passive variety."⁹⁵⁰ What joins Neuhaus and Phillips is their use of *post-musical* sound.

Times Square asserts itself as a formal persistence while *Windspun*, as well as Phillips's midtown live traffic-flow installation *City Flow* (1977), was modified by exterior indeterminate variables. In this latter type, information, such as wind or rain, was transposed into pitch, timbral, and dynamic categories, which were predetermined by Phillips (the exact forms were ultimately indeterminate). Despite a difference in active/passive states, both artists built circuit systems that, once set up, required little further human manipulation – the choices were already made. This is a primary condition of *post-musical* sound: electronic, non-performative, and existing completely out of the musical paradigm. The works of Neuhaus and Phillips illustrate not only this concept, but also contrasting paths for its emergence in the use of electronic circuits in environmental sound practice in the postwar era. Furthermore, each are distinct from the essentially musical and performative sonic installations of the pianist David Tudor, such as *Rainforest* (1968). In contrast to Tudor's work in electronic music, a paradigm he never sought to leave, Phillips and Neuhaus provide a fundamentally non-performative methodology. The night before Radio Net, Neuhaus was asked if he considered whether "there is actual creative content or work done [during the broadcast]," to which Neuhaus responded: "Well, a lot of it is done because a major determining factor of the sound is the scanner and how it's programmed. I can reprogram... but in general, I

⁹⁴⁹ John Rockwell, "Avant-Garde: Liz Phillips Sound," *The New York Times* (May 14, 1981). Nonetheless, Neuhaus complained about the frequent comparisons to Christo: "Every time the scale of my work comes up, my work comes off as deriving from his works... "Radio Net" (the year of the running fence) encompassed the entire USA and was made up of 25 thousand miles of copper wire, took 500 people to launch, and was heard by four million." Letter from MN to "Sue" (1979) MNP Box 1, Folder 12.

⁹⁵⁰ John Rockwell, "Avant-Garde: Liz Phillips Sound," *The New York Times* (May 14, 1981).

have made those decisions [already].”⁹⁵¹ Within these non-performative modes, the electronic circuit, as a circuit score, is also easily situated within as a *social circuit*, merging new electronic sound practices – typically found in the concert hall, gallery, or loft – with social space as much as public architecture. A second condition of the post-musical is the merging of sound, beyond music, with explicitly social, cultural, or political paradigms, including people with no background in art or music (or, as Neuhaus said, the “uninitiated.”).

Phrases like *non-music* and *anti-music*, as we have seen, describe sonic practices that fall to the side or against the category of music dialectically. I am wary of adding another phrase to this discourse. However, the concept of the *post-musical* easily attends to the rise of circuit-based environmental sonic art, 1960-1980, which evades the musical dialectic posed by both *non/anti-music*. The *post-musical* is neither indifferent nor antagonistic to music, but simply lays beyond the category of music altogether. The *post-musical* has several conditions: nothing is performed, nor is sound explicitly composed. Instead, sound exists, typically in space and non-musical time, with its own autonomy, and its forms, though informed by the artists, are largely if not entirely determined by the conditions of their site. Explicit musical strategies, whether conventional or experimental, are avoided (e.g., Neuhaus and Phillips do not approach a site with an established or desired form, but allow the site itself to control the piece’s composition). Furthermore, the concept of the *post-musical* was engendered by the electronic circuit, a technology that emerged in the 1960s and subverted the concepts of composition, performance, and spectatorship (not just in sound, but also electronic art broadly, including *video* and *computer art*).⁹⁵²

Neuhaus’s interest in electronic circuits was not to make electronic music, but to “create sounds with no beginning or end,” an implosion of musical value. Likewise, Phillips was not at all trained with a musical background, but chose to work with sound, as a sculptural material, due to its unique ability to articulate spatial relationships.⁹⁵³ Rather than perform a scored composition or an improvised sonic event, Neuhaus wanted to remove sound from the constraints of linear time, situating it in space – the listener participates in a situation, which does not begin or end, but is occasionally picked up and then let go. His early experiments with electronic circuits suggest the post-musical in their construction of autonomous sonic systems. This is exemplified by his later installations, such as *Times Square*, which do not actually require a listener. The post-musical as I have outlined is not a movement or a genre, but a perspective on environmental sonic art. What conveys the post-musical is not found in stylistic parameters, but an engagement with sound as an artistic medium in its own right. The post-musical does not mean the end of music, and it even may at times converge with musical art – in fact it may be unavoidable. I hope to point to an alternative frame of mind for discussing sonic art. The concept of the post-musical is likely best used to begin conversations about works art that fall between disciplines, between the conservatory and museum, which transform the mechanisms and logic of electronic circuitry to broader formal structures, both artistic and social.

As discussed in this dissertation, *Times Square* transforms an experience of space through the act of listening, in part by creating, rather than placing, sound within a physical site. The work challenged *art music* in its attack on composition, performance, and spectatorship, in order to upend the concert hall during a moment of institutional crisis. However, the piece challenged experimental music, and the Cagean legacy from which it sprang (and in which Neuhaus formed his early career). The practice of creating sound in space, or of using sound to highlight the

⁹⁵¹ See MNP. Box 38. CD 24.

⁹⁵² See Patterson (2015).

⁹⁵³ Oral interview with Liz Phillips (March 23, 2016).

vitality or vibrancy of physical material, sidestepped the category of music altogether, resolving not only a problem of composition but also performance. Instead of performing compositions, Neuhaus conceived of a way – in fact many ways – to release sound from its musical roots. In particular, he challenged the idea of musical listening to highlight an inability of musical analysis to account for sonic experience. As revealed by this research, much of his work, despite its anti-musical aspirations, retained lingering musical connections. These were largely severed with his completion of *Times Square*, which redirected, and ultimately cemented, his practice within the context of art museums, galleries, and the open field of *contemporary art*. This dissertation has examined the evolution of Neuhaus from his musical and anti-musical backgrounds, which set a foundation for his post-musical practice following *Times Square*. Neuhaus began this evolution through his use of electronics, which he said “could do anything,” to *perform*, and later *realize*, indeterminate percussion scores.⁹⁵⁴ Neuhaus later stopped trying to *control* sound within musical performance, and began *installing* it as a semi-autonomous form.

This dissertation has examined the first half of Max Neuhaus’s career. Roughly, the work has covered his artistic output, 1957-1980. In this period, this dissertation has traced Neuhaus’s evolution from concert hall performances to Fluxus events, Happenings, and environments. This current research proposes that Neuhaus be reoriented as a central figure in postwar art historical discourse, both in and beyond the context of ‘sound art’ (a term that, as discussed, the artist loathed). Indeed, his works speak to broad shifts in postwar American artistic practice. Neuhaus is not interesting in and of himself in this regard – countless artists worked in this period – but his wielding of sound proposes a new model of *sonic art history* that erodes preconceptions about artistic materiality, composition, and spectatorship. How do the physical and virtual *sound works* of Neuhaus – and those of other artists like Maryanne Amacher, Liz Phillips, and Annea Lockwood – challenge our understandings of site-specific, environmental, and conceptual art? In what ways might a focus on sound redefine our theories and models of visual spectatorship, not only in moving image art, such as film and video, but also painting and sculpture? Is there such thing as a purely sonic art history? This dissertation has used Neuhaus to pose these questions and to position sound as an energetic medium – a *vibrant matter* – that forces us to rethink how we understand artistic forms, materials, and concepts.

⁹⁵⁴ See Simone Whitman, “Interview with Max Neuhaus and Ted Wolff,” in *Techne: A Projects and Process Paper* 1, no. 1 (April 14, 1969): 4.

Bibliography

Note: This bibliography is distinct from the comprehensive artist bibliography included in the dissertation appendix. The former only includes citations from the dissertation text. The latter includes all found citations to Neuhaus at the time of publication.

“A Proposal for a Sound Installation for Times Square.” Rockefeller Foundation Records. RG 1.3-RG1.8. Subgroup Series 200 Box 926. Folder 6220.

“A Sunset is Going to Give Three Evenings of Electronic Music.” *Village Voice*. August 10, 1967.

Alberro, Alexander. “Reductivism in Reverse.” In *October Files: Dan Graham*, ed., Alex Kitnick, 22-40. Cambridge: MIT Press, 2011.

Alburger, Mark. “Terry Riley after “In C” to “A Rainbow in Curved Air,”” *21st Century Music* 11, no. 2 (February 2004). 3-10.

Altshuler, Bruce. “The Cage Class.” In *FluxAttitudes*, eds., Cornelia Lauf and Susan Hapgood. Buffalo: Hallwalls Contemporary Arts Center, 1991.

Analysis of Noise-Related Auditory and Associated Health Problems in the U.S. Adult Population (1971-1975), EPA Report No. 550/9-81-103B. Washington D.C., Office of Noise Abatement, 1982.

Annual Report 1973. Washington D.C.: National Endowment for the Arts, 1974.

Anthony, Michael. “A New NPR Series Tunes in New Music.” *The New York Times*. October 11, 1981.

Appleton, Jon. *Appleton Syntonic Menagerie*. Flying Dutchman FDS 103, 1969. LP.

Appleton, Jon H. and Ronald C. Perera, eds., *The Development and Practice of Electronic Music*. Englewood Cliffs, NJ: Prentice Hall, 1975.

Ascott, Roy. “Is There Love in the Telematic Embrace?” *Art Journal* 49(3) (Autumn 1990): 241-247.

Ashton, Dore. “Sensoria.” In *Soundings*. Purchase, NY: Neuberger Museum, 1982.

Ashton, Dore. *The New York School: A Cultural Reckoning*. Berkeley: University of California, 1973.

- Asian Cultural Council Records (FA427). Rockefeller Archive Center. Neuhaus, Max, 1978-1979, 1983-1986, 1989; Box 214, Folder 4449; Box 248, Folder 4449.
- Ault, Julie. *Alternative Art New York, 1965 – 1985*. Minneapolis: The Drawing Center/University of Minnesota, 2002.
- B. B. D. "Edgar Varese, 'Great Sound Builder', is Here; Started New Music Movement in New York: Loves 'Ecstasy of Din'." *Santa Fe New Mexican*. June 15, 1936.
- "Background Music." *Horizon*. August 1978.
- Bagli, Charles V. "Mayor Claims Credit for Times Sq. Revival." *The New York Times*. January 27, 2000.
- Bakargriev, Carolyn Christov. "Interview with Max Neuhaus." Unpublished. April 2000.
- Ballentine, Christopher. "Towards an Aesthetic of Experimental Music." *The Musical Quarterly* 63, no. 2 (April 1977): 227-246.
- Banes, Sally. *Democracy's Body: Judson Dance Theater, 1962-1964*. Durham, NC: Duke University Press, 1993.
- Banes, Sally. *Greenwich Village 1963: Avant-Garde Performance and the Effervescent Body*. Durham: Duke University Press, 1993.
- Baron, Robert Alex. "What Noise Does to Us." *The New York Times*. December 21, 1974. 26.
- Barthes, Roland. "The Death of the Author," *Aspen* 5+6 (1968).
- Baruch, David J. "Manhattan Percussion Ensemble Premieres." *Musical America*. March 1961.
- Behrman, David. "What Indeterminate Notation Determines." *Perspectives of New Music* 3, no. 2 (spring-summer 1965): 58-73.
- Belgrad, Daniel. "Democracy, Decentralization, and Feedback." In *American Literature and Culture in an Age of Cold War: A Critical Reassessment*, eds., Steven Belletto and Daniel Grausam, 59-68. Iowa City: University of Iowa Press, 2012.
- Bell, Alexander Graham. "On the Production and Reproduction of Sound by Light: The Photophone." *American Association for the Advancement of Science* 29 (October 1880): 115-136.
- Bender, William. "Percussion Solo and a Matter of Choice." *N.Y. Herald Tribune*. June 3, 1964.
- Bender, William. "At Avant-Garde Concert, Rewards for Everybody." *N.Y. Herald Tribune*. January 4, 1965.

- Bennett, Jane. *Vibrant Matter* (Duke University Press, 2009).
- Bergson, Henri. *Time and Free Will*. London: George Allen & Company Ltd., 1913.
- Billboard*. April 28, 1958.
- Binkiewicz, Donna M. *Federalizing the Muse: United States Arts Policy and the National Endowment for the Arts, 1964-1980*. Chapel Hill, NC: University of North Carolina Press, 2004.
- Birmingham, Jed. "Interview with Brown Paper's Daniel Lauffer." *Reality Studio*. August 7, 2007. <http://realitystudio.org/bibliographic-bunker/bunker-interviews/interview-with-brown-papers-daniel-lauffer/>
- Bogart, Michele H. *The Politics of Urban Beauty*. Chicago: The University of Chicago Press, 2006.
- Born, Georgina. *Rationalizing Culture: IRCAM, Boulez, and the Institutionalization of the Avant-Garde*. Berkeley: University of California, 1995.
- Britt, Douglas. "Sound, Sculpture Define Space at Menil." *Houston Chronicle*. May 2, 2008.
- Britt, Douglas. "Texas Native Who Revolutionized Sound Art Dies." *Houston Chronicle* February 3, 2009.
- Brown, Earle. *Folio and 4 Systems*. London: Associated Music Publishers, 1961. Score.
- Broyles, Michael. *Mavericks and Other Traditions in American Music*. New Haven and London: Yale University Press, 2004.
- Bryan-Wilson, Julia. "Hard Hats and Art Strikes: Robert Morris in 1970." *The Art Bulletin* 89, no. 2 (June 2007): 333-359.
- Buchloh, Benjamin. "Conceptual Art 1962-1969: From the Aesthetic of Administration of the Critique of Institutions." In *Conceptual Art: A Critical Anthology*, eds., Alexander Alberro and Blake Stimson, 514-537. Cambridge, MA: The MIT Press.
- Buchloh, Benjamin. "Moments of History in the Work of Dan Graham." In *October Files: Dan Graham*, ed., Alex Kitnick, 1-20. Cambridge: The MIT Press, 2011.
- Burgin, Christine. Oral interview with Charles Eppley. July 29, 2016.
- Bussotti, Sylvano and Max Neuhaus. *Couer pour batteur--Positively yes*. General Manuscript Collection, Northwestern University Music Library.

- Butler, T. "A Walk of Art: The Potential of the Sound Walk as Practice in Cultural Geography," *Social and Cultural Geography* 7: 889-908.
- Byrd, Joseph. *Joseph Byrd: NYC 1960-1963*. New York: New World Records 80738, 2013. CD.
- Cage, John. "26 Statements Re Duchamp." In *A Year from Monday*, 70-73. Middletown, CT: Wesleyan University Press, 1963.
- Cage, John. *26' 1.1499" for a String Player*. New York: Henmar Press, 1960.
- Cage, John. *4"33"*. Score. New York: C. F. Peters., 1952.
- Cage, John. "Experimental Music: Doctrine." In *Silence*. Middletown, CT: Wesleyan University Press, 1961.
- Cage, John. *Fontana Mix*. New York: Henmar Press, 1960. Score.
- Cage, John. "How the Piano Came to be Prepared." In *Empty Words: Writings, '73-'78*, 7-10. Middletown, CT: Wesleyan University Press, 1973.
- Cage, John. "Lecture on Nothing." In *Silence: Lectures and Writings*. Middletown, CT: Wesleyan University Press, 1961.
- Cage, John. *Rozart Mix*. New York: Henmar Press, 1965. Score.
- Cage, John. *Silence: Lectures and Writings*. Hanover, N.H.: Wesleyan University Press, 1961.
- Cage, John. *The 25-Year Retrospective Concert of the Music of John Cage*. 1959. LP.
- Cage, John and Alison Knowles, eds., *Notations*. New York: Something Else Press, 1969.
- Cage, John and Morton Feldman. "Conversation with Morton Feldman." *Res* 6 (Fall 1983).
- Cage, John and Morton Feldman. "Radio Happening I." New York: WBAI-FM, July 9, 1966. <https://archive.org/details/CageFeldmanConversation1>
- Cage, John and Morton Feldman. *Radio Happenings: Conversations - Gespräche, 1966-1967*. Cologne: Musiktexte, 1993.
- Carlos, Walter. *Switched on Bach*. Columbia Masterworks – MS 7194, 1968. LP.
- Chapman, David Allen. *Collaboration, Presence, and Community: The Philip Glass Ensemble in Downtown New York, 1966-1976*. Dissertation. Music. Washington University in St. Louis, 2013.

- Chase, Gilbert. "New Musical Resources – Yesterday and Today." *Anuario* 5 (1969): 101-109
- Chernosky, Louise. "Imagining Listeners through American Experimental Music: NPR's RadioVisions," in *Tomorrow is the Question: New Directions in Experimental Music Studies*, ed., Benjamin Piekut, 229-253. Ann Arbor: University of Michigan Press, 2014.
- Citizens for a Quieter City Records. Manuscripts and Archives Division, The New York Public Library. Mss. Col. 552.
- Clark, T. J. "Clement Greenberg's Theory of Art," *Critical Inquiry* 9, no. 1 (Sep., 1982): 139-156.
- Combs, Joseph. "The Problems of Sight Reading on Mallet-Played Instruments and Their Relationship to Kinesthetic Sensation." D.M.E. Dissertation, The University of Oklahoma, 1967.
- "Composer Dives in to Wet his 'Whistle'." *The Sydney Morning Herald*. Jan 16, 1972.
- Cooke, Lynne. "Locational Listening." In *Max Neuhaus: Times Square / Time Piece: Beacon*, 29-44. Beacon, NY: Dia Art Foundation, 2009.
- Cooper, Paula. Oral interview with Charles Eppley. December 10, 2014.
- Corigliano, John. "Interview with Max Neuhaus." New York: WBAI-FM, 1963.
- Corner, Philip. Email correspondence with Charles Eppley. July 13-19, 2013.
- Corner, Philip. *Everything Max Has*. Frog Peak Music. Score.
- Corner, Philip. *I Can Walk Through the World as Music (First Walk)*. Barrytown, NY: Printed Editions, 1980. Score.
- Cowell, Henry. *Essential Cowell: Selected Writings on Music*. Ed. Dick Higgins. Kingston, NY: McPherson & Company, 2002.
- Cowell, Henry. "Henry Cowell Musical Autobiography." New York: WBAI-FM, April 6, 1961. <https://archive.org/details/HenryCowell>
- Cowell, Henry. *New Musical Resources*. [1930] New York: Something Else Press, 1969.
- Cowell, Henry. "Our Inadequate Notation." *Modern Music* 3 (March-April 1927): 29-33.
- Cowell, Henry. "Percussion Music." In *Essential Cowell: Selected Writings on Music*, ed., Dick Higgins. Kingston, NY: McPherson & Company, 2001.
- Cowell, Henry. *Pulse*. [1939] New York: Music for Percussion, 1971. Score.

- Cox, Christoph. "About Time: On Sound Art." *Artforum* (November 2007).
- Cox, Christoph and Daniel Warner, ed. *Audio Culture: Readings in Modern Music*. New York: Continuum, 2009.
- Cox, Christoph. "Beyond Representation and Signification: Toward a Sonic Materialism." *Journal of Visual Culture* 10, no. 2 (August 2011): 145-161.
- Cox, Christoph. "Installing Duration: Time in the Sound Works of Max Neuhaus." In *Max Neuhaus: Times Square / Time Piece: Beacon*, 113-133. Beacon, NY: Dia Art Foundation, 2009.
- Crawford, Dorothy Lamb. *Evenings on and Off the Roof: Pioneering Concerts in Los Angeles, 1939-1971*. Berkeley, CA: University of California Press, 1995.
- Cross, Lowell. "Reunion: John Cage, Marcel Duchamp, Electronic Music and Chess." *Leonardo Music Journal* 9 (1999): 35-42.
- Danto, Arthur. "Max Neuhaus: Sound Works." *The Nation* 252, no. 8 (March 4, 1991): 281-84.
- DeHart, Justin. *Tap Routes: The Changing Role of the Contemporary Artist-Percussionist*. Dissertation. Music. UC San Diego, 2010.
- Delehanty, Suzanne. "Soundings." In *Soundings*. Purchase, NY: Neuberger Museum, 1982.
- Deleuze, Gilles. *Difference and Repetition*. New York: Columbia University Press, 1994.
- DePonte, Niel. "No. 9 'Zyklus' How and Why?" *Percussionist* 12 (Summer 1975): 136-149.
- Fuller, Matthew. *Media Ecologies: Materialist Energies in Art and Technoculture*. Cambridge: MIT Press, 2005.
- Diaz, Eva. *The Experimenters: Chance and Design at Black Mountain College*. Chicago: The University of Chicago Press, 2015.
- Dohoney, Ryan. "John Cage, Julius Eastman, and the Homosexual Ego." In *Tomorrow is the Question: New Directions in Experimental Music Studies*, ed., Benjamin Piekut, 39-62. Ann Arbor: University of Michigan Press, 2014.
- "Don't Sell Out WNYC." *The New York Times*. February 28, 1994.
- Drever, John Levack. "Sidewalking: Aural Excursions into the Everyday." In *The Ashgate Research Companion to Experimental Music*, ed, James Saunders, 163-192. Burlington, VT: Ashgate, 2009.

- Drott, Eric. "The Politics of Presque Rien." In *Sound Commitments: Avant-Garde Music and the Sixties*, ed., Robert Adlington, 145-166. Oxford: University Press, 2009.
- Duckworth, William. *Talking Music: Conversations with John Cage, Philip Glass, Laurie Anderson, and Five Generations of American Experimental Composers*. New York: Da Capo Press, 1999.
- Dzuverovic, Lina. "The Politics of Sound / The Culture of Exchange." Online panel discussion (January 31-March 23 2005) with Douglas Kahn, Kenneth Goldsmith and John Oswald. 29. http://www2.tate.org.uk/intermediaart/discuss/d_culture/politics1.shtm
- "E.A.T. Special Projects Since 9 Evenings." In *E.A.T. News* 1, no. 2 (June 1, 1967): 13; 15-18.
- Ericson, Raymond. "Max Neuhaus Music Made Especially for Times Square." *The New York Times*. November 27, 1977.
- Feldman, Morton. *The King of Denmark*. New York: C.F. Peters, Corp., 1965.
- Feldman, Morton and La Monte Young. "A Conversation on Composition and Improvisation (Bunita Marcus, Francesco Pellizi, Marian Zazeela)." *RES: Anthropology and Aesthetics* 13 (Spring 1987): 152-173.
- Felton, James. "Stockhausen Concert." *Philadelphia Bulletin*. February 19, 1964.
- Freeman, Jason. "Auracle: A Voice-Controlled, Networked Sound Instrument." *Organized Sound: An International Journal of Music Technology* 10, no. 3 (Dec 2005): 221-231.
- Fetterman, William. *John Cage's Theatre Pieces: Notations and Performances*. Abingdon: Routledge, 1996.
- Finklepearl, Tom. *What We Made: Conversations on Art and Social Cooperation*. Durham and London: Duke University Press, 2013.
- Flynt, Henry. "Essay: Concept Art (Provisional Version)." In *An Anthology*, eds., La Monte Young and Jackson Mac Low. New York: La Monte Young and Jackson Mac Low, 1963.
- "Friday June 2nd European Edition at Spoleto." *N.Y. Herald Tribune*. July 2, 1966.
- Fylkingen Bulletin* 1. Stockholm: Fylkingen, 1966.
- Gann, Kyle. "Introduction: The Importance of Being Downtown." In *Music Downtown: Writings from the Village Voice*, 1-15. Berkeley: University of California Press, 2006.
- Gann, Kyle. *No Such Thing as Silence*. New Haven & London: Yale University Press, 2010.

- Gates, Anita. "Joan Mondale, Who Merged Politics with Art, Dies at 83." *The New York Times* February 3, 2014.
- Gessner, Peter David. Email correspondence with Charles Eppley. June 24, 2013.
- Gessner, Peter David. *Time of the Locust*. New York: Tundra, 1966. Film.
- Goldstein, Malcolm. "Neuhaus Realizations." *Village Voice*. June 18, 1964.
- Gluck, Bob. "Nurturing Young Composers: Morton Subotnick's Late-1960s Studio in New York City." *Computer Music Journal* 36, no. 1 (Spring 2012): 65-80.
- Glueck, Grace. "If It's Art You Want, Try Your Supermarket." *The New York Times*. August 6, 1967. Section 2, D19.
- Goldsmith, Kenneth. "Don't Quite Your Day Job." *New Music Box*. (April 1, 2000). Web. Accessed April 20, 2016. <https://wfmu.org/~kennyg/popular/articles/behрман.html>
- Gould, Glenn. "The Prospects of Recording," [1966] in *Audio Culture: Readings in Modern Music*, eds., Christoph Cox and Daniel Warner, 115-126. New York: Continuum, 2004.
- Gordon, Camille. "Camille Reports Again." *The Something Else Newsletter* 1, no. 10 (November, 1969).
- Graham, Dan. "Editorial Note [On In-Formation]." *Aspen*, no. 8 (Fall-Winter 1971).
- Gregg, Margaret, dir., *Radio Net*. Washington D.C.: National Public Radio, 1977. Film.
- Greenberg, Clement. *Art and Culture: Critical Essays*. Boston: Beacon Press, 1961.
- Greenberg, Clement. "Recentness of Sculpture." In *Minimal Art: A Critical Anthology*, ed. Gregory Battcock. Berkeley: University of California Press, 1995.
- Greenlight for Midtown Evaluation Report*. New York: New York City Department of Transportation, 2010.
- Grindon, Gavin. "Poetry Written in Gasoline: Black Mask and Up Against the Wall Motherfucker." *Art History* 38, Issue 1 (February 2015): 170-209.
- Gross, Jane. "Composer Replaces Siren's Wail with Melody and Meaning." *The New York Times*. April 1, 1989.
- Gross, Jason. "Interview with David Behrman." *Furious*. 1997. Web. Accessed May 10 2016. <http://www.furious.com/perfect/behрман.html>

- Groth, Sanne Krogh. "The Fylkingen Concert Society, 1950-1975." In *A Cultural History of the Avant-Garde in the Nordic Countries 1950-1975*, eds., Tania Orum and Jesper Olsson. Leiden: Brill Rodopi, 2016.
- Grubbs, David. *Records Ruin the Landscape: John Cage, the Sixties, and Sound Recording*. Durham: Duke University Press, 2014.
- Guerrilla Art Action Group. "A Call for the Immediate Resignation of All of the Rockefeller's from the Board of Trustees of the Museum of Modern Art." [1969] In *Institutional Critique: An Anthology of Artists' Writings*, eds., Alexander Alberro and Blake Stimson, 86-88. Cambridge: The MIT Press, 2011.
- Habermas, Jurgen. *The Structural Transformation of the Public Sphere*. Cambridge, MA: The MIT Press, 1989.
- Hainge, Greg. *Noise Matters: Towards an Ontology of Noise*. London: Bloomsbury, 2013.
- Halpern, Kenneth. Letter to Ed. Silberfarb. March 11 1974. Max Neuhaus Papers. Rare Book and Manuscript Library, Columbia University Library. Box 10. Folder 12.
- Harbison, Robert. *Eccentric Spaces*. New York: Alfred A. Knopf, 1977.
- Harvey, Jonathan. *The Music of Stockhausen*. Berkeley: University of California Press, 1975.
- Hegarty, Paul. *Noise/Music: A History*. London: Continuum, 2010.
- Heiss, Alanna. Oral interview with Charles Eppley. November 23, 2013.
- Helmholtz, Hermann. *On the Sensations of Tone*. New York: Dover Edition, 1954.
- Helms, Hans G. *New Music: Sounds and Voices from the Avant-Garde New York 1971*. New York: Michael Blackwood Productions, Inc., 2011. Video.
- Henahan, Donal. "Electronic Music Hits Open Switch: Max Neuhaus's 14 Speakers Betray Him at Recital." *The New York Times*. January 9, 1968.
- Henahan, Donal. "John Cage: His Heart Belongs to Dada." *Chicago Tribune*. April 14, 1965.
- Henahan, Donal. "What, You Never Learned to Read Music?" *The New York Times*. November 30, 1969.
- Hepfer, Jonathan. "Jan Williams: The Evolution of New Music." *Percussive Notes* (February 8, 2007). <http://www.jonathan-hepfer.com/jan-williams.html>
- Hicks, Michael. "John Cage's Studies with Schoenberg." *American Music* 8, no. 2 (1990): 125-140.

- Hicks, Michael. *Henry Cowell, Bohemian*. Urbana: University of Illinois Press, 2002.
- Higgins, Dick. "Boredom and Danger." In *Source Magazine*, no. 5 (January, 1969).
- Higgins, Dick. "Intending." *The Something Else Newsletter* 1, no. 3 (April, 1966).
- Higgins, Dick. "Intermedia." *The Something Else Newsletter* 1, no. 1 (February, 1966).
- Higgins, Dick. "Introduction." In *Essential Cowell: Selected Writings on Music*, ed., Dick Higgins, 13-34. Kingston, NY: McPherson & Company, 2001.
- Higgins, Dick. "On Cage's Classes." In *John Cage: An Anthology*, ed., Richard Kostelanetz. New York: Praeger, 1970.
- Higgins, Dick and Nicholas Zurbrugg. "Looking Back." *Performing Arts Journal* 21, no. 2 (1999): 19-32.
- Hitchcock, H. Wiley. "Henry Cowell's 'Ostinato Pianissimo.'" *The Musical Quarterly* 70, no. 1 (1984): 23-44.
- Hoffman, Abbie. *Revolution for the Hell of It*. [1968] New York: Thunder's Mouth Press, 2005.
- Holland, Bernhard. "Critic's Notebook: Passive Solution to Music's Orthopedic Mishaps." *The New York Times*. June 14, 1984. C19.
- Honan, William. "Book Discloses that Regan Planned to Kill National Endowment for the Arts." *The New York Times*. May 15, 1988.
- Houle, George. *Meter in Music, 1600-1800: Performance, Perception, and Notation*. Indianapolis: University of Indiana Press, 1987.
- Horowitz, Gregg. "Public Art/Public Space: The Spectacle of the Tilted Arc Controversy," *The Journal of Aesthetics and Art Criticism* 54, no. 1 (Winter, 1996): 8-14.
- "Hungarian Ball Will Raise Funds Jan. 30 at Pierre." *The New York Times*. January 4, 1965.
- Iddon, Martin. *John Cage and David Tudor: Correspondence on Interpretation and Performance*. Cambridge: Cambridge University Press, 2013.
- Ikegami, Hiroko. *The Great Migrator: Robert Rauschenberg and the Global Rise of American Art*. Cambridge, MA: The MIT Press, 2010.
- Ikegami, Hiroko. "'World Without Boundaries'? E.A.T. and the Pepsi Pavilion at Expo '70, Osaka." *Review of Japanese Culture and Society* 23, Expo '70 and Japanese Art: Dissonant Voices (December 2011): 174-190.

Ilić, Ivan. "Morton Feldman: Interview with Françoise Esselier (1970)." *Tempo* 69, Issue 271 (2015): 48-56.

Impact of Noise on People. Washington D.C.: U.S. Department of Transportation, Federal Aviation Administration, and the Office of Environmental Quality, 1977.

"Interview with Joseph Byrd." Other Minds Festival: OM 19. February 28, 2014. Web. Accessed May 14, 2017. https://archive.org/details/OMF_2014_02_28_c1

Jagoda, Patrick. "Terror Networks and the Aesthetics of Interconnection," *Social Text* 28, no. 4 (2010): 65–90.

James, Richard. "ONCE: Microcosm of the 1960s Musical and Multimedia Avant-Garde." *American Music* 5 (Winter 1987): 359-390.

Jezer, Marty. *Abbie Hoffman: American Rebel*. New Brunswick: Rutgers University Press, 1993.

John Cage, October Files 12, ed., Julia Robinson. Cambridge, MA: The MIT Press, 2011.

John Marsh Files. Gerald R. Ford Presidential Library. Box 70, Folder "National Endowment for the Arts Program Report."

Johnson, Phyllis. "Letter from the Editor." *Aspen* 1 (1965).

Johnson, Tom. "New Music America Takes Over a Town." *Village Voice*. June 25-July 1, 1980.

Johnson, Tom. "The First Meredith Monk Review." *Village Voice*. February 3, 1972.

Johnson, Tom. "John Cage at the Kitchen (December 13, 1973)." In *The Voice of New Music New York City 1972–1982*. Eindhoven: Apollohuis, 1989. Also available online at: <http://tvonm.editions75.com/>

Joseph, Branden W. "An Implication of an Implication." In *Max Neuhaus: Times Square / Time Piece: Beacon*, 59-81. Beacon, NY: Dia Art Foundation, 2009.

Joseph, Branden W. *Beyond the Dream Syndicate: Tony Conrad and the Arts after Cage*. New York: Zone Books, 2011.

Joseph, Branden W. "Chance, Indeterminacy, Multiplicity." In *The Anarchy of Silence: John Cage and Experimental Art*, ed., Julia Robinson, 210-238. Barcelona: Museu d'Art Contemporani de Barcelona (MACBA), 2009.

Joseph, Branden W. *Experimentations: John Cage in Music, Art and Architecture*. New York: Bloomsbury, 2016.

- Joseph, Branden W. "My Mind Split Open': Andy Warhol's Exploding Plastic Inevitable." *Grey Room* 8 (Summer 2002) 80-107.
- Joseph, Branden W. *Random Order: Robert Rauschenberg and the Neo-Avant-Garde*. Cambridge: The MIT Press, 2003.
- Joseph, Branden W. "Robert Morris and John Cage: Reconstructing a Dialogue." In *October* 81 (Summer, 1997): 59-69.
- Joseph, Branden. "The Tower and the Line: Toward a Genealogy of Minimalism." *Grey Room*, No. 27 (Spring 2007): 58-81.
- "Joyful Noise: An Introduction to WBAI's Free Music Store," *Pacifica Radio Archives: A Living History* (November 14, 2013). Web. Accessed January 17, 2016.
<http://www.pacificaradioarchives.org/article/joyful-noise-introduction-wbais-free-music-store>
- Junker, Howard. "'Probabilistic Theater 1': New look for a New Music." *Newsweek*. November 25, 1968.
- Kahn, Douglas. "Audio Art in the Deaf Century." In *Sound by Artists*, eds., Dan Lander and Micah Lexier, 301-328. Toronto: Blackwood Gallery.
- Kahn, Douglas. *Earth Sound Earth Signal*. Oakland, CA: University of California Press, 2013.
- Kahn, Douglas. *Noise, Water Meat*. Cambridge: The MIT Press, 1999.
- Kahn, Douglas and Gregory Whitehead, eds., *Wireless Imagination: Sound, Radio, and the Avant-Garde*. Cambridge, MA: The MIT Press, 1992.
- Kaizen, William. "Steps to an Ecology of Communication." In *October Files: Dan Graham*, ed., Alex Kitnick, 97-116. Cambridge: The MIT Press, 2011.
- Kaprow, Allan. *Essays on the Blurring of Art and Life*. Berkeley: University of California Press, 1993.
- Kaprow, Allan. "The End of the Concert Hall." *The Statesman* (May 3, 1967). 4-5.
- Keightley, Kier. "'Turn It down!' She Shrieked: Gender, Domestic Space, and High Fidelity, 1948-59." *Popular Music* 15, no. 2 (May, 1996): 149-177.
- Kelly, Caleb, ed., *Sound: Documents of Contemporary Art Series*. Cambridge, MA: The MIT Press, 2011.
- Kernis, Jay. Oral interview with Charles Eppley. April 15, 2016.

- Kim, Rebecca. "In No Uncertain Musical Terms: The Cultural Politics of John Cage's Indeterminacy." PhD diss., Columbia University, 2008.
- Kim-Cohen, Seth. *In the Blink of an Ear: Towards a Non-Cochlear Sound Art*. New York: Bloomsbury, 2009.
- Kirby, Michael. *Happenings: An Illustrated Anthology*. New York: E. P. Dutton & Co., 1965.
- Kitnick, Alex. "This is Marshall McLuhan," *Rhizome* (October 4, 2011). Web. <https://rhizome.org/editorial/2011/oct/04/marshall-mcluhan/>
- Klein, Howard. "Hartt Group Plays Avant-Garde Music." *The New York Times*. December 2, 1966.
- Klein, Howard. "New Music Heard at the 92d St. 'y'," *New York Times* (January 4, 1965).
- Klein, Howard. "Music: The Avant-Garde: Second Concert Given in Festival Series." *The New York Times*. September 2, 1964.
- Knowles, Alison and James Tenney. *A House of Dust*. Cologne, Verlag Gebr. Koenig, 1972.
- Knowles, Alison. "The House of Dust: A Chronicle." *New Wilderness Letter*, no. 8 (Spring 1980): 17-24.
- Knowles, Alison. Oral interview with Charles Eppley. August 14, 2013.
- Knowles, Alison. Email correspondence with Charles Eppley. June 26, 2013.
- Kohn, Karl, H. Wiley Hitchcock, Donald C. Johns and John Weissmann. "Current Chronicle." *The Musical Quarterly* 50, no. 2 (Apr., 1964): 249-51.
- Kostelanetz, Richard. *Metamorphosis in the Arts: A Critical History of the 1960's*. New York: Assembling Press, 1980.
- Kostelanetz, Richard. *The Theatre of Mixed-Means: An Introduction to Happenings, Kinetic Environments, and other Mixed-Means Presentations*. New York: Dial Press, 1968.
- Kotz, Liz. "Post-Cagean Aesthetics and the "Event" Score," *October* 95 (Winter 2001): 55-99.
- Kotz, Liz. "Max Neuhaus: Sound into Space." In *Max Neuhaus: Times Square / Time Piece: Beacon*, 93-112. Beacon, NY: Dia Art Foundation, 2009.
- Kotz, Liz. *Words to be Looked at: Language in 1960s Art*. Cambridge: The MIT Press, 2007.
- KPFA Folio* 19, no. 2 (February 1968).

KPFA Folio 19, no. 11 (November 1968).

KPFA Folio 32, no. 8 (September 1980).

Krauss, Rosalind, "Sculpture in the Expanded Field." In *The Anti-Aesthetic: Essays on Postmodern Culture*, ed. Hal Foster. Port Townsend, Washington: Bay Press, 1983.

Krauss, Rosalind, *The Originality of the Avant-Garde and Other Modernist Myths*. Cambridge, MA: The MIT Press, 1985.

Kubler, George. "Style and the Representation of Historical Time." In *Aspen 5+6*, ed., Brian O'Doherty (1968).

Kuivila, Ron. "Interview with Max Neuhaus." Wesleyan University, 2002 Unpublished.

Kwon, Miwon. *One Place After Another: Site-Specific Art and Locational Identity*. Cambridge: The MIT Press, 2004.

LaBelle, Brandon, *Background Noise: Perspectives on Sound Art*. New York: Continuum, 2006.

Labyrinth Gives Way to Skin: Long Distance Music Reader. New York: Blank Forms and Maryanne Amacher Archive, 2016.

Lambert, James William. "Multiple Percussion Performance Problems as Illustrated in Five Different Works Composed by Stockhausen, Smith Brindle, Colgrass, Dahl, and Kraft Between 1959-1967. D.M.A. Dissertation, The University of Oklahoma, 1983.

Lander, Dan and Micah Lexier, eds., *Sound by Artists*. Toronto: Art Metropole, 1990.

Lang, Joel. "Sirens May Be Tuned to Please." *Hartford Courant*. June 12, 1978.

Lauffer, Dan. Email correspondence with Charles Eppley. October 18-22, 2013.

Lavender, James Huitson. *The Call for Sonic Thinking: Gilles Deleuze and the Object of Sound Studies*. Dissertation. Cultural Studies/Sound Studies. The University of Leeds, 2015.

Leitner, Bernhard. *Die Architektur von Ludwig Wittgenstein*. Press of the Nova Scotia College of Art and Design, Halifax, 1973; New York University Press, New York, 1975.

Leitner, Bernhard. "Sound Architecture: Space Created Through Traveling Sound," *Artforum* (March 1971).

Leitner, Bernhard. *Sound : Space*. New York: New York University Press, 1978.

Leitner, Bernhard. "Ton-Architektur," *Das Fenster* (1971).

- Lewis, George. "Improvised Music after 1950: Afrological and Eurological Perspectives." *Black Music Research Journal* 16, no. 1 (1996): 91-122.
- Licht, Alan. "Sound Art: Origins, Development and Ambiguities." *Organised Sound* 14(1): 3.
- Licht, Alan. *Sound Art: Beyond Music, Between Categories*. New York: Rizzoli, 2007.
- Licht, Jennifer. *Spaces*. New York: The Museum of Modern Art, 1970.
- Lippard, Lucy. *Six Years: The Dematerialization of the Art Object from 1966 to 1972* (New York: Praeger, 1973).
- Lippard, Lucy and John Chandler. "The Dematerialization of Art." *Art International* 12, no. 2 (February 1968): 31-36.
- Logie, John. "1967: The Birth of 'The Death of the Author'." *College English* 75, no. 5 (May 2013).
- Logsdail, Rory. *Max Neuhaus – Times Square*. New York: Firefly Pictures, 2002. Video. <http://www.max-neuhaus.info/timesquare.htm> (accessed August 10, 2015).
- London, Barbara. Oral interview with Charles Eppley. August 5, 2013.
- Loock, Ulrich. "Times Square: Max Neuhaus's Sound Work in New York City." In *Sound: Sound in Art and Culture*, ed., Jorinde Seijdel, 82–92. Rotterdam: NAI Publishers, 2005.
- Lo Galbo, Francesco. Email correspondence with Charles Eppley. July 25, 2016.
- Lotringer, Sylvere. "Becoming Duchamp." *Tout-Fait* 1, Issue 2 (2000). http://www.toutfait.com/issues/issue_2/Articles/lotringer.html
- Lueck, Thomas J. "Bid Is Awarded for Times Sq. Subway Project." *The New York Times*. January 9, 1999.
- Maciunas, George, *Diagram of Historical Development of Fluxus and Other 4- Dimensional, Aural, Optical, Olfactory, Epithelial and Tactile Art Forms*. Copenhagen: Kalejdoskop, 1981.
- Manhattan Percussion Ensemble. *Sound Adventure*. Period Records SPL 743, 1958. LP.
- Martin, Julie. Oral conversation with Charles Eppley. May 25, 2016.
- Martirano, Salvatore. *O, O, O, O, That Shakespeherian Rag*. Composers Recordings, Inc. CRI 164, 1963. LP.
- Marzella, Michael. "Audience Floats in Pool of Music." *St. Petersburg Times*. June 19, 1972.

- Mattis, Olivia. "Interview of Leon Theremin (Lev Sergeyevich Termen)." Unpublished manuscript. Bourges, France (June 16, 1989).
- Maxfield, Richard. "Composers, Performance and Publication." In *An Anthology*, ed., La Monte Young and Jackson Mac Low. New York: La Monte Young and Jackson Mac Low, 1963.
- "Max Neuhaus: A New Work (Underground)." Press Release No. 41. New York: The Museum of Modern Art, 1978.
- "Max Neuhaus and Como Park Conservatory." Minneapolis: Minneapolis Public Radio. June 2, 1980. <http://archive.mprnews.org/stories/19800602/max-neuhaus-and-como-park-conservatory>
- Max Neuhaus Papers. Rare Book and Manuscript Library, Columbia University Library.
- "Max Neuhaus Times Square Install." Andrews Audio Consultants Invoice. July 26, 2001. Max Neuhaus Papers. Rare Book and Manuscript Library, Columbia University Library. Box 10, Folder 12.
- Max Neuhaus: Times Square / Time Piece: Beacon*. Beacon, NY: Dia Art Foundation, 2009.
- "Max Neuhaus, Composer, Presents 'Round' in Rotunda of U.S. Custom House on Bowling Green: Vacant Landmark Opens Doors for Avant-Garde Music." Letter from Creative Time to New York Landmarks Conservancy. [Undated]
- Max Neuhaus, Sound Works, vol. I, Inscription*, ed. Gregory des Jardins. Ostfildern-Stuttgart: Cantz, 1994.
- Max Neuhaus, Sound Works, vol. II, Drawings*, ed. Gregory des Jardins. Ostfildern-Stuttgart: Cantz, 1994.
- Max Neuhaus, Sound Works, vol. III, Place*, ed. Gregory des Jardins. Ostfildern-Stuttgart: Cantz, 1994.
- McLuhan, Marshall and Quinten Fiore, eds., *Aspen 4* (1967).
- McLuhan, Marshall and Quentin Fiore, "Medium is the Message," in *Aspen 4* (1967).
- McLuhan, Marshall and Quentin Fiore, eds., *Medium is the Message*. New York: Bantam Books, 1967.
- McGraith, Donal. "Listen." In *Music is Rapid Transportation... From the Beatles to Xenakis*, eds., Bill Smith and Dan Lander, 41-52. Toronto: Charivari Press, 2011.

- McKee, Yates. "The Public Sensoriums of Pula: Cybernetic Abstraction and the Biopolitics of Urban Survival." *Art Journal* 67, no. 3 (Fall 2008): 46-67.
- McLean, Eric. "Informal Concert with Stockhausen." *Montreal Star*. January 29, 1964.
- McShine, Kynaston. *Information*. New York: The Museum of Modern Art, 1970.
- Means, Loren. "Oakland's Mills College Sounds the Way for New Music." *Berkeley Barb* 26, Issue 21. December 2-8, 1977. 28.
- Meyer, James. *Minimalism: Art and Polemics in the Sixties*. New Haven: Yale University Press, 2001.
- Militus, Joe. "Radiophonic Ontologies of the Avant-Garde." *TDR* 40, no. 3, Experimental Sound & Radio (Autumn, 1996): 63-79.
- Miller, Leta E. "Henry Cowell and John Cage: Intersections and Influences, 1933-1941." *Journal of the American Musicological Society* 59, no. 1 (2006): 47-112.
- MoMA PS1 Archives. Series I: Curatorial and Exhibition Records; Series II: Press and Communications Office Records; Series III: Publications Records; and Series VII: Series VII: Records of Founder and Director Alanna Heiss.
- Moran, Robert. "Titus Number 1 for Amplified Automobile." In *Source: Music of the Avant-Garde*, no. 3. January 1968.
- Moog, Robert. "Introduction to Mixers and Level Controls." *Electronic Music Review* 4 (October 1967): 10-13.
- Moore, Carmen. "Listen Max." *The Village Voice*. May 25, 1967.
- Morgan, Jessica. Oral interview with Charles Eppley. June 9, 2015.
- Morphet, Richard. "Carl Andre's Bricks." *The Burlington Magazine* 118, no. 884 (Nov., 1976): 762-765+767.
- Munster, Anna. *Aesthesis of Networks*. Cambridge, MA: The MIT Press, 2013.
- "Museum Exhibition Features Works Incorporating Sound." Press Release No. 41. New York: The Museum of Modern Art, 1979.
- Nardone, Michael. "Listen! Listen! Listen! Jackson Mac Low's Phonopoetics" *Amodern* 4 (April 2015). Web. Accessed May 12, 2017. <http://www.amodern.net/article/listen-listen-listen/>
- "National Arts Agency Names Dance Director." *The New York Times*. July 17, 1982.

- “National Public Radio to Air Live New Music Composition by Max Neuhaus.” *Record World*. December 28, 1976.
- Nelson, Abigail. “Who’s Who in Filmmaking: Phill Niblock.” *Sight Lines* 7, no. 3 (1973/74): 21-23. <http://www.vasulka.org/archive/Artists4/Niblock,Phil/general.pdf>.
- Neuhaus, Max. “A Max Sampler: Six Sound Oriented Pieces for Situations Other Than That of the Concert Hall.” *Source: Music of the Avant-Garde*, No. 5, 1968.
- Neuhaus, Max. “BANG, BOOoom, ThumP, EEEK, tinkle.” *The New York Times*. December 6, 1974. 39. (Elsewhere titled “Noise Pollution Propaganda Makes Noise.”)
- Neuhaus, Max. *Electronics & Percussion: Five Realizations by Max Neuhaus*. Columbia Masterworks MS 7139, 1968.
- Neuhaus, Max. “Fan Music.” In *Max Neuhaus: Evoquer L’Auditif*, 112-13. Milan: Charta, 1995.
- Neuhaus, Max. *Fontana Mix Feed*. Mass Art, Inc. M-133, 1966. LP.
- Neuhaus, Max. *Fontana Mix-Feed, Nov. 6, 1967/The King of Denmark*. In *Aspen 5+6*, ed., Brian O’Doherty. New York: Roaring Fork Press, 1967. Flexidisc.
- Neuhaus, Max. *Graded Reading Exercises for Four Mallets*. New York: Music for Percussion, Inc., 1971.
- Neuhaus, Max. Letter to Joan Davidson. February 20, 1976. Max Neuhaus Papers. Rare Book and Manuscript Library, Columbia University Library. Box 10. Folder 12.
- Neuhaus, Max. “Listen.” In *Sound by Artists*, eds., Dan Lander and Micah Lexier, 63-67. Toronto: Blackwood Gallery, 1990.
- Neuhaus, Max. “Modus Operandi,” *Artforum* (January 1980). Reprinted in *Max Neuhaus, Sound Works, vol. I, Inscription*, ed. Gregory des Jardins, 18-20. Ostfildern-Stuttgart: Cantz, 1994.
- Neuhaus, Max. “Notes on Changing the World.” Unpublished manuscript held by the Estate of Max Neuhaus.
- Neuhaus, Max. “Notes on Place and Moment2.” Unpublished digital text file (ca. 2000) held by Christine Burgin.
- Neuhaus, Max. “Performance2.” Unpublished digital text file (ca. 2000) held by Christine Burgin.
- Neuhaus, Max. “Performer’s Notes for Fontana Mix-Feed.” *Aspen Magazine*, 5/6. New York: Roaring Fork Press, 1967.

- Neuhaus, Max. *Program Notes*. Toronto: York University, 1974.
- Neuhaus, Max. "Sound Art?" Liner notes for *Volume: Bed of Sound*. New York: P.S. 1 Contemporary Art Center, 2000. CD.
- Neuhaus, Max. "The Broadcast Works and Audium." In *Zeitgleich: The Symposium, the Seminar, the Exhibition*. Vienna: Triton, 1994.
- Neuhaus, Max. "The Institutional Beast." in *Max Neuhaus: Sound Works, Vol. 1, Inscription*, ed. Gregory des Jardins. Ostfildern-Stuttgart: Cantz, 1994.
- Neuhaus, Max. *The New York School: Nine Realizations of Cage, Feldman, Brown*. Milan: Alga Marghen plana-N 22NMN.052, 2004. CD.
- Neuhaus, Max. "Über die Schlagzeugtechnik des ‚Zyklus‘." Liner notes for Karlheinz Stockhausen. *Zyklus für Einen Schlagzeruger*. Wergo – WER 308, 1977. Vinyl (7")
- Neuhaus, Max. "Underground Music(s)." Unpublished manuscript (1974). Max Neuhaus Papers. Rare Book and Manuscript Library, Columbia University Library. Box 10.
- Neuhaus, Max. "Water Whistle Series." Unpublished manuscript. <http://www.max-neuhaus.info/soundworks/vectors/sensation/waterwhistle/>
- Neuhaus, Max. "Zyklus." *Percussionist* (November, 1965): 6-12.
- New York City Department of Parks Press Release #199. December 29, 1966.
http://home2.nyc.gov/html/records/pdf/govpub/42581966_press_releases_part4.pdf
- Ngai, Sianne. "Network Aesthetics: Juliana Spahr's The Transformation and Bruno Latour's Reassembling the Social," in *American Literature's Aesthetic Dimension*, eds., Cindy Weinstein and Christophe Looby, 367-393. New York: Columbia University Press, 2012.
- Niblock, Phill. "Max." *Phill Niblock: Six Films 1966-1969*. Milan: Die Schachtel, 2009. DVD.
- Niblock, Phill. Oral interview with Charles Eppley. December 17, 2013.
- Nyman, Michael. "Hearing/Seeing." *Studio International* 192, No. 984 (November-December 1976): pp. 233-43.
- Oehrner, Annika. "The Moderna Museet in Stockholm – The Institution and the Avant-Garde." In *A Cultural History of the Avant-Garde in the Nordic Countries 1950-1975*, eds., Orum, Tania and Jesper Olsson. Leiden: Brill Rodopi, 2016.
- O'Doherty, Brian, ed., *Aspen 5+6* (1968).

- O'Doherty, Brian. *Inside the White Cube: The Ideology of the Gallery Space*. Berkeley: University of California Press, 1976.
- Oliveros, Pauline. *Software for People: Collected Writings 1963-1980*. Baltimore, MD: Smith Publications, 1984.
- Oliveros, Pauline. "Deep Listening: Bridge to Collaboration." In *Sounding the Margins Collected Writings, 1992-2009*, 26-31. Kingston, NY: Deep Listening Publications, 2010.
- Oliveros, Pauline. "Some Sound Observations." In *Software for People: Collected Writings 1963-1980*. Baltimore, MD: Smith Publications, 1984.
- Oral history interview with Walter De Maria, 1972 October 4. Archives of American Art, Smithsonian Institution.
- Orenstein, Philip. Oral interview with Charles Eppley. July 29, 2013.
- Orum, Tania and Jesper Olsson, eds., *A Cultural History of the Avant-Garde in the Nordic Countries 1950-1975*. Leiden: Brill Rodopi, 2016.
- Osbourne, Peter. "Conceptual Art and/as Philosophy." In *Rewriting Conceptual Art*, eds., Michael Newman and Jon Bird, 48-49. New York: Reaktion Books, 1999.
- Otte, Allen. "Letter to a Young Percussionist." In *The Modern Percussion Revolution: Journeys of the Progressive Artist*, eds., Kevin Lewis and Gustavo Aguilar, 284-292. New York: Routledge, 2014.
- Ouellette, Fernand. *Edgard Varèse*, trans. Derek Coltman. New York: The Orion Press, 1968.
- Ouzounian, Gascia. "The Uncertainty of Experience: On George Brecht's Event Scores." In *Journal of Visual Culture* 10:2 (2011): 198-211.
- Packer, Rene Levine. *The Life of Sounds: Evenings for New Music in Buffalo*. Oxford: Oxford University Press, 2012.
- Palestine, Charlemagne. Email correspondence with Charles Eppley. April 23, 2014.
- Parmenter, Ross. "Music Mechanical. . . : A Self-Playing Percussion Assemblage Performs at Pocket Theater Concert." *The New York Times*. August 27, 1963.
- Parsons, Michael. "Systems in Art and Music," *Musical Times*. October 1976.
- Patterson, Benjamin. "Appendix from Methods & Processes." In *The Four Suits*, 54-53. New York: Something Else Press, 1965.

- Patterson, Zabet. *Peripheral Vision: Bell Labs, the S-C 4020, and the Origins of Computer Art*. Cambridge: The MIT Press, 2015.
- Perreault, John. "Whose Art?" *Village Voice*. January 9, 1969.
- Penchansky, Alan. "Varied Fare to Be Offered at New Music Fest." *Billboard*. June 26, 1982: 15.
- Peters, Gordon. *The Drummer: Man*. Wilmette, Illinois: Kemper-Peters Publications, 1975.
- Pfeiffer, John F. "Living with the Bugaboo." *The New York Times*. September 25, 1966.
- Phillips, Liz. Oral interviews with Charles Eppley. July 17, 2013 and March 23, 2016.
- Piekut, Benjamin. "Chance and Certainty: John Cage's Politics of Nature." *Cultural Critique* 84 (2013): 134-163.
- Piekut, Benjamin. "Demolish Serious Cultures! Henry Flynt and Workers World Party." In *Sound Commitments: Avant-Garde Music and the Sixties*, ed., Robert Adlington, 37-55. Oxford: University Press, 2009.
- Piekut, Benjamin. *Experimentalism Otherwise: The New York Avant-Garde and its Limits*. Berkeley, CA: University of California Press, 2011.
- Piekut, Benjamin, ed., *Tomorrow is the Question: New Directions in Experimental Music Studies*. Ann Arbor: University of Michigan Press, 2014.
- Pierce, John. R. *The Science of Musical Sound*. New York: Scientific American Books, 1983.
- Pimentel, Lina. "The Solo Percussionist's Performance Limitations." *Percussionist* 18 (Summer 1974): 128-129.
- "Poets Applauded at Spoleto Fete." *The New York Times*. June 27, 1966.
- "Portrait U.S.A." In *National Geographic* 150, no. 1 (July 1976). Photographic insert.
- Postman, Neil. *Amusing Ourselves to Death*. New York: Penguin Books, 1985.
- Potts, Alex. "Moment and Place: Art in the Arena of the Everyday." In *Max Neuhaus: Times Square / Time Piece: Beacon*, 45-58. Beacon, NY: Dia Art Foundation, 2009.
- "Pre-Eminent Percussion – Captivating Works, Superbly Performed." *Stereo Review*, Volumes 6-7: 70.
- Press Release No. 69. (July 2, 1970). New York: The Museum of Modern Art, 1970.

- Press Release No. 160 (December 15, 1969). New York: The Museum of Modern Art, 1969.
- Press Release No. 162 (December 30, 1969). New York: The Museum of Modern Art, 1969.
- Pritchett, James. *The Music of John Cage*. New York: Cambridge University Press, 1996.
- “Public Art: Recent Works.” *Design Quarterly* No. 122, Site: The Meaning of Place in Art and Architecture. Minneapolis: Walker Art Center: 1983. 30–34.
- Pyziur, Max. Oral interview with Charles Eppley. July 20, 2016.
- Ratcliff, Carter. “Max Neuhaus.” *Art in America*. October 1987. 154-163.
- Rathe, Steve. Oral interview with Charles Eppley. June 8, 2016.
- “Re: GA Arts 7540 to Hear (Hybrid Energies for Acoustic Resources) Toward the Costs of its Creative Work.” Letter from Howard Bravin to Max Neuhaus. (January 7, 1976). Rockefeller Foundation Records. Projects, RG 1.3-RG 1.8 (A76-A82) (FA209) Subgroup 7: Projects (A81) Series 200: United States Subseries R: United States - Humanities and Arts. Box 926, Folder 6220.
- Redden, Nigel. Oral interview with Charles Eppley. November 16, 2016.
- Reich, Steve. *Live/Electronic Music*. Columbia Masterworks MS 7265, 1968. LP.
- Reich, Steve. “Tenney.” *Perspectives of New Music* 25, no. 1/2 (Winter-Summer 1987): 547-548.
- Reilly, Patti. “The World Is Alive with the Sound of Music, and Some of It Is by Composer Max Neuhaus.” *People* 13, no. 26. June 30, 1980.
- Rich, Alan and Robert Erickson. “Pierre Boulez on Music.” Berkeley: KPFA-FM, March 1, 1958.
- Rhein, von Jorn. “At MCA, a New Sculpture Converts Space into Sound.” *Chicago Tribune*. March 25, 1979. 8-9.
- Robinson, Julia. “Maciunas as Producer: Performative Design in the Art of the 1960s.” *Grey Room* 33 (Fall 2008): 58.
- Robinson, Julia. “John Cage and Investiture: Unmanning the System.” In Julia Robinson, ed., *The Anarchy of Silence: John Cage and Experimental Art*. Barcelona: Museu d’Art Contemporani Barcelona, 2009.
- Robinson, Julia. “The Sculpture of Indeterminacy: Alison Knowles’s Beans and Variations.” *Art Journal* (2004): 96-115.

- Rockwell, John. *All American Music: Composition in The Late Twentieth Century*. New York: Alfred A. Knopf, 1983.
- Rockwell, John. "Avant-Garde: Max Neuhaus' Sounds." *The New York Times*. November 11, 1979.
- Rockwell, John. "Avant-Garde: Liz Phillips Sound." *The New York Times*. May 14, 1981.
- Rockwell, John. "Max Neuhaus to Fill the Old Custom House with New Music." *The New York Times*. November 19, 1976. C7.
- Rockwell, John. "Avant-Garde: Max Neuhaus and his 32 Loudspeakers." *The New York Times*. November 22, 1976.
- Rockwell, John. "Beneath a Street, Art Soothes." *The New York Times*. November 10, 1987.
- Rockwell, John. "That Rumbling Underfoot? It's Not a Subway, It's Art." *The New York Times*. May 22, 2002.
- Rockwell, John. "Weill Recital Hall Opens at Carnegie," *The New York Times*. January 6, 1987.
- Rockwell, John. "Whistle While You Tune to Avant-Garde Radio." *The New York Times*. January 2, 1977.
- Rockefeller Foundation Records. Projects, RG 1.3-RG 1.8 (A76-A82) (FA209) Subgroup 7: Projects (A81) Series 200: United States Subseries R: United States - Humanities and Arts. Box 926, Folders 6219-6220.
- Rosenberg, Bernard and Deena Rosenberg. *The Music Makers*. New York: Columbia University Press, 1979.
- Rosenzweig, Roy and Elizabeth Blackmar. *The Park and the People: A History of Central Park*. Cornell University Press, 1998.
- Rubin, Nathan. *John Cage and the Twenty-Six Pianos of Mills College: Forces in American Music from 1940 to 1990, a History*. Moraga, CA: Sarah's Books, 1994.
- Russolo, Luigi. *The Art of Noise*. Translated by Robert Filliou. New York: Something Else Press, 1967.
- Rothfuss, Joan. *Topless Cellist: The Improbably Life of Charlotte Moorman*. Cambridge: The MIT Press, 2014.
- Salzman, Eric. "Disks: Percussive and Electronic." *The New York Times*. July 2, 1961.

- Salzman, Eric. "Joseph Byrd Works Played in Concert." *The New York Times*. March 10, 1962.
- Salzman, Eric. "Manhattan Percussion Ensemble Heard." *The New York Times*. January 17, 1961.
- Salzman, Eric. "Music in Our Time: 1 of 6 Pieces Clicks." *New York Herald Tribune*. March 24, 1966.
- Sanborn, John and Kit Fitzgerald, dir., *re: Soundings: Investigations into the Nature of Modern Music*. Purchase, NY: Neuberger Museum, 1983. Video.
- Sayre, Henry. *The Object of Performance*. Chicago: University of Chicago Press, 1989.
- Schafer, Murray. *The Tuning of the World*. Philadelphia: University Of Pennsylvania Press, 1980
- Schoenberg, Arnold. *Style and Idea: Selected Writings of Arnold Schoenberg*, ed., Leonard Stein. Berkeley and Los Angeles: University of California Press, 1975.
- Schneemann, Carolee. *Correspondence Course: An Epistolary History of Carolee Schneemann and her Circle*, ed., Kristine Stiles. Durham, Duke University Press, 2010.
- Schwartz, Tony. "Is it Art?" *Adventures in Sound*. September 8, 1970. New York City: WNYC-FM. Accessible online at: <http://www.wnyc.org/series/tony-schwartz>
- Senie, Harriet. "Richard Serra's Tilted Arc: Art and Non-Art Issues." *Art Journal* 48, no. 4 (Winter 1989): 289-302.
- Sheff, Bob, ed., *Seven Years of Crazy Love Music from the Center for Contemporary Music 1969-1976*. Oakland: Mills College, 1977. Unpublished audiotape. See <http://o-art.org/history/70's/CcmCrowd70s/SevenYears/7YearsTape1.html>
- Shulz, Bernd. "Interview with Bernhard Leitner." In *Resonances: Aspects of Sound Art*, ed., Bernd Schulz. Heidelberg: Kehrer Verlag, 2002.
- Shenker, Israel. "Foundations Get Real and Unreal Pleas for Aid." *The New York Times*. September 2, 1976. 45.
- Shapey, Ralph. *Ralph Shapey*. New World Records CRI 232, 2007. CD.
- Shapey, Ralph and John Macivor Perkins. *Music for 13 Players*. Composers Recordings Inc., CR SD 232, 1964. LP.
- Sims, C. C. "High Fidelity Underwater Sound Transducers." *IRE* 47 (1959): 866-871.
- "Siren Score Art Idea Nearly Passed On By." *Houston Post*/ June 15, 1978.

- Smithson, Robert. "A Museum of Language in the Vicinity of Art." In *Robert Smithson: The Collected Writings*, 78-94. Berkeley: University of California Press.
- "Sno-Or-No-Sno Ball To Be Held at Clove Lakes Park on Sunday." New York City Department of Parks Press Release #222. February 2, 1967.
http://home2.nyc.gov/html/records/pdf/govpub/42591967_press_releases_part1.pdf
- Sonnier, Keith. *Air to Air*. Los Angeles: Gemini Gel, 1975. LP.
- Source: Music of the Avant Garde*, no. 5 (January 1969).
- Source: Music of the Avant Garde*, no. 7. (January 1970).
- Source: Music of the Avant Garde*, no. 1. (January 1972).
- "Some Facts about Edgar Varese." *The New York Times*. April 1, 1917. 4.
- "Spoleto Festival Opens 8th Season." *The New York Times*. June 25, 1966.
- Steinhauer, Jennifer. "F.Y.I." *The New York Times*. December 19, 1993.
- Sterne, Jonathan. *The Audible Past: Cultural Origins of Sound Reproduction*. Durham and London: Duke University Press, 2003.
- Sterne, Jonathan. "The Stereophonic Spaces of Soundscape." In *Living Stereo: Histories and Cultures of Multichannel Sound*, ed., Paul Theberge, Kyle Devine and Tom Everett, 65-84. New York: Bloomsbury, 2015.
- Sterne, Jonathan. *MP3: The Meaning of a Format*. Durham and London: Duke University Press, 2012.
- Stjerne, Asa. "Aspects on Duration: The Vulnerability of Permanence in Site-Specific Sound Art in Public Space." *Leonardo Music Journal* 23, Issue 1 (December 2013).
- Stockhausen, Karlheinz. "Electronic and Instrumental Music." [1958] In *Audio Culture: Readings in Modern Music*, ed., Christoph Cox and Daniel Warner, 370-380. New York: Continuum, 2009.
- Stockhausen, Karlheinz. "Musik Im Raum." [1959/1961] *Die Reihe* 5 (1961): 67-82.
- Stockhausen, Karlheinz. *Nr. 9 Zyklus*. London: Universal Edition, 1961. Score.
- Strongin, Theodore. "Artist 'Realizes' Taped Music and Plays Piano from Inside." *The New York Times*. March 23, 1965. 34.

- Strongin, Theodore. "Avant-Garde Music Switched on Here." *The New York Times*. September 14, 1966.
- Strongin, Theodore. "Concert is Given by Percussionist: Neuhaus Rubs, Tickles and Pats Variety of Instruments." *The New York Times*. June 3, 1964. 36.
- Strongin, Theodore. "Concert Tribute to Varese at 80: Chicago Chamber Players Heard in Carnegie Hall." *The New York Times*. March 31, 1965.
- Strongin, Theodore. "When the Listener is Composer." *The New York Times*. June 16, 1968.
- Tanenbaum, Susie J. *Underground Harmonies: Music and Politics in the Subways of New York*. Ithica, Cornell University Press, 1995.
- Taubman, Howard. "U.S. Music of today Played at Concert – Two Works Presented on Tape Recorded Provide Novelty – Stokowski is Conductor." *The New York Times*. October 29, 1952.
- "Technology Work in Toronto, March 7-10, 1968." *Arts/Canada* 25 (1968): 17.
- Tenney, James. "Computer Music Experiences." In *Electronic Music Reports 1*. Utrecht: Institute of Sonology, 1969.
- Tenney, James. *Meta + Hodo: A Phenomenology of 20th Century Musical Materials and an Approach to the Study of Form*. New Orleans: Tulane University, 1964.
- Tenney, James. "Sound Generation by Means of a Digital Computer." *Journal of Music Theory* 7, no. 1 (1963).
- "The Endowment and the Bicentennial – A Progress Report." John Marsh Files. Gerald R. Ford Presidential Library. Box 70 Folder "National Endowment for the Arts Program Report."
- "The Talk of the Town." *The New Yorker* (October 14, 1967): 49.
- "The Talk of the Town – Music Below." *The New Yorker* (June 5, 1978): 27.
- The United States of America. *The United State of America*. Columbia – CS 9614, 1968. LP.
- Thompson, Emily. *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900-1933*. Cambridge: The MIT Press, 2002.
- "The American Stopper Co. – The Largest Makers of tin Boxes Outside the Combination." *The Pharmaceutical Era* 31, no. 19 (May 12, 1904).
- "The Federal Communications Commission Decision." In *The Exacting Ear*, ed., Eleanor McKinney, 319-324. New York: Pantheon Books, 1966.

- Tomkins, Calvin. "Onward and Upward with the Arts – Hear." *The New Yorker*. October 24, 1988. 110-120.
- Toop, David. *Sinister Resonance: The Mediumship of the Listener*. London and New York: Continuum, 2010.
- Trockimezyk, Maja. "From Circles to Nets: On the Signification of Spatial Sound Imagery in New Music." *Computer Music Journal* 25, no. 4 (Winter 2001): 39-56.
- Truax, Barry, *Handbook Of Acoustic Ecology*, World Soundscape Proj Nr.5 , ARC Aesthetic Research Center, Vancouver, 1978.
- Tremain, Rose. *Music & Silence*. New York: Farrar, Straus, and Giroux, 2000.
- Uroskie, Andrew V. "La Jetée en Spirale: Robert Smithson's Stratigraphic Cinema." *Grey Room*, no. 19 (Spring 2005): 54-79.
- Ursprung, Philip. *Allan Kaprow, Robert Smithson, and the Limits to Art*. Berkeley: University of California Press, 2013.
- Ussachevsky Vladimir and Otto Luening. *Tape Music: An Historic Concert*. New York: The Museum of Modern Art, 1968. LP.
- Varèse, Edgard, "Rhythm, Form and Content," [1959] in *Contemporary Composers on Contemporary Music*, eds., Elliot Schwartz, Barney Childs, and Jim Fox, . New York: Da Capo Press, 1998.
- Varèse, Edgard and Chou Wen-Chung. "The Liberation of Sound." *Perspectives of New Music* 5, no. 1 (1966): 11-19.
- "Variations on a Brake Drum." *Time Magazine*. March 30, 1959.
- Various Artists, *Concert Percussion*. Time Records S/8000, 1961. LP.
- Various Artists. *Lovely Little Records*. Lovely Music LP 101-06, 1980. Vinyl (7").
- Various Artists, *The Wild Sounds of New Music*, Columbia Masterworks - BTS 17, 1970. Vinyl (7").
- Vergne, Philippe. "Preface." In *Max Neuhaus: Times Square / Time Piece: Beacon*, 20-22. Beacon, NY: Dia Art Foundation, 2009.
- Villers, Chris, ed., *Morton Feldman Says: Selected Interviews and Lectures, 1964-1987*. London: Hyphen, 2006.

- Viteritti, Joseph. *Summer in the City: John Lindsay, New York, and the American Dream*. Baltimore: Johns Hopkins University Press, 2014.
- Voegelin, Salomé. *Listening to Noise and Silence: Towards a Philosophy of Sound Art*. New York: Continuum, 2010.
- Vostell, Wolf and Dick Higgins. *Fantastic Architecture*. Something Else Press, 1969.
- “Wanna Whistle?” *Eugene Register-Guard*. December 30, 1976.
- WBAI Folio* 4, no. 20 (September 30-October 13, 1963).
- WBAI Folio* 6, no. 19 (December-January 1966).
- WBAI Folio* 7, no. 11 (October 1966).
- “Weakened Pound Read in Spoleto.” *The New York Times*. July 1, 1966.
- Weber, Bruce. “Max Neuhaus, Who Made Aural Artwork, Dies at 69.” *The New York Times*. February 9, 2009.
- Weiss, Allan. “Radio, Death, and the Devil: Artaud's Pour en finir avec le jugement de Dieu.” In *Wireless Imagination: Sound, Radio and the Avant-Garde*, ed. by Douglas Kahn and Gregory Whitehead, 269-308. Cambridge, MA: The MIT Press.
- “Westar 1 and the War of the Talksats.” *Science News* 105, no. 17 (Apr. 27, 1974): 269-270.
- “What Happened?” *The Fight to Save WBAI*, Issue 1 (April 1977).
- White, Timothy. *Blue-Collar Broadway*. Philadelphia: University of Pennsylvania Press, 2015.
- Whitman, Simone. “Interview with Max Neuhaus and Ted Wolff.” *Techne: A Projects and Process Paper* 1, no. 1 (April 14, 1969): 4.
- Williams, Jan. “An Interview with Morton Feldman,” *Percussive Notes Research Edition* 21, no. 6 (September 1983): 9-10.
- Williams, Jan. Oral interview with Charles Eppley. July 18, 2016.
- Williams Jr., Richard S. and William Douglas Carter. “ERTS-1, A New Window on our Planet.” U.S. Geological Survey 929. 1976. <https://pubs.er.usgs.gov/publication/pp929>
- Winters, Kenneth. “In the Corner.” *The Toronto Telegram*. May 2, 1966.

- Woods, Nicole. "Object/Poems: Alison Knowles's Feminist Archite(x)ture," *X-Tra Contemporary Art Quarterly* 15, no. 1 (Fall 2012). Web. <http://x-traonline.org/article/objectpoems-alison-knowless-feminist-architexure/>
- Wright, Roger. "A Martyr for the Cause." London: BBC Radio 3, October 22, 1986.
- Young, La Monte. "How Time Passes: Remembering Stockhausen." *Artforum* 46/7 (March 2008): 312-14; 316-17.
- Young, La Monte. "Lecture 1960." *The Tulane Drama Review* 10/2 (Winter 1965): 73-83.
- Young, La Monte and Jackson Mac Low, eds., *An Anthology of Chance Operations*. New York: La Monte Young and Jackson Mac Low, 1963.
- Young, La Monte and Maria Zazeela. Oral interview with Charles Eppley. July 9, 2015.
- Zwerin, Mike. "Max Neuhaus's 'Sound Works' Listen to Surroundings: Been There, Heard That." *The New York Times*. November 17, 1999.

APPENDICES

APPENDIX I: BIOGRAPHY

Information sourced and collected from numerous biographical and chronological documents published by the artist's estate and found in public archives, artist publications and project proposals.

- 1939 Born (August 9) in Beaumont, Texas, USA.
- 1942 Family moved to New York State
- 1944-53 Attended Bedford Road Primary School, Pleasantville, NY
- 1949 Began percussion studies (drum kit)
- 1953-55 Attended Pleasantville High School, Pleasantville, NY
- 1954 Decided to become a musician
Worked as a freelance musician in jazz, rock-and-roll, and dance bands
- 1955 Family moved to Houston, TX
- 1955-1957 Attended Lamar High School, Houston, TX
- 1957-62 Studied percussion at the Manhattan School of Music (MSM) with Paul Price
Performed throughout NYC and the United States with the Paul Price Percussion Ensemble and as a freelance accompaniment percussionist
- 1958 Became interested in contemporary percussion music and “performer-determined compositions”
Met composers John Cage and Edgard Varese
- 1961 Diploma in Music (B.A., MSM)
First trip to Europe for Darmstadt Courses for New Music. Darmstadt, Germany.
Met composers Karlheinz Stockhausen and Pierre Boulez
- 1962 Diploma in Music (M.A., MSM)
Completed Darmstadt International Summer Courses
- 1962-63 American tour (ensemble percussionist with the Contemporary Chamber Ensemble directed by Boulez)
- 1963 First solo recital at Carnegie Recital Hall. NYC
- 1963-64 American tour (solo and ensemble percussionist with Stockhausen). First tour as a solo percussionist
- 1964 Second solo recital at Carnegie Recital Hall. NYC
Began “experimentation with audio-electronic circuitry”
- 1964-65 Artist-in-Residence, University of Chicago. Chicago, IL
American tour (ensemble percussionist with the Contemporary Chamber Players of the University of Chicago directed by Ralph Shapey)
- 1965 Third solo recital at Carnegie Recital Hall. NYC
- 1965-66 European tour (fifteen solo percussionist recitals in major cities and national radio studios – see Performance History)

- 1966 First “music for non-concert hall situations,” later described as first “independent work as an artist”: *LISTEN*. NYC
First “broadcast work,” *Public Supply*. NYC
- 1967 Member of the Advisory Council for *Electronic Music Review*
- 1967-68 First “temporary sound installation”: *Drive-In Music*. Buffalo, NY
- 1968 Fourth and final solo recital at the Carnegie Recital Hall, NYC (Program title: “Three Hours of Sound Construction”)
Percussion repertoire recorded for Columbia Masterworks: MS 7139 (*Electronics & Percussion*)
Cessation of activities as solo percussionist
- 1968-69 Resident visitor, Bell Telephone Laboratories. Murray Hill, NJ
- 1969 Began “living on a boat, journeying along eastern sea coast of USA and into Bahama Islands”
Began studying “underwater acoustics”
- 1971 First underwater installation: *Water Whistle I*, NYC
- 1972 Artist-in-residence at the California Institute of the Arts
- 1973 Music Fellow, National Endowment for the Arts. USA (August-October)
Conception of *Times Square* and Paris Metro Project
- 1974 Formation of HEAR, Incorporated. (Hybrid Energy Acoustic Resources)
Began preliminary studies for *Radio Net*
- 1973-76 First long-term sound installation: *Walkthrough* (1973-1976) at the Metropolitan Transportation Building, Brooklyn, NY
- 1975-76 Resident at Artpark. Lewiston, NY
- 1976 First European temporary installation: *Underwater Music* at Radio Bremen
- 1976-77 Creative Associate at the Center for the Creative and Performing Arts at the University of Buffalo (SUNY)
- 1977 Documenta 6. Kassel, West Germany
Visual Arts Fellow, National Endowment for the Arts. USA
Conception of *Audium* (later realized as *Auracle*)
- 1977-78 Resident Fellow, DAAD Künstler Program, West Berlin, West Germany
- 1977-92 First permanent sound installation: *Times Square* (1977-1992)
- 1978 Began “development and construction of first computer-controlled multi-synthesizer sound system”
Conception of siren project
- 1979 First collection of a work by a museum (Museum of Contemporary Art, Chicago)
- 1981 First outdoor experiments on siren project
Lecture tour. California, USA
- 1982 Lecture tour. Japan
Visual Arts Fellow, National Endowment for the Arts
- 1983 First works for European museums and galleries
- 1988-89 First acoustic designs for siren project. California, USA
- 1991 Awarded first U.S. patent for siren sound design, first patent for sound
- 1992 Documenta 9. Kassel, Germany
Began studies for *Audium* (renamed *Auracle*)
- 2004 First internet sound piece *Auracle* launched online
- 2009 Died in Capri, Italy

APPENDIX II: MUSICAL REPERTOIRE (SELECTED WORKS)

* Confirmed by MN to Megan Murph [See Murph, 2012]

SOLO RECITAL

- Bussotti, Sylvano, *Couer Pour Batteur* (1959) [Performed as *Couer Pour Batteur – Positively Yes* (1962-68)]
Byrd, Joseph. *Water Music* (1963)
Cage, John. *27' 10.554"* (1956)
Cage, John. *Fontana Mix* (1958) [Performed as *Fontana Mix-Feed* (1964-68) (FMF)]
Corner, Philip. *Everything Max Has* (1964)
Feldman, Morton. *The King of Denmark* (1965)
Feldman, Morton. *Piano Piece 1952* (1952)
Haubenstock-Ramati, Roman. *Liaisons* (1961)
Jones... *Sonata for Three Non-Chromatic Kettle Drums* (1947)
Moran, Robert. *Ceremony* (ca. 1964-65)
Nilsson, Bo. *Reaktioner (fuer 4 schlagzeuger)* (1961)
Stockhausen, Karlheinz. *Zyklus* (1958)
Tenney, James. *Maximusic* (1965)
Thomas, Ronald. Unknown ["Piece derived from" Karlheinz Stockhausen's *Plus-Minus* 1963"] *

SOLOIST WITH ORCHESTRA

- Franci, Carlo. *Concerto for Vibraphone and Orchestra* (1953)
Milhaud, Darius. *Concerto for Marimba and Vibraphone* (1947)

ENSEMBLE

- Byrd, Joseph. *Density II*
Cacioppo, George. *Time on Time in Miracles*
Cage, John. *Atlas Eclipticalis* (1961-62) N.B. Performed with *Winter Music*
Cage, John. *Winter Music* (1957) N.B. Performed with *Atlas Eclipticalis*
Higgins, Dick. *Danger Music No. 2* (1962)
Kagel, Mauricio. *Transición II* (1958-59)
Satie, Erik. *Vexations* (1893)
Shinohara, Makoto. *Extrait de Alternance pour percussion* (1962)
Stockhausen, Karlheinz. *Refrain for Three Players* (1959)
Stockhausen, Karlheinz. *Kontakte* (1958-60)
Stockhausen, Karlheinz. *Originale* (1961/1964)

MUSICAL SCORES (WRITTEN BY, DEDICATED TO, OR MENTIONED IN)

- Byrd, Joseph. *Water Music* (1963)
Cage, John. *Rozart Mix* (1965)
Corner, Philip. *Afterward* (1964) [Performed with *Beforehand*, *Everything Max Has*, or *Intermission*]
Corner, Philip. *Beforehand* (1964) [Performed with *Afterward*, *Everything Max Has*, or *Intermission*]
Corner, Philip. *Everything Max Has* (1964) [Performed with *Afterward*, *Beforehand*, or *Intermission*]
Corner, Philip. *Intermission* (1964) [Performed with *Afterward*, *Beforehand*, or *Everything Max Has*]
Corner, Philip. *Popular Entertainments* (1967)
Feldman, Morton. *King of Denmark* (1963-64)
Neuhaus, Max. *addition of a thought: "Listen" (noun)* (1965) Audiotape composition recorded at the University of Illinois based on Jackson Mac Low's *The text on the opposite page may be used in any way as a score for solo or group readings, musical or dramatic performances, looking, smelling, anything else &/or nothing at all* (1961)
Neuhaus, Max. *As You Please (erotic music for solo female musician)* (1977). [MNP. Box 1. Folder 18.]
Tenney, James. *Maximusic (for percussion)* (1965)

APPENDIX III: PERFORMANCE HISTORY

Language reflects the description from source documents unless noted otherwise. Underscore demarcates specific titles or phrases used in programs or promotional materials. Selected environments and installations are included.

- * Confirmed by artist statements, programs, or the Estate of Max Neuhaus
- + Confirmed by Carnegie Hall Archives: Performance History Database
- *** Confirmed by concert program, recording or other archival evidence
- ‡ Confirmed by concert program in the Max Neuhaus Papers at Columbia University

MN: Max Neuhaus

PPPE: Paul Price Percussion Ensemble. Directed by Paul Price unless otherwise noted

MSM: Manhattan School of Music. 238 East 105 Street, NYC

1957 *Neuhaus joins the Manhattan School of Music to study with Paul Price.*

1959

March 17. Hubbard Auditorium. MSM. Ensemble: PPPE. Work(s): Malloy Miller, *Prelude for Percussion*; Lou Harrison, *Canticle No. 3*; Arthur Cohn, *Quotations in Percussion*; Michael Colgrass, *Three Brothers*. ‡

April 20. Sheridan Square. NYC. Work(s): Carlos Chavez, *Toccata for Percussion Instruments*. ‡

July 28. Pius X Hall. Manhattanville College. Purchase, NY. Ensemble: Paul Price Percussion Quartet. Work(s): Warren Benson, *Trio for Percussion*; Lou Harrison, *The Song of*

Queztecoatl; Michael Colgrass, *Percussion Music*; Jack McKenzie, *Introduction and Allegro*. N.B. This performance features several works from The Paul Price Percussion Ensemble, *Sound Adventure*, Period Records – SPL 743. LP. (1958). ‡

November 19. Carnegie Recital Hall. NYC. Ensemble PPPE with Anahid Ajemian (violin). Work(s): Lou Harrison, *Concerto for Violin with Percussion Orchestra* (1949-1950). N.B. World premiere. Performed after Arnold Schoenberg, *Phantasy, Op. 47* (1949). + ‡

1960

January 1. Unknown performance. ***

February 19. Clinton Hill Symphony. Brooklyn, NY. Works(s): Unknown. ***

February 22. Unknown performance.

March 8. Unknown performance. ***

April 10. Unknown performance. ***

April 25. Unknown performance. ***

May 8. Unknown performance. ***

November 19. Bronx Civic Opera. Bronx, NY. Work(s): Unknown.

December 6. Manhattan School of Music Percussion Ensemble. Central High School Auditorium. NYC. Ensemble: PPPE. Work(s): Malloy Miller, *Prelude for Percussion* (1956) MN: (4 high drums, small cowbell, 2 wood blocks); Michael Colgrass, *Inventions on a Motive* (1955); Lou Harrison, *Canticle No. 1* (1939) MN (tam-tam, thundersheet); Armand Russell, *Percussion Suite* (1957) MN (tom-toms); Alan Hovhaness, *October Mountain* (1942) MN (bass drum, gong, tenor drum); Cole Iverson, *Contrarhythmic Ostenato* (1955) MN (xylophone, vibraphone). ‡

1961 Neuhaus receives Bachelor's degree in Music.

January 16. Unknown performance.

January 22. Unknown performance.

February 3. Opera Theater. Ensemble. Work(s): Puccini, *Tosca*.

February 19. Pratt Institute Memorial Hall. Brooklyn, NY. Ensemble. The Clinton Hill Symphony Orchestra. Work(s): Modest Mussorgsky, *Introduction to Khovanchtchina*; Antonin Dvorak, *Symphony No. 5 in E. Minor*; Luigi Boccherini, *Concerto in B Flat Major for Cello and Orchestra*; Hector Berlioz, *Hungarian March*. ‡

March 11. Unknown performance.

March 14. Unknown performance.

April 14. Opera Theater. Ensemble. Work(s): Mozart, *The Marriage of Figaro*.

May 11. Tenth Workshop – Concert by the Percussion Ensemble. Hubbard Auditorium. MSM. NYC. Ensemble: PPPE. Work(s): Johanna Beyer, *March for Percussion* (1939) MN (3 triangles, 2 metal bowls); Ronald LoPresti, *Sketch for Percussion* (1956) MN (celeste, marimba). ‡

June 3. The Broadway Symphony Orchestra. Pilgrim Hall. The Broadway Congregational Church. NYC. Ensemble. Directed by Rosario Carcione. Work(s): Mozart, *Overture to "The Impresario"*; Gena Branscombe, "Procession" from *Symphonic Suite "Quebec"*; Chopin, *Piano Concerto No. 2 in F minor*; Elgar, *Enigma Variations*. N.B. Orchestra included cello performance by Charlotte Moorman. ‡

July 13. Eleventh Workshop – Concert by the Summer Session Percussion Ensemble. Hubbard Auditorium. MSM. NYC. Ensemble: PPPE. Work(s): James Hanna, *Fugue and Chorale*

(1956) (MN: snare drum); Keisuke Ajiro, *Sextet No. 1* (1961) MN (snare drum, triangle, bongos, tambourine); Carlos Surinach, *Ritmo Jondo* (1952) MN(xylophone); Walter Anslinger, *Suite for Percussion* (1961) MN (suspended cymbal, gong, vibraphone, marimba). ‡

August 21. The Rhode Island Theater Company. Matunuck, RI. Ensemble. MN (drums). Work(s): Sandy Wilson, *The Boy Friend* (1953). N.B. American musical concert symphony ‡

1962

April 26. Repertoire Orchestra. MSM. Soloist with orchestra. Conducted by Nicholas Flagello. Work(s): Carlo Franci, *Concerto for Vibraphone and Orchestra*. NYC. N.B. Master's Degree recital. ‡

April 27. Hammond, IN. Ensemble. Work(s): Haydn, *Creation*.

February 7. Music in Our Time. Kaufman Concert Hall. 92nd Street Y. NYC. Ensemble: William Wolf, bass-baritone; James Thompson, trombone; Seymour Barab(violoncello); Paul Price (vibraphone); Raymond des Roches, MN, John Bergamo(percussion). Work(s): Morton Feldman, *Intervals* . N.B. Feldman Estate.

July 17. Darmstadt Institute. Germany. Ensemble. Work(s): Michael von Biel, *Book for 3* (1961); Francois Bayle, *Hourvari I pour 8 personnes* (1962); Makoto Shinohara, *Extrait de Alternance pour percussion* (1962). (Program July 8-July 20). ***

August 15. Fluxus Festival Germany. Work(s): Unknown.

1963

February. Wergo Records. NYC. Recording studio session. Work(s): Karlheinz Stockhausen, *Zyklus* (1958).

April 15. Charlotte Moorman with David Tudor. 2 Pitt Street. NYC. Ensemble: Jacob Glick (viola), Joseph Byrd (piano), MN (marimba). Work(s): Barney Childs, *Interbalances III* (1963). Other works by John Cage, *26' 1.1499" for a String Player*, La Monte Young, *Composition 1960 #13*, Morton Feldman, Earle Brown, *Music for Cello and Piano*, Joseph Byrd, *Loops and Sequences*, Philip Corner, Anton Webern. N.B. 2 Pitt Street was a loft shared by Philip Corner and Beverly Schmidt that featured performances of dance and music. ***

May 11. "YamDay," Yam Festival. Hardware Poetry's Playhouse. 115 W. 54th Street. NYC. Ensemble: Joseph Schor (violin), Paul Zukofsky (violin), Samuel Rhodes (viola), Fred Mills (trumpet), Nicholas Zumbro (piano), Charlotte Moorman (cello), Samuel Baron (flute), Joseph Byrd (percussion), MN (percussion). Conducted by Earle Brown. Work(s): Earle Brown, *December, 1952* (1952). N.B. Charlotte Moorman organized this continuous performance event over May 11-12. ***

June 25. Concert of Dance No. 8. Judson Memorial Church. Ensemble: MN, Malcolm Goldstein, Dick Higgins, Norma Marder, Elizabeth Munro, Arlene Rothlein, Beverly Schmidt, Vincent Wright, James Tenney. Work(s): Philip Corner, *Flares: A Happening* (1963). Program: Judith Dunn, *Speedlimit* (1963); Arlene Rothlein, *Another Letter to the Sun (for Charles Ives)*. See Judson Memorial Church Archive, Series A: Arts, Subseries 2: Judson Dance Theater, Box 2, Folder 39 ***

- August 6. Concert of Dance No. 11. Gramercy Arts Theatre. Ensemble: MN, Philip Corner, Harry Diakoff, Malcolm Goldstein, Annette Mendel, Dorthy Moskoowitz. Work(s): Joseph Byrd, *Animals* (1961). N.B. Music for dance by Susan Kaufman, *Animals* (1963). Organized by Herbert Semmel. See Judson Memorial Church Archive. Box 3, Folder 42.
- August 26. Benefit for the Foundation for Contemporary Performance Arts. The Pocket Theater, NYC. Ensemble and solo recital. Ensemble: MN (percussion, marimba); Malcolm Goldstein (violin); Arthur Layzer (clarinet); La Monte Young (saxophone). Conducted by Philip Corner. Ensemble work(s): Joseph Byrd, *Densities II (for Clarinet, saxophone, marimba and violin)*. Solo work(s): Joseph Byrd, *Water Music (for percussion and tape)*. Other works performed: James Tenney, *Ergodos /2/3/*; Malcolm Goldstein, *Ludlow Blues*; Philip Corner, *High Contrast*; and Joseph Jones's "*self-playing percussion assemblage*," assisted by Alison Knowles. Broadcast recording on KPFA October 11, 1963. See Parmenter, 1963. See "A Concert of New Music" aired on KPFA-FM (https://archive.org/details/C_1963_08_26) N.B. Second of two concerts organized by James Waring (first: August 19 and featured compositions by Edward Boagni, George Brecht, Frank Herko), John Cage, Al Hansen, Philip Corner, Malcolm Goldstein, Al Hansen, John Herbert McDowell, James Waring, La Monte Young, Marian Zazeela). See Forde, 2013.
- August 27. Six Concerts of the Avant Garde / 6 Concerts '63. Judson Hall, 165 West 57th Street, NYC. Solo. Work(s): Karlheinz Stockhausen, *Zyklus* (1958). Other performances by: David Tudor (piano); Frederic Rzewski (piano); Nicholas Zumbro (piano). Compositions by Morton Feldman, Bo Nillson, Bertram Baldwin, Alvin Lucier, Toro Takemitsu, David Behrman, Toshi Ichianagi and Christian Wolff. Source: Fondazione Bonotto, "6 Concerts '63" (Aug. 20 & 21). See Schonberg, "Dada, Dada...", 1963. N.B. MN said in 1963 interview that this performance was his first public realization of *Zyklus*. See Corigliano, 1963.
- September 4. Six Concerts of the Avant Garde / 6 Concerts '63. Judson Hall, 165 West 57th Street, NYC. Ensemble: MN (percussion); Charlotte Moorman (cello); James Tenney (electronics); Frederic Rzewski (piano); Florence Wightman (harp); Earle Brown (conductor); John Cage (conductor) and others unnamed. Work(s): Earle Brown, *December 1952* (1952); Christian Wolff, *For 5 or 10 People* (1962); Morton Feldman, *De Kooning* (1963); other works by John Cage, Dieter Schnebel, George Brecht. Source: Fondazione Bonotto, "6 Concerts '63," Aug. 20 & 21 (1963). See Schonberg, "Dada, Dada...", 1963.
- September 9. Pocket Theater. NYC. Ensemble. Work(s): Erik Satie, *Vexations*. MN participation unconfirmed. American premiere of *Vexations* (twelve-hour long performance). See Schonberg, "Dada, Dada...", 1963; Parmenter, 1963.
- September-October. WBAI-FM. Solo. NYC. Work(s): Karlheinz Stockhausen, *Zyklus* (1958). [Performance followed an interview on WBAI. See Corigliano, 1963]
- December 20. Tone Roads. NYC. Ensemble. Work(s): Charles Ives, *Over the Pavements*. ***

1964

- January 2. NYC. Ensemble: MN, Philip Corner, James Tenney. Work(s): John Cage, *Atlas Eclipticalis* (1961-62). [See Piekut, *Experimentalism Otherwise* (2011): 207]
- January 7. Hunter College Playhouse. Hunter College. NYC. Ensemble and solo recital. Solo work(s): Karlheinz Stockhausen, *Zyklus* (MN). Ensemble work(s): Kontakte (Karlheinz

- Stockhausen, David Tudor, Christoph Caskel); Refrain (Karlheinz Stockhausen and Christoph Caskel with either MN or David Tudor). See Ericson, 1964.
- January 28. St. Sulpice Library. Montreal, Canada. Ensemble and solo recital. Ensemble: MN, percussion; David Tudor (piano); Karlheinz Stockhausen (electronics). MN solo work(s): Karlheinz Stockhausen, *Zyklus* (1958); David Tudor solo work(s): *Klavierstuecke VII and VIII*. Ensemble work(s): *Refrain* (1958). [See McLean, 1964]
- January-February. Chicago, IL. Ensemble and solo recital. Performers: MN, David Tudor, Christoph Caskel. Work(s): Unknown “percussion and piano” works by Karlheinz Stockhausen. [See Rhein. 1984]
- February 18. University Museum. Philadelphia, PA. Ensemble and solo recital. MN solo work(s): Karlheinz Stockhausen, *Zyklus* (1958); David Tudor solo work(s): *Klavierstuecke VII and VIII*. Ensemble work(s): *Refrain* (1958), *Kontakte* (1958-1960). See Felton, 1964.
- February 23. Music in Our Time. Kaufmann Concert Hall. 92nd Street Y. NYC. Ensemble: Nancy Killmer(soprano); Paula Robison (flute); Philip West (English horn); Ralph Froelich (French horn); Henry Nowak, (trumpet); James Thompson, (trombone); Jay McCallister, (tuba); MN (percussion); Gilbert Kalish (celesta); Robert Sylvester, (violoncello); David Walter (bass); Arthur Wesiberg (conductor). Work(s): Morton Feldman, *Rabbi Akiba*. Premiere.
- March 6. Hunter College Playhouse. Hunter College. NYC Work(s): Karlheinz Stockhausen, *Zyklus*; *Kontakte*; Klavierstück IX. Unconfirmed.
- April 27. Concert of Dance No. 14. Judson Memorial Church. NYC. Ensemble: MN, Philip Corner. Work(s): Philip Corner, *Rope Pull Sounds* (1964). Program: N.B. Described by Sally Banes as “a long improvisation... a tug of war with a rope loaded with bells, slates, chains, cans, and balloons.” See Banes, 1993: 197. MN “credited for sound” with Philip Corner in lieu of programming committee. Part three of a three-day series (April 27-29).
- June 2. Carnegie Recital Hall, NYC. Solo recital. Work(s): John Cage, *27'10.554" for a Percussionist*; other unknown compositions by Earle Brown, *Four Systems*, Bo Nilsson *Reaktionen* and Karlheinz Stockhausen *Zyklus*. See Strongin, 1964. +
- June 27. Fluxus Symphony Orchestra Concert. Carnegie Recital Hall. NYC. Ensemble: MN, Yoko Ono, Dick Higgins, George Brecht, La Monte Young, Robert Watts, Ben Patterson, Name June Paik, Alison Knowles, Charlotte Moorman, etc.
- September 2. “All Varese Concert,” Second Annual New York Festival of the Avant Garde. Judson Hall. NYC. MN performance unconfirmed. Source(s): Fondazione Bonotto, “2nd Annual Avant Garde Festival Flyer – Poster” and “2nd Annual... Flyer” (FXC1656).
- September 3. Second Annual New York Festival of the Avant Garde. Judson Hall. NYC. Solo recital. Work(s): Morton Feldman, *King of Denmark* (1964) (World Premiere) and others unknown. Source(s): Fondazione Bonotto, “2nd Annual Avant Garde Festival Flyer – Poster” and “2nd Annual... Flyer” (FXC1656). See also Klein, 1964.
- September 8-9, 11-13. Second Annual New York Festival of the Avant Garde. Judson Hall. NYC. Ensemble. Work(s): Karlheinz Stockhausen, *Originale* (1961). Ensemble performers: James Tenney (piano); MN (percussion); David Behrman (sound technician); Nick Cernivich (lighting man); Robert Breer (cameraman); Allan Kaprow (director); Nam June Paik (action musician); Mr. Seaman’s grandchild (unnamed), (child); Olga Kluever (model); Alvin Lucier (conductor); Eva Pietkiewicz (animal handler); Dobert Delford Brown and Ay-o(action painters); Allen Ginsberg and Jackson Mac Low,

(poets). American premiere. Source(s): Fondazione Bonotto, “2nd Annual Avant Garde Festival Flyer – Poster” and “2nd Annual... Flyer” (FXC1656).

1965

- January 2. An Evening of Music of the Avant-Garde. Theresa L. Kaufmann Concert Hall. 92nd Street YM-YWHA. NYC. Ensemble: MN (percussion, kettle drums), James Tenney (piano), Philip Corner (piano), Malcolm Goldstein (tape realizations). Work(s): KS, *Kontakte*; Mauricio Kagel, *Transicion II*; John Cage, *Atlas Eclipticalis* with *Winter Music*. Presented by Susan L. Popkin in association with the University of Chicago. Electronic equipment courtesy of Bell Labs and Columbia University. ‡
- January 26. The Contemporary Chamber Players of the University of Chicago. Mandel Hall. University of Chicago. Chicago, IL. Ensemble: Harriet le Jeune (flute, piccolo); Gladys Elliot (oboe, English horn); Chester Milosovich (clarinet, bass clarinet); Fred Hemke (alto saxophone); Richard Rusch (bassoon, contrabassoon); Milton Gold (French horn); Charles Geyer (trumpet); Dean Hey (trombone); MN (percussion); William Kothe (piano); Irving Ilmer (violin, viola); Elliot Golub (violin); Harold Siegel (double bass). Work(s): Donald Martino, [title unknown] (for Violin, Clarinet and Pianoforte (1959); Arnold Schoenberg, *Phantasy for Violin with Piano Accompaniment, Opus 47*; Henry Weinberg, *Five Haiki (for soprano and five instruments)* (1958); Geroge Perle, *Serenade for Viola and Solo Instruments* (1962); Igor Stravinsky, *Septet* (1953). ***
- February. Mandel Hall. University of Chicago. Chicago, IL. Solo. Work(s): John Cage, *FMF; 27"10.554"*; Karlheinz Stockhausen, *Zyklus*; Joseph Byrd, *Water Music*; Haubenstock-Ramati, *Liaisons*. *** See Marsh, 1965
- February 11, 12, 13, 14. ONCE Festival. Ann Arbor, MI. Ensemble and solo recital. Ensemble: MN (percussion); Russel Peck (trombone); Gordon Mumma (French horn); Robert Ashley (conductor); Larry Leitch (piano); Peggy Ericson (soprano); Roger Reynolds (French horn); Philip Corner (trombone); Jack Brooks (cello). Ensemble work(s): George Crevoshay, *Time on Time in Miracles, for soprano and instrumental ensemble* (1965). Solo work(s): Philip Corner, *Everything Max Has* (1964).
- February 16. Special Concert by the Chicago Symphony Orchestra. Mandel Hall. University of Chicago. Chicago, IL. Solo and Ensemble. Ensemble: Contemporary Chamber Players of the University of Chicago. ensemble: MN (tympani, vibraphone); Neva Pilgrim (soprano). Solo work(s): Elliott Carter, *Recitative and Improvisation (for four kettle drums)* (1950). Ensemble work(s): John Ronsheim, *Songs for Soprano and Vibraphone (Easter Wings, Flowers and Moonlight and Sailing Homeward)*. Other works: Milton Babbitt, *Composition for Twelve Instruments* (1948-54). ***
- March 5. The Contemporary Chamber Players of the University of Chicago. Smith Music Hall. University of Illinois. Urbana, IL. Solo and Ensemble. Solo work(s): John Cage, *27" 10.554" for a percussionist* (excerpt). Ensemble work(s): George Perle, *Serenade for Viola and Solo Instruments*; Milton Babbitt, *Composition for Twelve Instruments*; Henry Weinberg, *Haiku Songs for Soprano and Five Instruments*; Ralph Shapey, *Incantations for Soprano and Ten Instruments*; John MacIvor Perkins, *Caprice for Piano*.
- March 20, 21. MN residence in Chicago and Judson Memorial Church, 55 Washington Square South, NYC. Solo recital. Work(s): Philip Corner, *Beforehand, Intermission, and Everything Max Has*; Jackson Mac Low, *The text on the opposite page may be used in any way as a score for solo or group readings, musical or dramatic performances,*

- looking, smelling, anything else &/or nothing at all* (1961); Roman Haubenstock-Ramati, *Liaisons*; Morton Feldman, *Piano Piece (to Philip Guston)* (1952); Joseph Byrd, *Water Music*; Karlheinz Stockhausen, *Zyklus* with MN's *Super Z* simultaneous audiotape playback. N.B. Mac Low performed with "addition of a thought: "Listen" (noun)" by MN, described in program as a "tape realized at the University of Illinois Experimental Studio. Contributions will be received." ***
- March 22. Carnegie Recital Hall, NYC. Solo recital. Works(s): John Cage, *27' 10.554"* and *FMF* (1965); Sylvano Bussotti, *Coeur for Percussion (No. 2 from Sette fogli) – Positively Yes*; Morton Feldman, *Piano Piece (to Philip Guston)* (1952); Robert Moran, *Ceremony*.
+
- March 22, 23. Four Realizations by Max Neuhaus. Carnegie Recital Hall, NYC, and MN residence in Chicago, IL. Solo recital. Work(s): "*Afterwards*" by Philip Corner. ***
- March 24 or 31. Chicago Contemporary Chamber Player's Tribute Concert to Edgard Varese. Carnegie Recital Hall, NYC. Unconfirmed. See Murph: 32.
- April 1. The Contemporary Chamber Players of the University of Chicago. Carnegie Recital Hall, NYC. Ensemble. Work(s): Anton Webern, *Concerto for Nine Instruments, Op. 24*; Donald Martino, *Three Songs* (1955), *Zwei Lieder* (1961); Emmanuel Ghent, *Entelechy*; Henry Weinberg, *Five Haiku*; Ralph Shapey, *Incantations for Soprano and 10 Instruments*. ***
- April 13. University of Chicago Recital Hall. Solo recital. Work(s): Joseph Byrd, *Water Music*; Roman Haubenstock-Ramati, *Liaisons*; Karlheinz Stockhausen, *Zyklus*; John Cage, *FMF* (1965) and *27'10.554" for a percussionist (Realization '65)*. N.B. This version of *FMF* released on Max Neuhaus, *Fontana Mix-Feed* (Mass Art, Inc., 1966).
- April 24. Unknown location. Work(s): John Cage, *27'10.554" for a percussionist (Realization '65)*. ***
- June 4. Auditorium. The New School for Social Research. NYC. Solo. Work(s): John Cage, *FMF* and unknown others. N.B. This version of *FMF* released on Max Neuhaus, *Fontana Mix-Feed* (Mass Art, Inc., 1966). *
- June. Spoleto Festival. Spoleto, Italy. Solo recital. Work(s): Unknown.
- October. West Deutsche Rundfunk Studios. Cologne, Germany. Work(s): Brown, *Four Systems*. ***
- October 28. Koelner Kurse fuer Neue Musik. Cologne, Germany. Solo. Work(s): Morton Feldman, *King of Denmark* (1963-64); Karlheinz Stockhausen, *Zyklus, Mikrophonie I*; Sylvano Bussotti, *Couer*; and unknown works by John Cage. *** [See "Schlagzeug an der Spitze," 1965]
- November 2. Maida Vale Studios. BBC. Maida Vale, London. Work(s): John Cage, *27'10.554" for a percussionist (Realization '65)*; Morton Feldman, *The King of Denmark*. ***
- November 27. Festival Zaj 1. Colegio Major Menendez Pelayo. Universidad de Madrid. Madrid, Spain. Solo recital. Work(s): John Cage, *FMF* (1965); Morton Feldman, *King of Denmark* (1965); Karlheinz Stockhausen, *Zyklus* (1958); others unknown. N.B. Feldman Estate notes the program lists MN played "Pocket" version of *King of Denmark* (limited instrumentation). This version of *FMF* released on Max Neuhaus, *Fontana Mix-Feed* (Mass Art, Inc., 1966). ***
- November 28/29/30. Barcelona. Exact date and venue unknown. Work(s): Unknown. See Liner notes for Alga Marghen Plana-N 18NMN.44.

- December 1. Neue Musik Munchen. Munich, Germany. Solo. Work(s): Morton Feldman, *King of Denmark* (1963-64). N.B. Feldman Estate. ***
- December 9. Doelenzaal. Amsterdam, Netherlands. Solo. Work(s): Morton Feldman, *King of Denmark* (1963-63). N.B. Feldman Estate. ***

1966

- January. San Francisco Tape Music Center. San Francisco, CA. Planned but unconfirmed and likely impossible due to European travels. See Murph: 33-34.
- January 28. Moderna Museet. Stockholm, Sweden. Presented by Fylkingen - New Music and Intermedia Art. Solo. Work(s): John Cage, *FMF* (1958/1966); Morton Feldman, *The King of Denmark*; Sylvano Bussotti, *Couer-Positively Yes*; Philip Corner, *Beforehand, C Major Chord* and *Afterwards*; James Tenney, *Maximusic*; Robert Moran, *Ceremony*. ***
- February. Consolidated Edison Power Station. 14th Street and Ave. D, NYC. Work(s): *LISTEN*.
- March 27. Home-Coming Leave-Taking Nice Way to Spend a Sunday Afternoon Concert of Traveled and Traveling Music. Avenue D and East 14th Street. NYC. Solo. Work(s): MN, *Listen* (1966) and unknown works by John Cage, Sylvano Bussotti, Morton Feldman, Philip Corner, James Tenney. ***
- June. Spoletto Festival. Spoleto, Italy. Work(s): Unknown.
- September 9. 4th Annual Avant Garde Festival. Central Park on the Mall. NYC. Collective performance. Work(s): *American Can*. Source: Fondazione Bonotto, "4th Annual Avant Garde Festival – Poster" and "4th... Card" (FXC1656). Note: *American Can* was scheduled for "at some opportune moment," along with situation/event-based works by Robert Ashley, Al Hansen, Bici Hendricks, Shigeko Kubota, Larry Loonin, Barbara and Peter Moore, Gordon Mumma, Nam June Paik, Lil Picard, Raddaele, Ely Raman, Carolee Schneemann.
- September 13. Town Hall, NYC. Work(s): MN, *Byproduct* (1966); unknown works by Jackson Mac Low and James Tenney.
- October 8. WBAI-FM. NYC. Work(s): *Public Supply*
- November 7. Sonic Arts Group. Lincoln Center Performing Arts Library. NYC. Work(s): Alvin Lucier, *Music for Solo Performer* (1965) and others by MN, Takehisa Kosugi, Ben Patterson and Takahiki Iimura. See Dewar, 2009.
- December 1. Hartt Chamber Players. Carnegie Recital Hall, NYC. Ensemble and solo recital. Ensemble: Nancy Turetzky (alto flute); Abraham Mishkind (violin); Judith Glyde (violoncello); Charles Gigliotti (piano); MN (percussion). Ensemble work(s): Charles Ives, *A Set of Three Short Pieces* (1907-1909); Morton Feldman, *Durations I* (1960); John Cage, *Dream* (1948) (performed by Morton Feldman); Netty Simons, *Facets II* (1961), *Time Groups II* (1964); Earle Brown, *Four Systems* (1954). Solo work(s): Morton Feldman, *King of Denmark* (1965); John Cage, *FMF* (1966). N.B. This version of *FMF* released on Max Neuhaus, *Fontana Mix-Feed* (Mass Art, Inc., 1966). **
- December 31. Central Park Mall, NYC. Solo recital. Work(s): John Cage, *Fontana Mix Feed* (1966). N.B. "Mixed-media helicopter" happening or "Hovering" by Kaprow, Oldenburg, Gerd Stern and Ken Dewey flew over the Central Park Mall after midnight. See NYC Department of Parks Press Release (12/29/1966).
- 1966-67. Midsummer. East Hampton, NY. Solo. Work(s): Unknown works by John Cage, Karlheinz Stockhausen, and Morton Feldman. N.B. Midsummer was a multi-year series of Happenings by Christophe de Menil (a friend of Neuhaus) beginning in 1963. MN

likely performed *FMF*, *Zyklus* and *the King of Denmark*. Other artists listed on an extant but undated two-page folio poster with an image of a moon are: Twyla Tharp, Sara Rudner, Theresa Dickinson, Margery Tupling. Films by Tony Conrad, Robert Breer and Robert Whitman. Terry Riley “presents Poppy Nogood.” The date range listed here is cross-referenced by the CV of Whitman who participated in 1966 and 1967. Poster suggests Midsummer dates were August 25-September 2.

1967

- January-February. Pulses. The Gate Theatre. 162 Second Avenue. NYC. Ensemble. MN (bells). Work(s): Philip Corner, *Popular Entertainments* (1967). Other performers: Cyrelle Forman (voice and arab drum), Kathy MacDonald (voice and guitar), Malcolm Goldstein (violin), Mike Sahl (banjo), Jackson Mac Low (fife and tabor), Susan Hartung (voice and guitar), Victor Lewis (voice and guitar), John Gibson (clarinet), Vincent Wright (saxophone), Philip Wofford (trumpet), Meredith Monk (voice), Steve Reich (melodica), Takehisa Kosugi (shamisen and kichiriki), Charlotte Moorman (cello). Also “featuring the Sonnix (Arnold Heredia, Ernest Gonzalez, Eddie Casals). [The specific performance date is unconfirmed. Other performances of Philip Corner’s piece date to January 1967 as part of the “Angry Arts New Music” program. MN will install *Biproduct* (1967) for the Steve Reich concert at Park Place Gallery in March, making it likely that this performance was realized between January and February 1967. See Philip Corner. *Popular Entertainments*. Something Else Press, 1967.]
- February 21. WUSB. SUNY Stony Brook, Stony Brook, NY. Work(s): *Public Supply*.
- March. Hudson Tubes (Subway). 9th Street Station to Pavonia Ave. [Currently PATH stations W. 9th Street in Manhattan to Journal Square in Jersey City]. Work(s): *LISTEN*.
- March. Clove Lake Park. Staten Island. Work(s): *American Can*. *
- March 17, 18, 19. Three Evenings of Music. Park Place Gallery, New York City. Solo. Work(s): MN, *By-Product*.
- March 21, 22. Gift Event III: A Celebration for Poets, Musicians & Dancers. The Judson Dance Theater. Judson Memorial Church. NYC. Ensemble: Jackson Mac Low, Dick Higgins, Susan Sherman, Clayton Eshleman, Robert David Cohen, Hannah Weiner, Carol Bergé, George Kimball, Eleanor Antin, David Antin, Paul Blackburn, Jerome Rothenberg, (poets); Christopher Beck, Nannette Sievert, Bernard Spriggs, Margaret Williams (dancers); Ferdinando Buonanno, Billy Fisher, Cyrelle Forman, Bill Friedman, Edward Goldstein, Malcolm Goldstein, Maud Haimson, Susan Hartung, Alison Knowles, Carol Marcy, MN, Carol Reck, David Reck, Steve Reich, Carolee Schneemann, James Tenney (musicians). Work(s): Philip Corner, *PoorManMusic* (1966). Produced by E. Carcano. Choreography by Carol Ritter. Adapted by Jerome Rothenberg.
- August 9, 10, 11. 137 Bowery. NYC. Work(s): MN, *Fan Music* (1967). N.B. \$1.50 admission price and “three human performances,” unnamed. See Village Voice, 1967. ***
- September 29-30. 5th Annual Avant Garde Festival. John F Kennedy Ferry Boat, White Hall Terminal. NYC. Continuous performance (“24 hour performance”). Work(s): MN, *A Piece for NY Harbor 1967* (1967). Source: Fondazione Bonotto, “5th Annual Avant Garde Festival – Poster” (FXC1656); *American Can*.
- September-April (1968). Fairleigh Dickinson University. Madison, NJ. Work(s): *Telephone Access*.
- November 6. Aspen Magazine, NYC. Work(s): Morton Feldman, *King of Denmark*. ***

December 16. Continuous Performances of New Music. Weinstein Residence Halls Lobby. New York University. NYC. Ensemble/Solo. MN: (electronic equipment). Work(s): Unknown contribution by MN. Seven continuous hours, 6:00 PM-1:00 AM where people may “come and go as they please.” Other works by Nam June Paik, Karlheinz Stockhausen, Philip Corner, La Monte Young, Erik Satie, John Cage, Robert Ashley, etc. Presented by Kenneth Werner (‘Phil Harmonic’). Sponsorship from Experiments in Art and Technology. ***

1968

January 8. Three Hours of Sound Construction. Carnegie Recital Hall, NYC. Presented by Young Concert Artists. Solo recital. Work(s): Unknown (improvised electroacoustic noise on fourteen speakers with projected film). +

February 6. KPFA-FM. San Francisco, CA. Work(s): *Public Supply*. [See *KPFA Folio* 19, no. 2 (February 1968): 7]

February 15-16. Columbia Records Studio. NYC. Solo. Work(s): John Cage, *FMF*; Stockhausen, *Zyklus*. N.B. This version of *FMF* excluded on Max Neuhaus, *Electronics & Percussion* (Columbia Masterworks, 1968).

March 9-10. Supersystems. Halls and annexes, Ryerson Theatre. Ryerson Institute. University of Toronto. Toronto, CA. Work(s): Unknown “supersystems” by MN, Udo Kasemets, Les Levine, John Giorno. N.B. Promotional poster for exhibition *Sight Sound Systems* (reunion of Marcel Duchamp and John Cage) of which *Supersystems* event was a part: “Punch computer cards, make your own music and participate in the manifold sounds, sights and smells.” Likely *Max Feed*.

March 17, 1968. Public Supply. CJRT-FM, Toronto, Ontario, Canada. Work(s): *Public Supply*. N.B. Promotional poster for *Public Supply* at CJRT and *Supersystems* exhibition at Ryerson Institute, University of Toronto lists the broadcast date as March 7, 8:00-9:30pm. Admission: \$2.50. ***

May. Unknown location supporting Merce Cunningham Dance Company. Ensemble: MN, David Behrman, John Cage, Gordon Mumma, David Tudor, Malcolm Goldstein. Work(s): Toshi Ichihyanagi, *Activities for Orchestra* (1962). See *Music for Merce* (New World Records - 80712-2, 2010). Paired with Cunningham, *Scramble* (1967).

May 9. Tone Roads. NYC. Group performance. Artists: MN (head shaved), Dick Higgins (head shaved), Alison Knowles (head shaver). Work(s): Dick Higgins, *Danger Music No.2* (1962).

June. Columbia Records Studio. NYC. Solo. Work(s): John Cage, *FMF*; Stockhausen, *Zyklus* (1958); Morton Feldman, *King of Denmark* (1964); Brown, *Four Systems*. N.B. This version of *FMF* was excluded from Max Neuhaus, *Electronics & Percussion* (Columbia Masterworks, 1968). ***

July. New Jersey Power and Light Power Plant, South Amboy, New Jersey. Work(s): MN, *LISTEN*.

September 14. 6th Annual Avant Garde Festival. Central Park West – 95th – 67th Streets. NYC. Work(s): Unknown. [Source: Fondazione Bonotto, “6nd Annual Avant Garde Festival – Poster” (FXC1656)]

October-April (1968). City Links. Buffalo, NY. Work(s): *Drive-In Music*.

November. *Public Supply*. KPFA-FM. San Francisco, CA. Work(s): *Public Supply*. See *KPFA Folio* 19, no. 11 (November 1968): 17.

1969

March. Cornell College, Mt. Vernon, IA. Work(s): *Listen*.

March 24. Issues in Art: Panel Discussion Series: "Performance: What is Wrong with Traditional Forms?" New York Shakespeare Festival Public Theater. 425 Lafayette St. Admission: \$2.00. Panelists: Deborah Hay, Ken Jacobs, MN, John Perreault, Richard Schachner. Moderator: Michael Kirby.

December. Kings College, Briarcliff Manor, NY. Work(s): *Listen*.

1969-1970

December 31-January 1. Max Neuhaus Makes Music. WBAI Free Music Store Church. 359 E. 62 Street. NYC. Work(s): *Public Supply*.

1970 (No performances known)

1971

Unconfirmed mention of a "drum duel at dawn in Central Park" with Walter De Maria. See: *Avalanche Magazine*, No. 3 (Fall 1971).

May. New York University. NYC. Work(s): *Water Whistle*.

November. Newark State College. Union, NJ. Work(s): *Water Whistle*.

1972

January. Walker Art Center. Minneapolis, MN. Work(s): *Water Whistle*.

January. California Institute of the Arts. Los Angeles, CA. Work(s): *Water Whistle*.

January. University of California at San Diego. La Jolla, CA. Work(s): *Water Whistle*.

April. SUNY Buffalo. Buffalo, NY. Work(s): *Water Whistle*.

April. Jewish Center of Greater Buffalo. Buffalo, NY. Work(s): *Water Whistle*.

May. WFMT-FM. Chicago. Work(s): *Public Supply*.

June. University of South Florida. Tampa, FL. Work(s): *Water Whistle*.

June 30, 1972. Sixtieth Birthday Concert for John Cage. New York School for Social Research. Auditorium. NYC. Ensemble: MN, percussion; Gregory Reeve, percussion; Gordon Mumma, conductor; James Fulkerson, trombone). Work(s): John Cage, *Atlas Eclipticalis* (1961). Performed simultaneously with John Cage, *Winter Music* (1957) (performed by Philip Corner). ***

September. Central Michigan University. Mt. Pleasant, MI. Work(s): *Water Whistle*.

September. Michigan State University. East Lansing, MI. Work(s): *Water Whistle*.

October 28. 9th Annual New York Avant Garde Festival. Hudson Riverboat "Alexander Hamilton," South Street Seaport, Pier 16. NYC. Solo. Work(s): MN, *Multi Transparency Sea Simulation Environment in the Captain's Wheel House* (1972). Performance announced but unconfirmed.

1973

March. Everson Museum. Syracuse, NY. Work(s): *Water Whistle*.

March. University of Southern California. Los Angeles, CA. Work(s): *Water Whistle*.

March 25. Underwater Concert (Program in Music). York Pool. York University. Toronto, Canada. Work(s): MN, *Water Whistle XI*. ***

May WFMT-FM. Chicago, IL. Work(s): *Public Supply*.
June. Rochester Institute of Technology. Rochester, NY. Work(s): *Water Whistle*.

1974

- May 12. Underwater Music and/or Underwater Sound Installation. Carmine Street Pool. 7th Avenue and Carmine Street. NYC. Sponsored by the Leo Castelli Gallery with assistance from the Center for New Music and Creative Artists Public Service Program (CAPS). Work(s): *Water Whistle XV*. ***
- May 17. Underwater Music and/or Underwater Sound Installation. Hotel Paris Pool. 97th Street and West End Avenue. NYC. Sponsored by the John Weber Gallery with assistance from the Center for New Music and CAPS. Work(s): *Water Whistle XVI*. ***
- May 24-25. Underwater Music and/or Underwater Sound Installation. 123 West 13th Street. New York City. Sponsored by Sonnabend Gallery with assistance from the Center for New Music and CAPS. Work(s): MN, *Water Whistle XVII*. ***
- September 1. Projekt '74. Kunsthalle Koeln/Koelnischer Kunstverein. Cologne, Germany. Two-hour underwater sound event in the Agrippabad (swimming pool). Categorized as "Performance/Musik." ***
- November 16. 11th Annual New York Avant Garde Festival. Shea Stadium. NYC. Participation suggested but not officially listed. Unconfirmed. See Frank, 1974.

1975

December 2, 3, 4. Meet the Composer: Max Neuhaus. Robert Moses Power Project (Water Works) and the Buffalo Evening News. Sponsored by Meet the Composer and Hallwalls, Buffalo, NY. Work(s): *LISTEN*.

1982

May 25. Cornelius Cardew Memorial. Symphony Space. NYC. Ensemble. Work(s): Cornelius Cardew, *Treatise*, *The Great Learning* and *The Vietnam Sonata*. Performers: David Behrman, Ruth Anderson, Frederic Rzewski, Christian Wolff, Ursula Oppens, John Tilbury, Earle Brown, Ned Sublette, Philip Corner, Annea Lockwood, Michael Byron, Maryanne Amacher, Ivan Tcherepnin, MN, Ben Patterson, Shem Guibbory, Alvin Curran. MN likely performed selections from *Treatise*. See The Kitchen (Getty): Flatfile 2014.M.6 ADD1, Box 2, Folder 3; "Music & Dance – Concerts," *New York Magazine* (May 31, 1982); Rockwell, 1982. Performance announced but unconfirmed.

APPENDIX IV: ARTIST BIBLIOGRAPHY

This bibliography presents a selection of published books, articles and recordings by or about the artist. The list below is as comprehensive as possible and reflects all found or currently known publications and references. However, there may be articles not yet found given, firstly, the lack of research into the artist up to the publication of this book and, secondly, the lack of archival access to, or digitization efforts of, local newspapers and magazines in which the artist and relevant works might have appeared. This bibliography is a work in progress and, while not comprehensive, presents as yet the most detailed account of literature on the artist.

ARTIST WRITINGS

- “A Max Sampler: Six Sound Oriented Pieces for Situations Other Than That of the Concert Hall,” *Source: Music of the Avant-Garde*, No. 5, 1968.
- “An Aural Architecture for Social Exchange,” Istituto Della Enciclopedia Italiana, Rome, Italy, 12-16 December 1983.
- “Audium, Projekt fuer eine Welt als Hör-Raum.” In *Vom Verschwinden der Ferne: Telekommunikation und Kunst*. Cologne: DuMont, 1990, pp. 119–28.
- “BANG, BOOoom, ThumP, EEEK, tinkle.” *New York Times* (December 6, 1974): 39.
- Ears*. Paris: Onestar Press, 2001.
- “Lecture at Seibu Museum Tokyo,” 1982. In Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.
- “Lecture at University of Miami,” 1984. In Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.
- “Listen.” In Max Neuhaus: *Elusive Sources and “Like” Spaces*. Turin: Galleria Giorgio Persano, 1990.
- “Listen.” In *Sound by Artists*. Ed. Lander, Dan and Micah Lexier. Blackwood Gallery and Charivari Press, 2013: 63-67. Originally published in 1990 by Art Metropole and Walter Phillips Gallery.
- “Listen” (German). In *Welt auf tönernen Füßen*, Schriftenreihe Forum/Band 2, Göttingen 1994.
- “Netzwerke.” *Neue Zeitschrift für Musik*, no. 5 (September–October 2004).
- “Noise Pollution Propaganda Makes Noise,” *New York Times*, 6 December 1974
- “Notes on Place and Moment,” 1992. In Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.
- “Max Paa Oden Aventyr,” *Nutida Musik*, Number 9: 5/6 (1965-66): 26-27.
- “Performer’s Notes for Fontana Mix-Feed,” *Aspen Magazine*, 5/6, New York: Roaring Fork Press, 1967.
- Program Notes*. Toronto: York University, 1974. GRI: ML64. N5. Facsimile edition published by Primary Information in 2015.
- “Siren - Aural Design” (Dutch, English), *Kunst and Museum Journaal*, Volume 4 Number 6, Amsterdam 1993: pp. 12–18.
- “Siren” (German), *Welt auf tönernen Füßen*, Schriftenreihe Forum/Band 2, Göttingen 1994
- “Situation Esthetics: Impermanent Art and the Seventies Audience: Max Neuhaus,” *Artforum* 18 No. 5 (January 1980): pp. 27-29.
- “Sound Art?” Liner notes for Volume: *Bed of Sound*. P.S.1 Contemporary Art Center, NYC, July 2000. Audio CD. Printed in Kelly, Caleb. *Sound*. London & Cambridge: Whitechapel Gallery and MIT Press, 2011.
- “Sound as a medium”, *Three to One*, Max Neuhaus, Brussels: La Léttre Volée 1997

- “Sound Design.” In *Zeitgleich: The Symposium, the Seminar, the Exhibition*. Vienna: Triton, 1994.
- “The Broadcast Works and Audium.” In *Zeitgleich: The Symposium, the Seminar, the Exhibition*. Vienna: Triton, 1994.
- "The Drawing After", The Collection, Max Neuhaus, (Turin: Castello di Rivoli, Museo d'Art Contemporanea 1997)
- “The Institutional Beast,” 1994. In Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.
- “The Place Works”, "Sound character and textures", The Collection, Max Neuhaus, (Turin: Castello di Rivoli, Museo d'Art Contemporanea 1997)
- "The Sound Work for the Castello di Rivoli", The Collection, Max Neuhaus, (Turin: Castello di Rivoli, Museo d'Art Contemporanea 1997)
- "Time Piece Series," *Max Neuhaus, Two Sound Works*. Bern, Switzerland and Cologne, Germany: Kunsthalle Bern and Kölnischer Kunstverein, 1989.
- “Vortrag Neuhaus.” In *End of Art—Endings in Art*. Ed. Gerhard Seel. Basel: Schwabe Verlag, 2006.
- “Über die Schlagzeugtechnik des ‚Zyklus‘,” in liner notes for Stockhausen, Karlheinz. *Zyklus für Einen Schlagzeuger*. Wergo – WER 308; Taschen-Diskothek Neuer Musik – WER 308. Vinyl (7”). 1977. Germany.
- “Water Whistle,” *Source: Music of the Avant Garde*, Issue 5 (January, 1969)
- "Zyklus." *Percussionist* (November, 1965): 6-12.

EXHIBITION CATALOGUES & PAMPHLETS

- Artpark 1977: The Program in Visual Arts*. Edited by Sharon Edelman. Lewiston, NY: Artpark, 1977: 86, 88, 132.
- Max Neuhaus*. Locmine, France: Domaine de Kerguéhennec, Centre d'Art Contemporain, 1987. Writing by Denys Zacharopoulos.
- Max Neuhaus: Elusive Sources and “Like” Spaces*. Turin: Giorgio Persano, 1990. Text by Denys Zacharopoulos; conversation with Ulrich Loock reprinted in Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.
- Max Neuhaus: Evocare l’udibile*. Milan: Charta, 1995. Texts by Ida Gianelli, Gregory des Jardins, Stuart Morgan, et al. Max Neuhaus: La Collezione, The Collection. Milan: Charta, in association with Castello di Rivoli, Museo d’Arte Contemporanea, 1997. Texts by Max Neuhaus and Pier Luigi Tazzi.
- Max Neuhaus: Installations Sonores*. Geneva: Marie-Louise, Jeanneret Art Moderne, 1984. Text by Pierre Restany. Max Neuhaus. Locminé: Centre d’art contemporain, Domaine de Kerguéhennec, 1987. Text by Denys Zacharopoulos.
- Max Neuhaus, Moment / Stund*, Reykjavik, Iceland: Second Floor, 1997.
- Max Neuhaus: Sound Installation*. Basel: Kunsthalle Basel, 1983. Texts by Jean-Christophe Ammann, Max Neuhaus, and Carter Ratcliff. Ammann and Ratcliff texts reprinted in Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.
- Max Neuhaus: Sound Installations*. Providence, R.I.: Bell Gallery, Brown University, 1983.
- Max Neuhaus: Sound Line*. Grenoble: Magasin, Centre National d’Art Contemporain, 1988. Text by Franz Keiser reprinted in Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.

- Max Neuhaus: Sound Works, vol. 1, Inscription.* Ostfildern- Ruit, Germany: Cantz, 1994. Original interview with William Duckworth; text by Wulf Herzogenrath translated from the German by Margret Joss; text by Denys Zacharopoulos translated from the French by Charles Penwarden; text by Germano Celant translated from the Italian by Brian Holmes.
- Max Neuhaus: Sound Works, vol. 2, Drawings.* Ostfildern- Ruit, Germany: Cantz, 1994. Texts by Yehuda Safran and Max Neuhaus.
- Max Neuhaus: Sound Works, vol. 3, Place.* Ostfildern-Ruit, Germany: Cantz, 1994.
- Max Neuhaus: Times Square – Time Piece Beacon.* New York: Dia Art Foundation, 2009. Distributed by Yale University Press., New Haven & London.
- Max Neuhaus: Time Piece Stommeln.* Pulheim: Der Bürgermeister, 2007. Texts by Max Neuhaus and Ulrich Loock.
- Max Neuhaus: Two Sound Works* 1989. Bern: Kunsthalle Bern and Kölnischer Kunstverein, 1989. Texts by Wulf Herzogenrath, Ulrich Loock, and Max Neuhaus.
- Max Neuhaus: Two Side of the “Same” Room.* Dallas: Dallas Museum of Art, 1990. Text by Sue Graze.
- Max Neuhaus: Zeichnungen.* Heilbronn: Kunstverein Heilbronn, 1994.
- Permanent Collection: Charles Simonds: Dwellings / Max Neuhaus: Sound Installation Museum of Contemporary Art.* Chicago: Museum of Contemporary Art, Chicago, 1984. One folded sheet.
- The Collection: Max Neuhaus.* Turin: Castello di Rivoli, Museo d'Art Contemporanea, 1997.
- Three to One: Max Neuhaus.* Brussels: Encore, in association with La Lettre Volée, 1997. Texts by Zsuzsanna Gahse, Max Neuhaus, and Yehuda Safran.

ARTIST INTERVIEWS (SELECTED)

- “Interview with Max Neuhaus.” New York, NY: WBAI-FM. September-October, 1963. [Spoken interview with John Corigliano and performance of Karlheinz Stockhausen, *Zyklus* (1958). Features Neuhaus’s first solo performance broadcast and second public performance of *Zyklus*. See https://archive.org/details/C_1960_XX_XX]
- Bakargiev, Carolyn Christov, “Interview with Max Neuhaus,” (April 2000). Unpublished.
- Kuivila, Ron, “Interview with Max Neuhaus.” Unpublished.
- Whitman, Simone, “Interview with Max Neuhaus and Ted Wolff,” *Techne: A Projects and Process Paper*, Vol. 1, No. 1 (April 14, 1969): 4.

BOOKS AND BOOK CHAPTERS

- Adlington, Robert. *Sound Commitments. Avant-Garde Music and the Sixties.* Oxford University Press, 2009: 37-38; 172. (Note: *Neuhaus* is listed as *Newhaus* in this title.)
- Aillagon, Jean-Jacques, ed., *Paris Ville Lumiere. Projets d’Artistes Pour l’Espace Public Parisien.* Paris: Paris-Musees, 1993.
- Albuger, Mark. *Terry Riley.* San Rafael, CA New Music, 1998: 28.
- Allen, Gwen. *Artists’ Magazines: An Alternative Space for Art.* Cambridge: The MIT Press, 2011: 256.

- Axson, Richard and David Platzker. *Printed Stuff: Prints, Posters, and Ephemera by Claes Oldenburg: A Catalogue Raisonné, 1958-1996*. New York: Hudson Hills Press, 1997: 244.
- Bauermeister, Mary. *Ich hänge im Triolengitter: Mein Leben mit Karlheinz Stockhausen*. Edition Elke Heidenreich bei C. Bertelsmann, 2011.
- Beal, Amy. *New Music, New Allies American Experimental Music in West Germany from the Zero Hour to Reunification*. University of California Press, 2006.
- Beardsley, John. *Art In Public Places, Partners for Livable Places*. Washington, D.C., 1981.
- Banes, Sally. *Democracy's Body: Judson Dance Theater, 1962-1964*. Durham: Duke University Press, 1993: 150; 194-197.
- Belgiojoso, Ricciarda. *Constructing Urban Space with Sounds and Music*. New York: Routledge, 2016.
- Belgrad, Daniel, "Democracy, Decentralization, and Feedback," in Belletto, Steven and Daniel Grausam, eds., *American Literature and Culture in an Age of Cold War: A Critical Reassessment*. Iowa City: University of Iowa Press, 2012: 59-68.
- Binkiewicz, Donna M. *Federalizing the Muse: United States Arts Policy and the National Endowment for the Arts, 1965-1980*. University of North Carolina Press, 2004.
- Borio, Gianmario and Hermann Danuser, eds., *Im Zenit der Moderne: die Internationale Ferienkurse fuer Neue Musik Darmstaedt, 1946-1966: Geschichter und Dokumentation in vier Baenden*. Freiburg im Breisgau: Rombach, 1997.
- Bosser, Jean-Yves. *Sound and the Visual Arts: The Intersections Between Music and Plastic Art*. Paris: Dis Voir, 1993.
- Braun, Hans-Joachim. *Music and Technology in the Twentieth Century*. Baltimore: Johns Hopkins University Press, 2000: 217.
- Cage, John and Morton Feldman. *Radio Happenings I-V*. Cologne, Germany: MusikTexte, 1993.
- Cline, David. *The Graph Music of Morton Feldman*. Page 67.
- Cooke, Lynne. "Locational Listening." In *Max Neuhaus: Times Square / Time Piece: Beacon*, 29-44. Beacon, NY: Dia Art Foundation, 2009.
- Cox, Christoph. "Installing Duration: Time in the Sound Works of Max Neuhaus." In *Max Neuhaus: Times Square / Time Piece: Beacon*, 113-133. Beacon, NY: Dia Art Foundation, 2009.
- Danto, Arthur. "Max Neuhaus: Sound Works," *Embodied Meanings: Critical Essays and Aesthetic Meditations*. Farrar, Straus and Giroux, 1995.
- Delarge, Jean-Pierre. *Dictionnaire des arts plastiques modernes et contemporains*. Paris: Librairie Grund, 2001.
- Duckworth, William. *Virtual Sound: How the Web Got Wired for Sound*. New York and London: Routledge, 2005.
- Fitzpatrick, Tracy. *Art and the Subway: New York Underground*. Brunswick, NJ: Rutgers University Press, 2009: 227-228.
- Gagne, Nicole. V, ed., *Historical Dictionary of Modern and Contemporary Classical Music*. Plymouth, UK: The Scarecrow Press, Inc., 2012.
- Gottschalk, Jennie. *Experimental Music Since 1970*. New York: Bloomsbury, 2016.
- Grubbs, David. *Records Ruin the Landscape*. Duke University Press, 2014.
- Gurusinghe, Nilendra, Douglas Kahn and Larry Austin. *Source: Music of the Avant-Garde, 1966-1973*. University of California Press, 2011.

- Helmrich, Stefan. "Underwater Music: Tuning Composition to the Sounds of Science," in Bijsterveld, Karin and Trevor Pinch, *The Oxford Handbook of Sound Studies*, Oxford: Oxford University Press, 2011.
- Henck, Herbert. *Karlheinz Stockhausen: Klavierstueck X: Historie, Theorie, Analyse, Praxis, Dokumentation*. Germany: G. F. Doering, 1976: 89.
- Hill, Jonathan. *Immaterial Architecture*. London and New York: Routledge, 2006: 183.
- Holmes, Thom. *Electronic and Experimental Music: Pioneers in Technology and Composition*. New York: Routledge, 2002: 245.
- Joseph, Branden W. "An Implication of an Implication." In *Max Neuhaus: Times Square / Time Piece: Beacon*, 59-81. Beacon, NY: Dia Art Foundation, 2009.
- Kac, Eduardo. *Telepresence & Bio Art: Networking Humans, Rabbits, & Robots*. Ann Arbor, MI: The University of Michigan Press, 2005.
- Kaprow, Allan, "The Education of the Un-Artist, III," in Richard Kostelanetz, ed., *Esthetics Contemporary*. Buffalo: Prometheus Books, 1989. 422.
- Kelly, Caleb. *Sound*. London & Cambridge: Whitechapel Gallery and MIT Press, 2011.
- Kernohan, Daniel, ed. *Music is Rapid Transportation ...From the Beatles to Xenakis*. Toronto: Charivari Press, 2011: 41; 152; 237.
- Kirby, Michael. "Originale, I," and "Originale, II," *The Art of Time*. New York: E.P. Dutton, 1969: 99-102; 114-115.
- Kornblum, William and Terry Williams. "An Exploration in Visual Ethnography," in McNamara, Ryan, ed., *Sex, scams, and street life: The Sociology of New York City's Times Square*. Westport, Connecticut: Praeger, 1995: 1-23.
- Kostelanetz, Richard. *Metamorphosis in the Arts: A Critical History of the 1960s*. Unpublished manuscript, 1968; New York: Assembling Press, 1980.
- Kotz, Liz. "Max Neuhaus: Sound into Space." In *Max Neuhaus: Times Square / Time Piece: Beacon*, 93-112. Beacon, NY: Dia Art Foundation, 2009.
- Kurtz, Michael. *Stockhausen: A Biography*. Translated by Richard Toop. London: Faber and Faber, 1992.
- LaBelle, Brandon. "Tuning Space: Max Neuhaus and Site-Specific Sound." In *Background Noise, Perspectives on Sound Art*. New York: Continuum, 2006: pp. 154–66.
- Lely, John and James Saunders. *Word Events: Perspectives on Verbal Notation*. New York: Continuum, 2012.
- Lewis, Kevin and Gustavo Aguilar, eds., *The Modern Percussion Revolution: Journeys of the Progressive Artist*. Routledge, 2014.
- Manning, Peter. *Electronic and Computer Music*. Oxford: Oxford University Press, 2013.
- McCormick, Robert. *Percussion for Musicians: A Complete, Fundamental Literature and Technique Method for Percussion*. Belwin Mills Publishing Corp, 1983: 122.
- Porter, Eric. "Jeanne Lee's Voice." In *People Get Ready: The Future of Jazz Is Now!* eds. Heble, Ajay and Rob Wallace. Durham: Duke University Press, 2013.
- Potts, Alex. "Moment and Place: Art in the Arena of the Everyday." In *Max Neuhaus: Times Square / Time Piece: Beacon*, 45-58. Beacon, NY: Dia Art Foundation, 2009.
- Radano, Ronald M. *New Musical Figurations: Anthony Braxton's Cultural Critique*. Chicago and London: The University of Chicago Press, 2009: 159-60.
- Rothenberg, Jerome. *Technicians of the Sacred: A Range of Poetries from Africa, America, Asia & Oceania*. Garden City, NY: Doubleday, 1968.

- Russcol, Herbert. *The Liberation of Sound: An Introduction to Electronic Music*. Prentice Hall, 1972: 207; 217.
- Saladin, Matthieu. *Sounds of Utopia = Sonorities de l'utopie*. Haut école des arts du Rhin ; Les Presses du Reel, 2015.
- Schick, Steven. *The Percussionist's Art: Same Bed, Different Dreams*. Rochester, NY: University of Rochester Press, 2006.
- Schroeder, Franziska, "Shifting Listening Identities - Towards a Fluidity of Form in Digital Music," in Broadhurst, S. and J. Machon, eds., *Identity, Performance and Technology: Practices of Empowerment, Embodiment and Technicity*. London: Palgrave, 2012: pp. 24-43.
- Schwartz, Elliott. *Electronic Music: A Listener's Guide*. Praeger Publishers, 1973.
- Sterne, Jonathan, "The Stereophonic Spaces of Soundscape," in Theberge, Paul, Kyle Devine and Tom Everett, eds., *Living Stereo: Histories and Cultures of Multichannel Sound*. New York: Bloomsbury, 2015: pp. 65-84.
- Stiles, Kristine and Carolee Scheemann, eds., *Correspondence Course: An Epistolary History of Carolee Schneemann and Her Circle*. Duke University Press, 2010: pp. 98; 203-204; 505.
- Szeemann, Harald and Carsten Best, eds., *Einleuchten: Will, Vorstel und Simul in HH*. Hamburg: Christians, 1989.
- Shaw-Miller, Simon. *Visible Deeds of Music: Art and Music from Wagner to Cage*. Yale University Press, 2004.
- Straebel, Volker. "Zur Fruehen Geschichte und Typologie der Klanginstallation," in Ulrich Tadday, ed., *Musik-Konzepte: Neue Folge Sonderband – Klangkunst*. 2008: pp. 24-46.
- Torre, Susana. *Women in American Architecture*. Watson-Guption Publications, 1977.
- Westbrook, Adele, ed., *Creative Legacy: A History of the National Endowment for the Arts: Visual Artists' Fellowship Program*. New York: Harry N. Abrams, Inc., 2001.
- Woemer, Heinrich Karl. *Stockhausen: Life and Work*. Berkeley and Los Angeles: University of California Press, 1973: 23.
- Wood, Jon, David Hulks, and Alex Potts, eds., *Modern Sculpture Reader*. Leeds: Henry Moore Institute, 2007.
- Yates, Peter. *Twentieth Century Music*. New York: Pantheon Books, 1967: 327.

JOURNAL ARTICLES, BOOK REVIEWS, AND DISSERTATIONS

- "An Annotated Sampler of Electronic Music Recordings," *Music Educators Journal* 55, No. 3 (November 1968): 177-180.
- Alburger, Mark. "Terry Riley after "In C" to "A Rainbow in Curved Air," *21st Century Music* 11, No. 2 (February 2004): 3-9.
- Applebaum, Terry Lee. *A Comprehensive Performance Project in Percussion Literature*. Dissertation. Music. University of Iowa, 1978: iv, 10, 59.
- "Back Matter," *Perspectives of New Music*, Vol. 11, No. 2 (Spring-Summer, 1973): 280.
- Bradley, Simon. History to Go: Oral History, Audiowalks and Mobile Media," *Oral History* 40, No. 1, Journeys (Spring 2012): 99-110.
- Chapman, David Allen. *Collaboration, Presence and Community: The Philip Glass Ensemble in Downtown New York, 1966-1976*. Dissertation. Music. Washington University in St. Louis, 2013:

- Charles, Daniel. "Singing Waves," *Contemporary Music Review* 8, no 1, Special Issue: Music, Society and Imagination in Contemporary France (1993): 57-70.
- Clark, Robert. "Music Chronicle: Searching for Signs of Life," *The Hudson Review* 38, No. 1 (Spring 1985): 103-109.
- Combs, Joseph. *The Problems of Sight Reading on Mallet-Played Instruments and Their Relationship to Kinesthetic Sensation*. D.M.E. Dissertation, The University of Oklahoma, 1967.
- DeHart, Justin. *Tap Routes: The Changing Role of the Contemporary Artist-Percussionist*. Dissertation. Contemporary Music Performance. University of California, San Diego. 2010.
- Devenish, Louise, "The Emergence of Contemporary Percussion in Australia: 1960-1975," *Musicology Australia* 37, No. 1 (2015): 1-27.
- Dewar, Andrew Raffo. *Handmade Sounds: The Sonic Arts Union and American Technoculture*. Dissertation. Department of Music. Wesleyan University, 2009.
- "EMscope," *Electronic Music Review*, No. 4 (October 1967): 3.
- "Equipment for Electronic Music Laboratories," *Music Educators Journal* 55, No. 2 (1968): 176-177.
- Flannery, Merle, "A Night at the Academy Awards: In a Limousine with Gregory Peck and Michael J. Fox," *Visual Arts Research* 22, No.1 (Spring 1996): 26-33.
- Forde, Gerard. "Plus or Minus 1961 – A Chronology 1959-1963," in Julia Robinson and Christian Xatrec, eds., *± 1961: Founding the Expanded Arts*. Madrid: Museo Nacional Centro de Arte Reina Sofia, 2013: pp. 246-267.
- Graham, James, "Musique en fer forge: Erik Satie, Le Corbusier and the Problem of Aural Architecture," *AA Files*, No. 68 (2014): 3-15.
- Gronemeier, Dean Warren. *Advanced Marimba Techniques: An Analysis with Musical Approaches to Performance Problems in West Side Suite*. Dissertation. Musical Arts. The University of Arizona, 1991.
- Heimbecker Haefeli, Sarah, "Review: This Life of Sounds: Evenings for New Music in Buffalo," *American Music* 30, No. 1 (Spring 2012): 105-107.
- Kahn, Douglas. "James Tenney Interviewed by Douglas Kahn," *Leonardo Electronic Almanac* 8, No. 11 (November 2000).
- Kim, Rebecca. *In No Uncertain Musical Terms: The Cultural Politics of John Cage's Indeterminacy*. PhD Dissertation. Graduate School of Arts and Sciences. New York: Columbia University, 2008.
- Kletschke, Irene, "Landschaftskompositionen," *Archiv fuer Musicwissenschaft*, 69. Jahrg., H. 3 (2012): 196-206.
- Lambert, James William. *Multiple Percussion Performance Problems as Illustrated in Five Different Works Composed by Stockhausen, Smith Brindle, Colgrass, Dahl, and Kraft Between 1959-1967*. D.M.A. Dissertation, The University of Oklahoma, 1983.
- Migone, Christof. *Sonic Somatic: Performances of the Unsound Body*. Dissertation. Department of Performance Studies. New York University, 2007.
- Nelson, Abigail. "Who's Who in Filmmaking: Phill Niblock," *Sight Lines* 7, No. 3 (1973/74): 21-23.
- Ouzounian, Gascia. *Sound Art and Spatial Practices: Situating Sound Installation Art Since 1958*. Dissertation. Music. University of California, San Diego, 2008.

- Hallmark Neff, John, "Introduction: Daring to Dream," *Critical Inquiry*, Vol. 16, No. 4 (Summer 1990): 857-859.
- "Public Art: Recent Works," *Design Quarterly*, No. 122, Site: The Meaning of Place in Art and Architecture (1983): 30-34.
- Rogalsky, Matthew. *Idea and Community: The Growth of David Tudor's Rainforest, 1965-2006*. Dissertation. Music. City University London, (2006).
- Rogers, Holly. "The Unification of the Senses: Intermediality in Video Art-Music," *Journal of the Royal Musical Association* 136, Issue 2 (2011): 399-428.
- Steward, D.E. "Fridericiana," *Chicago Review* 31, No. 1 (Summer, 1979): 59-63.
- Stjerna, Asa, "Aspects on Duration: The Vulnerability of Permanence in Site-Specific Sound Art in Public Space," *Leonardo Music Journal* 23, Issue 1 (December 2013).
- Sturken, Marita, "The Whitney Museum and the Shaping of Video Art: An Interview with John Hanhardt," *Afterimage*, No. 10 (May 1983): 4-8.
- Symposium on the Cultural, Social and Economic Impact of the New Communication Technologies: Istituto Della Enciclopedia Italiana, Rome, Italy, (12-16 December, 1983): Final Report. 9-10; 31.

NEWSPAPER ARTICLES, EDITORIALS, AND REVIEWS

* Review of program or concert that featured Neuhaus, or an editorial that is directly related to his work, but where the artist is not explicitly mentioned

1957-1962

- Price, Paul. "The Exciting World of Percussion." *Hi-Fi/Stereo* (April 1961): 44-47. *
- Salzman, Eric. "Percussion Group in Concert Here; Composers Unit is Host to Manhattan Ensemble." *The New York Times* (November 22, 1961): 23.

1963

- Ericson, Raymond. "Music: Unusual Sounds." *New York Times* (August 28, 1963): 38.
- Hughes, Allen. "Judson Dance Theater Seeks New Paths – Avant-Gardists Give First Programs in a Church." *New York Times* (June 26, 1963). *
- "Is it Music?" *Newsweek* (September 2, 1963): 53.
- Johnston, Jill. "Dance – From Lovely Confusion to Naked Breakfast." *The Village Voice* (July 18, 1963). *
- Parmenter, Ross. "Music: Avant-Garde Sound Mosaic; Works by Ichiyanagi and Cage Offered." *New York Times* (August 22, 1963): 20. *
- Parmenter, Ross. "Music: Mechanical Star; A Self-Playing Percussion Assemblage Performs at Pocket Theater Concert." *New York Times* (August 27, 1963): 28.
- Rubin, Marjorie. "Musicians Using Bizarre Sounds; Judson Hall Plans Festival Featuring Unusual Idiom." *New York Times* (August 17, 1963): 21. ***
- Sargeant, Winthrop. "Musical Events: It Just Is-or Is It?" *The New Yorker* (September 14, 1963): 120-123. *
- Schonberg, Harold C. "Dada, Dada; Avant-Garde Doings to Pepper Up the Town," *New York Times* (August 25, 1963): Sec. 2, p. 9.
- Schonberg, Harold C. "Music: Frederic Rzewski at the Piano; Presents Avant-Garde Concert in Debut." *New York Times* (August 21, 1963): 39. *

1964

- Ericson, Raymond. "Music: An Evening with Stockhausen – Composer Appears in Lecture-Recital." *New York Times* (January 7, 1964): 26.
- Felton, James. "Stockhausen Concert." *Philadelphia Bulletin* (February 19, 1964).
- Goldstein, Malcolm. "Neuhaus Realizations." *Village Voice*, (June 1964).
- Johnston, Jill. "Dance: Inside Originale." *Village Voice* (October 1, 1964): 6, 16. *
- Klein, Howard. "Music: Avant-Garde Festival Closes," *New York Times* (September 4, 1964): 18.
- Klein, Howard. "Music: Varese Concert." *New York Times* (September 3, 1964): 25. *
- McLean, Eric. "Informal Concert with Stockhausen." *Montreal Star* (January 29, 1964).
- Steinem, Gloria. "Music, Music, Music, Music." *Show Magazine* (January, 1964).
- Strongin, Theodore. "Concert Is Given by Percussionist." *The New York Times* (June 3, 1964): 36.

1965

- "3 Compositions of Grad Student to be Performed." *The Daily Iowan* (Tuesday, February 16, 1965): 7.
- "900 kg slagverk ihopsatt." [See MNP. Box 1. Folder 9.]
- Henahan, Donal. "A Bracing Dash of New Music." *Chicago Daily News* (January 27, 1965).
- . "John Cage: His Heart Belongs to Dada," *Chicago Daily News* (April 14, 1965).
- Marsh, Robert C. "Depressing Turnout for a Percussionist." *Chicago Tribune* (Unknown date of publication. Clipping in Max Neuhaus Papers.)
- Neuhaus, Max. "Zyklus." *Percussionist*, Number 1 (November, 1965): 3; 6-12.
- . "Max Paa Oden Aventyr," *Nutida Musik*, Number 9: 5/6 (1965-66): 26-27.
- "Poets Applauded at Spoleto Fête." *New York Times* (June 27, 1965)
- Schonberg, Harold. "Music: Chicago Group Ends Series." *New York Times* (April 2, 1965). *
- "Schlagzeug an der Spitze: Zwei Konzerte de Koelner Kurse fuer Neue Musik." *Koelner Kulturspiegel* (Thursday, November 4, 1965): 12.
- Snyder, Louis. "The Quick Chicagoans." *New York Herald Tribune* (April 2, 1965). *
- Strongin, Theodore. "Artist 'Realizes' Taped Music and Plays Piano from Inside." *The New York Times* (March 23, 1965): 34.
- . "Concert Tribute to Varèse at 80: Chicago Chamber Players Heard in Carnegie Hall." *The New York Times* (March 31, 1965).
- Willis, Thomas. "Contemporary Chamber Players in U. of C. Concert." *Chicago Tribune* (Feb 16, 1965). *

1966

- Garabedian, John. "Way Out in Central Park – Even the Hippies Agree it was Out of Sight." *New York Post* (September 10, 1966).
- Klein, Howard. "Hartt Group Plays Avant-Garde Music." *The New York Times* (December 2, 1966).
- Strongin, Theodore. "Avant-Garde Music Switched on Here." *The New York Times* (September 14, 1966).

1967

- Clark, Alfred E. "And in the Park It's a Happening: 1,000 Hear a Work by Cage with Hoving as Host." *The New York Times* (January 1, 1967).
- Dwyer, John. "A Psychedelic Weekend of Color, Sound: Beauty is Where You Find it in Buffalo." *Buffalo Evening News* (October 20, 1967).
- . "'In City' Concert Honors Grand Old Architecture." *Buffalo Evening News* (October 21, 1967).*
- "E.A.T. Special Projects since 9 Evenings." *E.A.T. News*, Vol. 1, No. 2 (June 1, 1967): 13.
- Glueck, Grace "If It's Art You Want, Try Your Supermarket," *The New York Times* (August 6, 1967): Section 2, D19.
- Kaprow, Allan. "The End of the Concert Hall." *The Statesman* (Wednesday, May 3, 1967): 4-5.
- Plumb, Barbara. "New Design, U.S.A.." *New York Times* (April 23, 1967): 112.
- Sitts, Maxine. "Hippies Reign on Art Cruise – Thousands Jam Ferry Festival." *Staten Island Advance* (September 30, 1967).

1968

- "Album Reviews – Classical – Electronics & Percussion: Five Realisations by Max Neuhaus." *Billboard* (June 22, 1968): 85.
- Braudy, Susan. "The Eyes and Ears of the (Underground) World." *New York Magazine* (October 21, 1968): 34.
- R. P. M., "Max Neuhaus: Electronics and Percussion: Five Realizations." *High Fidelity Magazine/Musical America*, Volume 18, Issue 2. (August, 1968): 100.
- "Col. [Columbia] Issues Neuhaus Contemporary Album." *Billboard* (June 8, 1968): 40.
- Henahan, Donal. "Electronic Music Hits Open Switch; Max Neuhaus's 14 Speakers Betray Him at Recital." *New York Times* (Jan. 9, 1968): 35.
- Johnston, Jill. "The Avant Garde has a Float-In," *The Village Voice* (September 19, 1968): 35; 38.
- "Recording of Special Merit: Max Neuhaus: Electronics and Percussion: Five Realizations." *HiFi/Stereo Review*, Volume 21. Ziff-Davis Publishing Company, (1968): 128.
- Saltzman, Eric. "Max Neuhaus's Electronics and Percussion." *HiFi Stereo Review*, November 1968.
- Strongin, Theodore. "When the Listener is Composer," *New York Times* (June 13, 1968).
- "Technology Work in Toronto, March 7-10, 1968." *Arts/Canada*, Volume 25, Society for Art Publications, (1968): 17. [

1969

- "---," *Chelsea Clinton News* (October 23, 1969): 3.
- Ashton, Dore, "A Planned Coincidence." *Art in America* (September-October, 1969): 36-47. *
- Gordon, Camille, "Camille Reports Again." *The Something Else Newsletter*, Volume 1, Number 10 (November, 1969): 3.
- "Max Neuhaus." *The Thirteenth High Fidelity Annual Records in Review: 1969 Edition*, Wyeth Press, 1969: 506.
- Whitman, Simone, "Interview with Max Neuhaus and Ted Wolff." *Techne: A Projects and Process Paper*, Vol. 1, No. 1 (April 14, 1969): 4.

1970

Bell, Michael. *Experiments in Art & Technology Bulletin* (1970)

1971

Cott, Jonathan. "Max Neuhaus, The Floating Composer." *Rolling Stone* (August 19, 1971): 18.

"Neuhaus Underwater." *High Fidelity Magazine/Musical America* (August 1971).

"New Works First Published in Source: Music of the Avant Garde," *Perspectives on New Music* 9/10, No. 2 (Spring/Summer – Autumn/Winter, 1971). [Advertisement]

Sherman, Robert. "N.Y.U. Concert Wets Whistles for More." *New York Times* (Sunday, May 9, 1971): 61.

"---," *New York Magazine* (May 10, 1971).

1972

Ericson, Raymond. "City Sounds Yield an Opus by Cage." *New York Times* (July 2, 1972): 31.

Fuller, Lawrence. "Underwater Audiences Thrill to New Sounds: Water Whistle Concerts Lure Art Sponsors Around the Land." *The National Observer*, (January 15, 1972).

Monson, Karen. "Neuhaus's Submerged Premiere." *The Christian Science Monitor* (January 19, 1972): 6.

Johnson, Tom. "John Cage at (almost) 60.," *Village Voice* (January 25, 1972): 33, 36, 38.

"---," *Minneapolis Star* (January 1, 1972).

"---," *Los Angeles Times* (Jan 14, 1972).

"---," *The St. Petersburg Times* (June 6, 1972).

1973

"Friday, March 23-Sunday, March 25, 1971." *Daily Bulletin*. (March 23-25). Toronto: York University, 1973.

"Environments." *Sightlines* 7-9 (1973): 22.

Lambert, James William. "A Student's Preparation of Zyklus." *Percussionist* 11 (Fall 1973): 15-18.

Peterson, Clarence. "Three Mysteries fill in NBC's Schedule." *Chicago Tribune* (April 30, 1973): 15.

Willis, Thomas. "Public Supply: A Sound Idea." *Chicago Tribune* (May 2): 1973.

"---," *New York Sunday News* (December 9, 1972).

"---," *Newsday* (October, 1973).

1974

Baron, Robert Alex. "What Noise Does to Us." *The New York Times* (December 21, 1974): 26.

Brunelle, Al. "Deep Float: Neuhaus' 'Water Whistle'." *Art in America*, September-October 1974): 91.

Frank, Peter. "The Avant Garde Festival: And Now, Shea Stadium." *Art in America* (November and December, 1974): 1-5.

Hiffner, Amy. "Interview avec Max Neuhaus." *Artitudes International*, No. 9/11 (April-June 1974): 70.

Pimentel, Lina. "The Solo Percussionist's Performance Limitations." *Percussionist* 18 (Summer 1974): 128-129.

Willis, Thomas. "A Sound Ambience from Inner Space." *Chicago Tribute* (May 10, 1974).

“---,” *Art in America* 62, No. 1 (Jan-Feb, 1974): 88.

1975

“Artist Playthings.” *The Village Voice* (January 6, 1975): 45.

DePonte, Niel. “No. 9 ‘Zyklus’ How and Why?” *Percussionist* 12 (Summer 1975): 136-149.

Peters, Gordon. *The Drummer: Man*. Wilmette, Illinois: Kemper-Peters Publications, 1975.

High Fidelity/Musical America 25, Issues 1-6 (January, 1975).

1976

Baracks, Barbara. “Artpark: The New Esthetic Playground.” *Artforum* (November 1976): 28-33.*

Foote, Nancy. “The Apotheosis of the Crummy Space.” *Artforum* (October 1976): 28-37. *

Johnson, Tom. “Creating the Context: Max Neuhaus.” *Village Voice*, (December 6, 1976).
Reprinted in Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.

Rockwell, John. “Avant-Garde: Max Neuhaus and His 32 Loudspeakers.” *Westchester Weekly* (Nov. 22, 1976).

Rockwell, John. “Max Neuhaus to Fill the Old Custom House With New Music,” *New York Times* (November 19, 1976): 50; C4.

Shenker, Israel. “Foundations Get Real and Unreal Pleas for Aid,” *The New York Times* (September 2, 1976): 45.

“Wanna Whistle?” *Eugene Register-Guard* (December 30, 1976).

“Why It Happened.” *The Village Voice* (June 21, 1976): 3. *

1977

Baracks, Barbara. “Max Neuhaus, The Customs House,” *Artforum* (February 1977): 65-68.

Dibble, Arnold. “Radio Listeners Provide the Music with their Lips.” *St. Petersburg Times* (Jan 4, 1977): 4a.

Ericson, Raymond. “Max Neuhaus Music Made Especially for Times Square.” *New York Times* (Nov. 27, 1977).

La Barbara, Joan. “Max Neuhaus: New Sounds in Natural Settings.” *Musical America* (October 1977). Reprinted in Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.

Rockwell, John. “Whistle While You Tune In to Avant-Garde Radio.” *The New York Times*, (January 2, 1977): 73.

Shapiro, David. “A View of Kassel.” *Artforum* (September 1977): 56-62.

“Water Music Berlin von Max Neuhaus im Prinzen-Bad.” *Der Tagesspiegel* (June 21, 1977).

1978

“Around Town.” *New York Magazine* (September 4): 28.

“Background Music.” *Horizon Magazine* (August 1978): 74.

Glueck, Grace. “Art People: Collagist of Forms.” *The New York Times* (June 23, 1978).

Lorber, Richard. “Max Neuhaus, Times Square.” *Artforum*, Vol. 16, No. 5 (January 1978): 64.

“Underground Music.” *MoMA*, No. 7 (Summer, 1978): 7.

1979

Artner, Alan G., "A Range of Art that Says We're Doing Things Right." *Chicago Tribune* (October 7, 1979): 14-15.

Kramer, Hilton. "Gone with art?" *The Des Moines Register* (Sunday, April 15, 1979): 22.

Rhein, von Jorn. "At MCA, a New Sculpture Converts Space into Sound." *Chicago Tribune* (March 25, 1979): 8-9.

Rockwell, John. "Avant-Garde: Max Neuhaus' Sounds." *New York Times* (Nov. 11, 1979): 74.

1980

Foster, Hal. "Exhibition Reviews." *Artforum* 18, no. 5 (January 1980): 70.

Knowles, Alison. "The House of Dust: A Chronicle." *New Wilderness Letter*, No. 8 (Spring 1980): 17-24.

Larson, Kay. "The Craft of Art." *New York Magazine* (December 29, 1980-January 5, 1981): 53.

Reilly, Patti. "The World Is Alive with the Sound of Music, and Some of It Is by Composer Max Neuhaus." *People*, Vol. 13, No. 26 (June 30, 1980).

"Zounds! Such sounds!" *The Des Moines Register*, Des Moines, Iowa. (Sunday June 1, 1980): 32.

1981

Artner, Alan G., "Glowing Works of Fiber and Paper Shine at MCA." *Chicago Tribute* (June 7, 1981): 20.

Basler, Barbara. "On the Police Beat, A gold Chain Warning, a Butcher Offers Bulletproof." *New York Times* (April 4, 1981).

Henahan, Donal. "Music View; And Now, The World's First Composing Machine." *New York Times* (April 19, 1981).

Larson, Kay. "The Patter of Little Feats." *New York Magazine* (October 12): 78.

Sherman, Robert. "Music; 'Soundings': Two Arts Fused at the Neuberger Museum." *The New York Times* (December 6, 1981).

1982

Flood, Richard. "Soundings." *Artforum* (May, 1982).

Frank, Peter. "Soundings at SUNY." *Art Journal*, Vol. 42, No. 1, The Education of Artists (Spring, 1982): 58-62.

"Music & Dance – Concerts." *New York Magazine* (May 31, 1982).

Princenthal, Nancy. "Sounds of Violence: Max Neuhaus' Siren Project." *Artforum* 20, no. 9 (May, 1982): 70–71.

Rockwell, John, "Music View; Striking a Political Tone." *New York Times* (June 6, 1982).

1983

Ammann, Jean-Christophe. "Notes on Max Neuhaus." *Max Neuhaus, Sound Installation* (cat. German, English). Basel: Kunsthalle Basel, 1983.

"Art – Galleries." *New York Magazine* (May 16, 1983): 95.

"Public Art: Recent Works." *Design Quarterly*, No. 122, Site: The Meaning of Place in Art and Architecture (1983): 30-34.

Ratcliff, Carter. "Space, Time and Silence: Max Neuhaus' Sound Installations," *Max Neuhaus, Sound Installation*, (cat. German, English), Basel: Kunsthalle Basel. (1983).

Rhein, John von, "Claudio Abbado: A Musical Architect Draws Big Plans for the CSO," *Chicago Tribune* (February 6, 1983): 8.

Rockwell, John. "Environmental Composers & Ambient Music: Max Neuhaus." In *All American Music*. New York: Knopf, 1983. Reprinted in Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.

1984

Holland, Bernhard. "Critic's Notebook; Passive Solution to Music's Orthopedic Mishaps," *New York Times* (June 14, 1984).

Vargas, Michael. "Government Support of Public Art: Private Art or Artistic Heritage," Master's Thesis, City Planning, Massachusetts Institute of Technology (May, 1984).

Restany, Pierre. "Le Paradoxe des Impossibles," *Max Neuhaus, Installations Sonores* (exposition du 12 Avril au 12 Mai 1984, Geneva: Marie Louise Jeanneret Art Moderne, (1984).

1985

Udow, Michael. "An Interview with Karlheinz Stockhausen." *Percussive Notes Research*, Edition 23, No. 6 (1985). *

Wechsler, Max. "Paradise Gained." *Artforum* (September 1985).

1986

Javault, Patrick. "Max Neuhaus: Noises in the Corridor." *Art Press*, no. 100 (February 1986): 55.

1987

Feldman, Morton and La Monte Young. "A Conversation on Composition and Improvisation," *Res 13* (Spring 1987): 152-173.

Restany, Pierre. "Max Neuhaus: concetto e metodo di una architettura Sonora." *Domus*, no. 684 (June 1987): 3.

Ratcliff, Carter. "Max Neuhaus: Aural Spaces." *Art in America* 75, No. 10 (October 1987): 154-63.

Rockwell, John. "Beneath a Street, Art Soothes in Times Sq." *New York Times/Metropolitan News* (November 10, 1987): A1; B4.

Youngblood, Gene. "The Source of the Images is Within: The Videotapes of Bill Viola." *MoMA*, No. 45 (Autumn, 1987): 2-3.

Zacharopoulos, Denyz. "Max Neuhaus." *Max Neuhaus*. Locmine, France: Edition du Centre d'Art, Domaine de Kerguéhenec, (1987).

1988

Cueff, Alain. "Max Neuhaus: The Space of Sound." *Artscribe International*, No. 71 (September-October 1988), pp. 66-67. Reprinted in *Max Neuhaus: Sound Works*, vol. 1, *Inscription*.

Tomkins, Calvin. "HEAR." *New Yorker* (October 24, 1988): 110-120. Reprinted in *Max Neuhaus: Sound Works*, vol. 1, *Inscription*.

Kaiser, Franz. "Creating a new place in space..." *Max Neuhaus, Sound Line*. Magasin - Centre National d'Art Contemporain de Grenoble, 1988.

1989

Herzogenrath, Wulf. "Bell for St. Cacilien." *Max Neuhaus, Two Sound Works*. Bern, Switzerland and Cologne, Germany: Kunsthalle Bern and Kölnischer Kunstverein, (1989).

Loock, Ulrich. "Time Piece, Kunsthalle Bern." *Max Neuhaus, Two Sound Works*. Bern, Switzerland and Cologne, Germany: Kunsthalle Bern and Kölnischer Kunstverein, (1989).

Stover, Dawn. "Sounding off... safely." *Popular Science* (October 1989): 36.

1990

Zacharopoulos, Denys. "Space and Sound: Resonance of an Aural Work," Max Neuhaus, *Elusive Sources and 'Like' Spaces*. Turin: Galleria Giorgio Persano, (1990).

1991

Danto, Arthur. "Max Neuhaus: Sound Works." *The Nation* 252, no. 8 (March 4, 1991): 281–84. Reprinted in Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.

1992

Weingarten, Susanne. "Brummen vor dem Tor." *Der Spiegel* (September 7, 1992): 276–79. Reprinted in Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.

1993

Steinhauer, Jennifer. "F.Y.I." *The New York Times* (December 19, 1993).

von Drathen, Doris. "Max Neuhaus: Invisible Sculpture—Molded Sound." *Parkett*, no. 35 (March 1993): 18–29. Reprinted in Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.

1994

Szeemann, Harald. "Max Neuhaus." *Kunstforum International*, no. 127 (July–September 1994): 176–77. Reprinted in Max Neuhaus: *Sound Works*, vol. 1, *Inscription*.

1995

Morgan, Stuart. "Disegnare in retrospectiva." *Max Neuhaus, Evocare*. Milan: Charta, 1995.

Safran, Yehuda. "Disegnare a orecchio." *Max Neuhaus, Evocare*. Milan: Charta, 1995.

Schwarze, Dirk. "Max Neuhaus und Karel Malich." *Kunstforum International*, no. 131 (August–October 1995): 404–6.

1996

Storr, Robert. "Projects: 120 and Counting." *MoMA*, No. 21 (Winter-Spring 1996): 16-19.

1997

Gahse, Zsuzsanna. "How does a sound spread." *Three to One: Max Neuhaus*, Brussels: La Léttre Volée, (1997).

Rosen, Miriam. "Sonambient." *Artforum* (June 1997).

Safran, Yehuda. "The drawings from Three to One." *Three to One: Max Neuhaus*, Brussels: La Léttre Volée, 1997.

Tazzi, Pier Luigi. "Constructed Sound: Max Neuhaus." *Carte d'Arte Internazionale* (November, 1997).

Tazzi, Pier Luigi. "Max Neuhaus." *The Collection, Max Neuhaus*. Turin: Castello di Rivoli, Museo d'Art Contemporanea, 1997.

1998

Tarantino, Michael. "Two Passages." (1998). Web.

www.maxneuhaus.info/soundworks/vectors/passage/twopassages/

von Drathen, Doris. "Gebaute Töne." *Künstler: Kritisches Lexikon der Gegenwartskunst* 41, No. 5 (1998).

1999

Zwerin, Mike. "Max Neuhaus's 'Sound Works' Listen to Surroundings: Been There, Heard That." *New York Times* (Nov. 17, 1999).

2000

Erickson, Emily. "Preview: U.S. Shorts." *Artforum* (May 2000).

2001

Alberro, Alexander. "Inside the White Box: Aspen 5+6." *Artforum* (September 2001): pp. 171-4.

Leffingwell, Edward. "Max Neuhaus at Christine Burgin and P.S. 1." *Art in America* 89, no. 4 (April 2001): 136.

2002

Zuckerman, Alicia. "Max Neuhaus: Times Square." *Arts Electric*. (May 30, 2002). Web.
http://www.arts-electric.org/stories/2002/020530_neuhaus.html

2003

Wenman, Neil Robert. "Listening to the Void." *Art & Architecture Journal*, Issue 58, (June 3, 2002): 52-55.

Wenman, Neil Robert. "Invisible Space: Max Neuhaus." *Noisegate Magazine*, Issue 11 (July 3, 2003).

2004

Binkiewicz, Donna M. *Federalizing the Muse: United States Arts Policy and the National Endowment for the Arts, 1964-1980*, Chapel Hill, NC: University of North Carolina Press, 2004.

Cox, Christoph. "Treble." *Artforum* (September 2004): 262.

Cox, Christoph. "Treble," *Artforum* (April 2004).

Cox, Christoph and Branden W. Joseph, Anthony Huberman, David Toop, Carl Michael von Hausswolff, Steve Roden, Marina Rosenfeld, and Stephen Vitiello. "Sound Art Now: An Online Symposium," *Artforum* (April, 2004). Web.
<https://www.artforum.com/symposium/id=6682>

Gopnik, Adam. "Times Regained." *New Yorker* (March 22, 2004). *

Matthews, Kaffe, "Kaffe Matthews and Anthony Huberman." *Bomb*, No. 89 (Fall 2004): 62-67.

Ryan, David. "Max Neuhaus." *Art Monthly*, no. 275 (April 2004): 42.

Safran, Yehuda. "Shaping Sound." *Domus*, no. 876 (December 2004): 72-77.

2005

- Cascella, Daniela. "Max Neuhaus." *Contemporary*, no. 75 (2005): 38–39.
- Huberman, Anthony. "The Sound of Space." *Art Review* (May 2005).
- Loock, Ulrich. "Times Square, Max Neuhaus's Sound Work in New York City," *Open: Cahier on Art in the Public Domain* 4, no. 9 (2005).
- Traub, Peter. "Auracle." 2005. Web. <http://www.max-neuhaus.info/bibliography/PeterTraub.pdf>.

2006

- Birchfield, David, Kelly Phillips, Assegid Kidane, and David Lorig, "Interactive Public Sound Art: A Case Study," *Proceedings of the 2006 International Conference on New Interfaces for Musical Expression* (NIME06).
- Roberts, Sam. "Something Fresh Wafting Up from a Times Square Grate: Art," *New York Times* (March 26, 2006).

2007

- Cox, Christoph. "Sound Art," *Artforum* (November 2007).
- Davila, Thierry. "Max Neuhaus, Times Square." *Art Press* 2, no. 5 (June 2007).
- Feldman, Hannah. "Sound Tracks: The Art of Allora and Calzadilla," *Artforum* (May 2007).
- Hans Rudolf. "While Walking," 2007. Web.
<http://www.maxneuhaus.info/bibliography/HansRudolfReust.pdf>.
- Hepfer, Jonathan. "Jan Williams: The Evolution of New Music." *Percussive Notes* (February 8, 2007). Web. <http://www.jonathan-hepfer.com/jan-williams.html>

2008

- Carter, Kabir. "Houston; New York; and Beacon, New York." *Modern Painters* 20, no. 6 (July–August 2008): 82–83.
- Crimp, Douglas. "Merce Cunningham: Dancers, Artworks, and People in the Galleries," *Artforum* (October 2008).

2009

- Cox, Christoph. "Enduring Work," *Artforum* (May 2009): 49–50; 52.
- "Max Neuhaus (1939-2009)," *Artforum* (February 4, 2009). Web.
<https://www.artforum.com/news/id=21981>
- "Performa Announces Artists and Commissions for 2009 Edition," *Artforum* (September 2009).
- Sanders, Jay. "Masaya Nakahara," *Artforum* (September 2009).
- Weber, Bruce. "Max Neuhaus, Who Made Aural Artwork, Dies at 69," *New York Times* (Feb. 9, 2009).

2010

- O'Neill-Butler, Lauren. "Wonder Woman," *Artforum* (April 2010).
- Roberts, Sam. "Bookshelf – Max Neuhaus's 'Sound Sculpture' – Glories of Clinton High," *New York Times* (Feb 19, 2010).
- Roberts, Sam. "Bookshelf – Art Form's Pioneer; Achievers' Incubator," *New York Times* (Feb 21, 2010): MB9.
- Rodenbeck, Judith. "Artpark 1974-1984," *Artforum* (September 2010).

2011

Weiss, Lauren Vogel. "PAS Magazines: The First Fifty Years," *Percussive Notes* (May 2011): 14.

2012

Joseph, Branden W. "Wish You Were Here: The Buffalo Avant-Garde in the 1970s," *Artforum* (January 2012).

Woods, Nicole. "Object/Poems: Alison Knowles's Feminist Archite(x)ture," *Xtra* 15, No. 1 (Fall 2012): 7-25.

2014

Fiedler, Elisabeth. *Offsite Graz Guide: Ein Wegweiser zur Kunst im Oeffentlichen Raum Graz*. Graz, Germany: Leykam Verlag, (2014). Pamphlet.

2015

Balit, Daniele. "For an Ecological Music – Max Neuhaus," *Critique d'art*, Vol. 44 (Printemps/Ete 2015). Web. <https://critiquedart.revues.org/17143>

2016

Durand, Adrien. "Max Neuhaus a fait exploser les carcans de la musique expérimentale," *The Drone* (July 12, 2016). Web. <http://www.the-drone.com/magazine/max-neuhaus-a-fait-exploser-les-carcans-de-la-musique-experimentale/>

Proctor, Jacob. "A Feast of Astonishments: Charlotte Moorman and the Avant-Garde, 1960s-1980s," *Artforum* (May 2016).

Voon, Claire. "A Silent Soundwalk, Noisy with Abstract Compositions," *Hyperallergic*. (November 4, 2016). Web. <http://hyperallergic.com/335030/a-silent-soundwalk-noisy-with-abstract-compositions/>

APPENDIX V: DISCOGRAPHY

PUBLISHED SOUND RECORDINGS AS SOLO ARTIST

Corner, Philip. *More From the Judson Years (Early 60s): Instrumental-Vocal Works Vol. 2*. Alga Marghen – C 25NMN.056, 2004. CD.

Neuhaus, Max. *Electronics and Percussion: Five Realizations by Max Neuhaus*. Columbia Masterworks - MS 7139, 1968. LP. Liner notes by Max Neuhaus.

Neuhaus, Max. *Electronique et Percussion – Cinq Réaliations Par Max Neuhaus*. CBS – CBS S 34-61 063. LP. France. 1968.

Neuhaus, Max. *Electronics & Percussion: Five Realizations by Max Neuhaus*. Sony Classical Japan - SICC 79, 2002. CD.

Neuhaus, Max. *Fontana Mix-Feed / The King of Denmark*. Aspen Magazine, 1968. Flexidisc.

Neuhaus, Max. *Fontana Mix-Feed*. Mass Art, Inc. – M-133, 1966. LP.

- Neuhaus, Max. *Fontana Mix-Feed*. Alga Marghen – N 18NMN.044, 2002. LP. [Facsimile reissue of Mass Art, Inc. – M-133, 1966.]
- Neuhaus, Max. *Fontana Mix-Feed: Six Realizations of John Cage*. Alga Marghen - plana-N 18NMN.044, 2003. CD. Liner notes by Donald J. Henahan, Max Neuhaus, and Theodore Strongin.
- Neuhaus, Max. *The New York School: Nine Realizations of Cage, Feldman, Brown*. Alga Marghen, Milan, plana-N 22NMN.052, 2004. CD. Liner notes by Malcolm Goldstein, Max Neuhaus, John Rockwell, and Theodore Strongin.
- Stockhausen, Karlheinz. *Cycle for One Percussionist (In Two Different Versions)*. Heliodor 2549 016, 1970. LP.
- Stockhausen, Karlheinz. *Spiral Fur Blockflote Und Kurzwellen / Zyklus Fur 1 Schlagzeuger / Klavierstueck Nr. X*. Hoer Zu Black Label – SHZW 903 BL, [197-?]. LP.
- Stockhausen, Karlheinz. *Zyklus Fur Einen Schlagzeuger in Zwei Verschiedenen Fassungen/Klavierstuck X*. WERGO – WER 60 010, [197-?]. LP.
- Stockhausen, Karlheinz. *Zyklus Fur Einen Schlagzeuger*. Wergo – WER 308; WER 20-28. Taschen-Diskotheek Neuer Musik – WER 308; WER 20-28, 2977. 7”
- Stockhausen, Karlheinz. *Zyklus for Percussion / Klavierstuck*. Mace Records – MXX 909, [197-?]. LP.
- Stockhausen, Karlheinz. *Zyklus for Percussion / Klavierstuck*, New York: Scepter Records, Inc.; Mace Records – CMCS 9091, [197-?]. Cassette.
- Stockhausen, Karlheinz. *Zyklus: Four Realizations By Max Neuhaus*. Alga Marghen – plana-N 23NMN.054, 20004. CD.
- Various Artists. *L'aventure de la musique contemporaine*. Presented by Claude Samuel. CBS – P2; WERGO – P2. Vinyl. 7”. France.
- Various Artists. *Masterworks of the 20th Century*. Sony Classical Records – 88875061902, 2015. CD. [Contains two selections from *Electronics & Percussion: Zyklus* and *Fontana Mix Feed*.]
- Various Artists. *Morton Feldman: Rothko Chapel / For Frank O'Hara / The King of Denmark*. Series: Prophets of the New. Sony Classical – 88765499952, 2013. CD.
- Various Artists. *Xenakis, Del Tredici, Stockhausen, Cage, Crumb*. Series: Prophets of the New. Sony Classical – 888430326521, 2014. CD.

PUBLISHED SOUND RECORDINGS AS AN ENSEMBLE ARTIST

- Corner, Philip. *PoorManMusic*. Alga Marghen – plana-C alga048, 2015. LP.
- Martirano, Salvatore and George Rochberg. *O, O, O, O, That Shakespeherian Rag (For Mixed Chorus and Instrumental Ensemble)/String Quartet No. 2, With Soprano*. Composer's Recordings Inc. - CRI 164, 1963. LP.
- Shapey, Ralph and John McIvor Perkins. *Shapey/Perkins*. New World Records – NWCRL232, 2010. CD.
- Shapey, Ralph and John McIvor Perkins. *Music for 23 Players*. Composers Recordings Inc. – CRI SD 232, 1964. LP.
- Sydeman, William. *Music for Flute, Viola, Guitar, and Percussion (1962) – Concerto da Camera No. 2 (1960)*. Composers Recordings Inc., 1964. Contemporary Chamber Ensemble. Paul Zukofsky. Arthur Weisburg.

Sydeman, William and Ramiro Cortes. *Sydeman/Cortes: Chamber Works*. Composers Recordings Inc. – CRL181, 1964. LP.
Various Artists. *Music From The ONCE Festival*. Advance Recordings – FGR 5, 1966. LP.
Various Artists. *Music For Merce (1952-2009)*. New World Records – 80712-2, 2010. CD.

APPENDIX VI: FILMOGRAPHY

PUBLISHED FILMS/VIDEOS

Gessner, Peter David. *Time of the Locust*. Tundra/First Run/Icarus Films, 1966. Film. MPI Home Video, 1986. VHS. Icarus Films, 2011. DVD.
Gregg, Margaret, dir., *Radio Net*. Washington D.C.: National Public Radio, 1977. Film.
Helms, Hans G. *New Music: Sounds and Voices from the Avant-Garde New York 1971*. New York: Michael Blackwood Productions, Inc., 2011. Video.
Logue, Joan. *30 Second Spots*. 1982. Video.
Logsdail, Rory. *Max Neuhaus – Times Square*. New York: Firefly Pictures, 2002. Video.
Moore, Peter. *Stockhausen's Originale: Doubletakes*. 1964-94. Film.
Niblock, Phill. *Six Films*. Die Schachtel, 2009. DVD.
Sanborn, John and Kit Fitzgerald, dir., *re:Soundings: Investigations into the Nature of Modern Music*. Purchase, NY: Neuberger Museum, 1983. Video.