FOLDING SPACES AND POROUS BODIES: SOUND AND SIGHT IN BRUCE NAUMAN’S OEUVRE

by

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Abstract

This dissertation is tuned to the sonic procedures, sculptures, installations and drawings created by American artist Bruce Nauman (b.1941) from 1965 to the present. Probing the move from making sense to making sensual-sense in the interstice between sight and audition, my study traces and contextualizes Nauman’s works in relation to the modernist hegemony of the visual and its contemporary interruption by sound. From sculpting ears or making his body a sonoric instrument producing soundscapes in the gallery space, to composing theatrical cacophonies for the visitor to occupy, Nauman’s oeuvre marks a history of sound art cultivated within the San Francisco Bay Area during the 1960s. This historical unfolding links new relations between music and the plastic arts and is induced by experimental and electroacoustic music, such as the work of Arnold Schoenberg, Pierre Schaeffer, John Cage, Pierre Boulez, Luciano Berio, and the innovations of such Minimalist composers as Steve Reich, La Monte Yonge, Terry Riley, and Philip Glass.

My study contends that Nauman’s use of sound challenges both the production of art and its reception profoundly. By importing sound into the realm of vision, Nauman questions the praxis of making sense under the assumed superiority of sight. No longer mute, sonic objects abrogate the hierarchy of the senses and mark the move from the
spatio-temporal settings of passive spectatorship to the medial topologies of the sensuous perceiving body. Reckoned as “arguably the most internationally influential figure of his generation of Americans” by MoMA curator Robert Storr in 1995, Nauman’s work anticipates the move to the multisensual practices of Augmented Reality and New Media. By contrasting the tight, almost synonymous relations between knowing, thinking, seeing and appearing with the turn to the sonorous and the tactile, my study places Nauman’s sonic objects within the tense relation between philosophical ideas of perception entrenched in systems of signification and logic and those that pertain to the superiority of the senses.
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Introduction

The Orphic Interval

How can one get hold of a body?
I am already speechless

Jean Luc-Nancy, Corpus

For the 53rd International Art Exhibition of the Venice Biennale, American multimedia artist Bruce Nauman (b. 1941) composed two distinct yet corresponding installations: *Gironi* and *Days*. Seven pairs of speakers in *Days*, and six pairs of speakers in *Gironi*, were suspended behind two rows of white square sheets creating sound passageways for the visitor to walk through. Veering between minimalist visual sensibility and sonic spaces, Nauman’s installations exchanged visual contours for sounding bodies. Reverberating the liminal framing of site perception, sonic intervals agitated chronological measure. As the seven days of the week were spoken in random order over the speakers, linear time became transposed. The sheets, marking prosaic and textual spacing, became sonorous objects and brought forth the quandaries of creating musical worlds and sounding bodies in a visual space.

*Gironi* and *Days* were displayed at the Università Iuav di Venezia at Tolentini and the Università Ca’ Foscari respectively. In addition to the show at the United States Pavilion, the three venues comprised a mini-retrospective of the artist’s work and
celebration of his receipt of the Golden Lion Award. Curated by Carlos Basualdo and Michael Taylor and entitled *Topological Gardens*, Nauman’s Venice display referenced the complex relations between perception and creation.

Daniel Birnbaum, chief curator of the Venice Biennale, who bridged the many pavilions and shows with a grand gesture of titling the entire exhibition *Fare Mundi/Making Worlds*, also showcased the role of creation in thinking flexed multiplicities. *Fare Mundi/Making Worlds* reflects the quandary of multiplicity and creation as it appeared on street posts, catalogues, and brochures in multiple languages. “It is interesting,” said Birnbaum, “that *Fare Mundi, Making Worlds, Weltenmachen*, sounds very different in different languages… in French *Construire des Mondes* sounds rather technical or architectural, in English *Making Worlds* is very craftsman related, so it’s about making things, in German or Swedish it is very grand, a little bit bombastic almost, in Swedish [*Skapa Världar*] it is almost theological, as if it was about divine intervention. The ambiguity about all these translations captures a lot when it comes to grasp what an artist does… A world does not have to be a whole cosmology… but in all the languages it is about creating things.”

Creating things, or creating worlds, is making sense of the praxis. For Nauman, creating a world requires making a spatial experiment out of sensuous perception. He illuminates the difference between constructing concepts that dominate passive perception, to activating percepts that untie the discrete senses from the tyranny of the visual. My study is dedicated to exploring Nauman’s use of sound and his turn to the

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sonorous. His preoccupation with hearing and making sounds in the gallery space is intimately tied with problems transposed from the traditional dominancy of sight perception, the mute viewing spaces of displaying art, and the artistic practice of making objects, into an open process of untying sensuous perception. Nauman’s turn to the sonorous provides a proposition for thinking about the role of the senses in the creation of the world. At times, the sonorous in his works weakens set signification ingrained in a united ground. In other instances, Nauman uses sound as a groundless medium to carve out performative actions that determinedly avoid telos. Both trajectories maintain a tense separation between the visual and the sonorous to yield unpredicated and unpredicted results. Yet, the tension between the visual and the sonorous is hardly new and is permeated by two opposing conceptual histories. The first stems from the harmonies of the Pythagorean world-soul emanating from Plato’s philosophy through the modern Cartesian subject; the second calls for structure without measure and is generated from the myth of the Orphic sensual interval.

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2 While several commentators undermined the dominancy of the visual in relation to the modern subject, importing sound into the realm of the art historian, which still is predominantly visual, I will address the tension between sight and sound in artistic practice arguing that such tension is rooted within the encounters of rationalism and empiricism, as within the slippages found in rationalist thinking alone. Penelope Gouk argued for the separation of a Pythagorean-Platonic cosmology from music in the seventeenth century’s move to a materialistic cosmology where soundscapes were constitutive of physiological models that pertained to modern objectivity and culturally neutral representations of both music and human nature. Veit Erlmann drew “the ear’s intimacy with reason and modernity,” proving the Cartesian self-aware subject as an experienced hearing subject tuned to resonant waves. See Gouk, “Raising Spirits and Restoring Souls: Early Modern Medical Explanations for Music’s Effects,” in Hearing Cultures: Essays on Sound, Listening and Modernity, edited by Veit Erlmann (New York: Berg, 2004), 87-105; Erlmann, Reason and Resonance, 307. I will show how the Cartesian mechanics of vision is a complex account that cannot be dismissed as mere metaphor.
Two early works, Robert Fludd’s *Monochordum Mundi* and Antonio Canova’s *Eurydice and Orpheus*, serve well to exemplify these differing ontologies. In both these works lies an interval of the sense of the world—the creation of the world is displayed in between philosophy and myth. In 1617 English Paracelsian physician Robert Fludd illustrated the cosmic world as a divine chordophone whose spherical body is disclosed by the intervals of the planets (figs. 1, 2). Following the Pythagorean *Music of Spheres*, the world’s body is determined according to the close association of music and mathematics. The intervals between the planets’ orbits correspond to the distance between pitches on one string. Pythagoras’ harmonious cosmos recurs in the dialogue of the *Timaeus* in which Plato describes the creation of the world in mathematical technique. The world is created by the Demiurge who sculpts the universe into a harmonious structure consisting of seven scales made up of intervals. The physical world as complete structure is derived from perfect forms, that is, ideas. As the world is based on whole and perfect ideas, it references the intervals of musicosmology that measure space and time.³ Pythagoras and his followers noted that the relation between musical

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³ In Plato’s *Timaeus*, Critias explains the forging of the world to Timaeus Hermocrates and Critias: “He began the division thus. First he cut off one portion from the whole, next another, double of this. The third portion he made half as great again as the second, the thrice as great as the first, the fourth double of the second, the fifth three times the third, the sixth eight times, the seventh twenty-seven times the first. Then he proceeded to fill up the intervals of the double and the triple, still cutting off portions as before and inserting them in these intervals, so that in each interval there were two middle terms, the one exceeding and being exceeded by the same part of the extremes, the other exceeding and being exceeded by an equal number. These links gave rise to intervals of three to two, four to three, and nine to eight within the old intervals. So he filled up all the intervals of four to three with the interval of the nine to eight, leaving in each case a fraction such that the interval determined by it represented by the ratio 256 to 243. And by this time the blend from which he was cutting off these portions was last exhausted.” See Plato, “Timaeus,” in *Plato: Timaeus and Critias*, translated by A. E. Taylor (London: Methuen & Co. LTD, 1929), 35b-36b, 31-32. For commentaries on the harmonious
pitches may be expressed in terms of numerical ratios; the octave as 2:1, the fifth 3:2, the fourth 4:3, the whole tone 9:8, and the similar proportional relations govern the structure of the created world. From this proportioned scale, chronos and geometrical space are generated as echoes of an a priori diatonic scale. The proportioned parts of the cosmos are rendered harmonious through their participation in delimited macroscopic whole. Whatever derives from this whole is subjected to the repetition of the same.

Pythagoras’ musicosmology is shown in Fludd’s Tractatus (fig. 3, 1619) from which we learn that the substratum of the cosmos is a musical scale composed of the world’s mechanism and instrumental bodies. Such bodies adhere to the very ground that generates their idiosyncratic differentiation. In symphonic composition, the human body and its perceiving sensual capacities are subjugated to the concatenation of creation from Mundus Intellectualis (God), to Mens Intellectus (ratio), which then branch out to incorporate Mundus Imaginabilis (the world of imagination) and Mundus Sensibilis (the world of the senses). Defeated by the intellect, the five senses attempt to sense the four substances of the world with the sensual organs. Earth is associated with tactility, taste and smell with water, light with sight, and audition with air. Placed as the middle interval of the cyclical spheres, Auditus differs from Visus by the weak interval of Aer tenuis, that is, thin air. The spacing between Auditus and Visus marks the locus separating the two senses. Usually thought of in passivity or as secondary to the expressed senses, the

interval residing between the senses shapes the core of my analysis. It is the space between the senses that is weaved throughout Nauman’s oeuvre as a tense interval that stems from the measured world of Plato and the incommensurable myth of Orpheus.

The relationship of Orpheus and Eurydice personifies this separation of the senses—Orpheus signifies sound and Eurydice sight. Interestingly, in the Museo Correr in Venice where Canova’s marble sculpture of *Orpheus and Eurydice* resides, the onlooker encounters the sculpture and then its reflection in a wall mirror located behind it. The mirror’s repetitive reflection echoes, through visual means, the power of Orpheus’ musical talent. As a son of Apollo, Orpheus permeated the world with sound. He sang and played the lyre with such art that savage beasts came running to listen and trees would uproot themselves to follow him. Such was the power of his voice, and the harmony of his lyre, that even the infernal deities submitted to his musical talent. The Orphic myth tells us that Eurydice, Orpheus’ wife, was mortally bitten by a snake while fleeing the pursuit of the god Aristaeus. Orpheus was heartbroken and resolved to descend into the underworld to reclaim her. He was able to persuade Hades and Persephone to release Eurydice. They gave him permission to take her back to earth on the sole condition that he should not turn back to look at her during the journey between the worlds. Blindly leading Eurydice, the couple had almost reached the gates of Hades when Orpheus impatiently and imprudently turned back to look at his wife. She vanished at once.

The tragic journey of Orpheus and Eurydice ripples like an incommensurable interval between worlds. This is the myth of Orpheus, a myth that touches upon and underscores the limits of worlds and bodies without measure. It is a mythological journey that makes the discrepancy between the visual and the sonorous, as well as the living and
the dead, the habitat of being. In Plato we see how mathematical measure of the interval constituted a perfect world in the hands of the Demiurge. In the story of Orpheus, the set and schematic interval module is set free from its signficatory alignment. Here the interval marks nothing but itself and is set in between hearing and blocked seeing.

“Who follows Orpheus in the underworld?” asks Maurice Blanchot. “Absolute distance, the interval that is always facing the other way. But is it Eurydice?” Or is it sight? It is not sight insofar as it is sound, hearing. It is a blinded interval, empty sight, an emptiness that, to return to Blanchot, is insignificance. But this emptiness is nonetheless the naked visage of Eurydice, of sight. Between the world of the living and the world of the dead, the interval is a moving encounter that takes place only through the force of strangeness and irregular chance. The interval touches discrete senses and touches itself in its discreteness. “Separation itself becomes that which attracts,” writes Blanchot; “an interval become sensible.”

This dissertation is dedicated to understanding the sensible interval in and through the work of Bruce Nauman. I will show how Nauman transforms measured intervals that adhere to Plato’s ordered cosmology into incommensurable instruments of separation. Such intervallic instruments are not some secondary in-between breaks, but concrete and sensual spacings that maintain two trajectories. The first is the process that allows the artwork to be more than a mere object, and keeps the subject from gripping a set form. The second trajectory considers the sensual interval as a subjective interval of perception that does not make sense (logic), but differs through the separation of the senses. By concentrating on

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the sonorous interval, my research reconsiders Nauman’s work through a dispersed medium that demands defining contingency without origin, and relation through separation.

Nauman neatly encapsulated the concept of a sensible interval in the solid volume displayed in *Platform Made up of the Space Between Two Rectilinear Boxes on the Floor* (fig. 4, 1966), and in the wax cast entitled *Westerman’s Ear* (fig. 5, 1967). While the first work concretizes the virtual space between two absent rectangular outlines, the second, marks the creation of an ear from the folds of a knotted rope. Throughout his oeuvre, Nauman has been using sound as sculptural material that by its very nature penetrates, envelops, designates and folds into spatial formations—just like the folds of an ear carry and transform sound. Yet, how does one define relations between an open, in-between interval and a bodily organ such as an ear? And how do we define the specific formations of bodily organs, as well as the surrounding spaces, in terms of sound? How may we define the relations between the double streaming of sounds and images? And how does the pressured interval, placed between the sonic and the visual, relate to space and time?

My study focuses on the problem of the partition of the senses and role of the sonorous in this separation. In the division between sight and audition grows the difference between two opposing systems in Bruce Nauman’s work: the first explores the logical system of signification where good vision and clear sight reign over the other senses to produce set maps of representation. The second considers the superiority of sound and touch as they constantly undermine vision’s hierarchical grip to maintain their own idiosyncrasies in a horizontal aggregated ground. Between these opposing systems, as between the separated senses, lies the interval. Concrete and productive, the interval is
a go-between bodies. An interval is a locus, a habitat, an instrument amid instruments, an organ, and the incommensurable movement of spacing. Its measures, or unmeasured instances, mark these two systems of thought that rise amidst seeing and hearing.

Nauman’s mute sculpture and cacophonic installations give rise to sonorous bodies that hold the quandaries of dispersed media and untied perception. They uproot modernist paradigms of a priori schematic grounds to produce spatial-temporalities within the multiplicity of bodies, spaces, and times. Nauman’s work is constantly involved in revealing the illusion we have of controlling the space we inhabit. Questioning the way we perceive space means re-examining our sensory apparatus. By persistently jamming and dismantling external control mechanisms, as well as internal a priori-imposing conceptions, Nauman reterritorializes the perceiving sensual strip to produce the body as porous, as multiple. Yet the body’s permeable nature is not exhibited for its own sake. Nauman uses sound to penetrate and puncture its contour, its limits, its finite defining boundaries, to undo their insistent grip and deterritorialize the body as a body among bodies.7

6 Gilles Deleuze makes an affinity between Leibniz’s Baroque and his own thoughts about the world at the end of the twentieth century. He sets out to create new harmonies through dispersed folds, peats, and creases. While folds, for Deleuze, mark the move from Leibniz’s monads (and atomism) to his own nomadology by embodying the vibrating waves that move in and about monads, my proposition draws an affinity between the fold and the interval. Gilles Deleuze, The Fold (1988), translated by Tom Conely (MN: University of Minnesota Press, 1993), 122.

7 The term ‘porous material’ was used by Valie Export in the 1970s. In Body Sign Action Export investigated the body as a membrane, a connecting tissue that is the female body inscribed by the social and the political. To develop this idea further, in 1995, Export collaborated with Kirsten Justesen to curate Body as Membrane at the Kunsthallen Brandts Klaedefabrik, Denmark. The focus of the exhibition was on the membrane, defined as “a border coating between the cell and the surroundings,” a “sensitive and soft, porous material (skin) that functions as a transformer [that] transports and transmits any conceivable information… a filter as well as a canvas screen for reception, projection.
This train of thought is central to Nauman’s use of sound. Positioning the hearing subject against the logocentric subject marks recent philosophical trajectories of post-structuralist thought. Here, two main trajectories are pertinent to establishing Nauman’s work within the art historical canon. The first trajectory includes the art historical account of the Cagean effect; the second illuminates the relations between the audio-visual and the tension between sense (logic) and sense (sensuous), as discussed in the work of Gilles Deleuze and Felix Guattari, Jean-Luc Nancy, and Jacques Rancière.

Sonority, as a fundamental means to understanding self and space, is raised within the contemporary discourse of audible histories. Within this trajectory one tangent specifically addresses how the modern hearing subject is set against the tyranny of the optical. Jonathan Sterne advances the concept of a modernist hearing subject enveloped in a sonorous technological environment in The Audible Past: Cultural Origins of Sound Reproduction (2003). Such a subject generates new spatial formations and concepts of measurement that unground permanent vistas in favor of tuning landscapes. “It is fallacious to think,” writes Sterne, “that sight alone or in its supposed difference from hearing and reproduction.” In: James Martin Harding, Contours of the theatrical avant-garde: Performance and textuality (Ann Arbor: University of Michigan Press, 2000), 276. I share the feminist view of the body as membrane, yet my suggestion is to use the porous, mediating body, not merely as a social agent, but as a sensory filter dictating differentiation as such.

Gemma Corradi Fiumara critiques the sufficiently logical modes of Western philosophy while observing an undercurrent in modern philosophy where listening replaces speaking. Listening is considered as concrete and open dialogue that yields a porous ethical subject. See The Other Side of Language: A Philosophy of Listening, translated by Charles Lambert (London and New York: Routledge, 1990).

explains modernity.”

Caroline Jones’s technological sensorium opposing Clement Greenberg’s optical and persistently mute modernist paradigms brings forth a mediating sensus communis in Eyesight Alone: Clement Greenberg’s Modernism and the Bureaucratization of the Senses (2006). And in Reason and Resonance: A History of Modern Aurality (2010), Veit Erlmann returns to Descartes to show how this philosopher may be read differently, as perceptively sonorous. Erlmann constructs an aural history set in between reason and resonance around the Cartesian subjective ear. “These corresponding histories of reason and resonance,” Erlmann writes at the outset, “are both a key element of modern cultural practice and at the heart of modern aurality.”

In Noise, Water, Meat: A History of Sound in the Arts (1999), Douglas Kahn asserts “sound saturates the art of this century, and its importance becomes evident if we can hear past the presumption of mute visuality within art history.” Kahn sets up a historiography of listening in order investigate cultural history and theory that takes into account artistic modernism, the avant-garde, experimental and postmodern practices from the latter half of the nineteenth century through the 1960s. Concentrating on the evolutionary relations between sound, music and noise, and the technological importation of extramusical sounds on the arts, Kahn explores the avant-garde artistic practices in Europe and the United States. His investigation of the 1960s is composed through a series

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of case studies that center the impact of the Cagean affect and the nature of sounds. Kahn focuses on Allan Kaprow, George Brecht, Yoko Ono, and La Monte Yonge and compares artistic concerns with sound to the fluidity of water, environmental issues, economics, and consumerism. The relational lessons of sound traced through their modes of spatiality are explored between sound’s overflowing borders and its site-specificity by Barndon LaBelle in *Background Noise: Perspectives on Sound Art* (2006). LaBelle draws a history of sound art tightly knit with the notion and context of location. “To register sounds in the effects on perception and the hearing subject,” writes LaBelle, “to mark it as architectural and therefore integral to the built environment, to speak it so as to shatter the acoustical mirror in which the self and sound bring it into relief. And to listen intently to all that comes back.” To listen, he emphasizes, is always “a form of participation in the sharing of the sound event.”14 Centering on sound events and installations, LaBelle’s outlines the historiography of sound art from the 1950s to the 1970s, stemming from John’s Cage’s experimental music and Musique Concrète, to the advent of Happenings, Environments, Fluxus, Minimalist Sculpture and Conceptual Art; the architectural potentials of sound created by Iannis Xenakis spatial; the sound events of Vito Acconci, Alvin Lucier, Max Neuhaus through the acoustic ecologies of Hildegard Westerkamp, Steve Peters, and Bill Fontana, and the network spaces of Achim Wollscheid and Atau Tanaka. In all its formations, sound is already a public event. Sound’s elastic relations are expressed within its production, perception and participation.

Thinking within the frameworks of Kahn and LaBelle we may well consider artistic practice of the Bay Area in relation to the post-Cagean affect and sound practices

an unmapped historical tangent that will not only add to the story of the sounding arts, but will give a voice to the interdisciplinary collaborations of visual artists, performers, musicians, singers, writers, and dancers. Weaving Nauman’s sound procedures into the history of the Bay Area during the 1960s illuminates the politics of sound in relation to the dismantlement of traditional music practices and the importation of extramusical attention (hearing, listening), and technological invasion across the boundaries of media. These sounding procedures marked the political counterculture which also included the Berkeley Riots, the protests of the Free Speech Movement and the Civil Rights Movement. The distaste for authority saw its way into the rejection of the sterile, ambient gallery spaces and its invasion by music, noise, and performance. Using the body as a producer of sound in the gallery space rejected problems of objecthood and consumerism, however, it also allowed untying the body from systems of signification by considering performance not as exposition (or exhibition) but as experimentation that yielded results predicated on the contingent conditions and relations uniquely set in each situation. Such experiments set anew political propositions without interest or intention.

To date a great deal of research about Nauman’s work follows the critical art trajectories dictated by semiotics, performance and the problems of objecthood, and theatricality. From the word play sketches to the neon wall pieces, and even the uttered auditory sentences used in some of the installations, researchers have mapped a field of analysis stemming from Wittgenstein’s structural paradigm through to Barthes.¹⁵ Janet

Kraynak’s decisive analysis entitled *Bruce Nauman’s Words* is the most recent serious attempt to map this course.\(^{16}\) Kraynak focuses on Nauman’s auditory installations as a demonstration of the Russian theorist Mikhail Bakhtin’s series of essays written between 1921 and 1975 that were devoted to an idiosyncratic approach to the problem of language. Focusing on the concept of utterance, which includes both spoken and written language in an operational logic, Bakhtin makes clear the intersubjectivity of language exchange as part of his broader concept of “dialogue.” My interest in Kraynak’s endeavor is embedded in the spatial disposition she offers language in terms of the speech-act, where meaning is produced not in the words themselves but in the place in which they are encountered and the responses they engender.\(^{17}\) Kraynak’s work frees critique from the dogmatic formal system; she replaces the semiotic sign within a network that presupposes language as a social agent. This spatial movement also leads to Nauman’s background in mathematics and music, which allowed him to establish a critique based on the production of sound as manufacturing rhythmic topologies in dispersed spatial temporalities, where time and space do not always follow our common “scientific” beliefs, but are created within the omnidirectional qualities of audition.


\(^{17}\) Janet Kraynak, “Bruce Nauman’s Words,” 36.
sixties. This was an original text in the new scholarly field of *Sound Art*. With the advent of psychology and semiotics in art criticism, Bruggen emphasized the psychologically disorienting impact sound had in creating theatrical performance. She asserted the advantage of using sound as an additional medium that does not cover up “‘true’ materials… [that] create a sculptural presence in the gallery.” And yet, Bruggen’s approach was uncommon in the scholarship regarding Nauman, and it was only after Nauman accepted the Unilever series of commissions to set up a new installation for the Turbine Hall at Tate Modern in 2004 that other art critics began listening to his work. Called *Raw Material* (fig. 7), the installation offered very little to the gaze but tuned the visitors’ bodily movements between sonic posts. In his review of the piece, Michael Auping positioned the installation in the “lexical retrospective” of Nauman’s spoken and inscribed language pieces and emphasized his concern with private and public spaces.

Since the *Raw Material* installation at the Tate, sound has become more “visible” in Nauman’s exhibitions. In “Hear Here,” an interview with Joan Simon, Nauman asserted his use of sound as sculptural material. “As you move next to something that is sound-absorbing,” he said, “you feel a pressure change, and then you move away from that. So it's manipulating the ambient sound that's in the room - a kind of sculptural manipulation of audio space.” Martin Gayford wrote of the murmuring voices composing “Sculpture for the Ears,” for *The Daily Telegraph*: “Listen: Can You Hear the Space” was the title for

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21 Joan Simon, “Hear Here: Bruce Nauman Talks to Joan Simon,” *Frieze* (September 2004), 130-137.
Roberta Smith’s review of Days in The New York Times.\textsuperscript{23} The Guardian’s reviewer Jonathan Jones headed his appraisal “Let’s hear it for Bruce Nauman.”\textsuperscript{24} These notable examples display a shift in the critics’ attention; they have turned their attention towards a different sense that includes hearing objects, subjects, and the environment.

From a different stance, one that concerns problems of topology, Dan Graham in 1969 introduced the topologies of spatial warping to critique the work of Donald Judd, Carl Andre, Richard Serra, and Steve Reich. He was drawn to Nauman’s work of piled latex rubber sheets (fig. 8, 1968), which he described as a dynamic field that permeates its flexibility not merely by its internal relations but also as dependent on the spectator’s perception. For Graham, tempo-spatial transformations were dependent on the perceiving body:

In place of the rigid notion of Euclidean geometry (as in “Minimal” sculpture), these 1965–1966 works of Bruce Nauman transform the medium (rubber) as it (the medium) acts as a medium conveying its material in-formation… Further, the continuous transformation of image in such “rubber-sheet” geometry correlates with the spectator’s act of apprehension of the material object via eye and body movements as the spectator’s visual (itself in a process of alteration, although usually at a much slower rate of change) itself shifts in a topology of expansion, contraction, or skew.\textsuperscript{25}

In this study I use the concept of topology to fold sensory perception into flexible spaces. Thus I return to the perceiving body, the sensual organs, and their singular capacities, both in perceiving and creating sense. When Nauman chose to call his

exhibition at the Venice Biennale *Topological Gardens*, he may have had in mind Graham’s early commentaries. His turn to sound as sculptural material overturned set topographies aligning perception in proper geometric spaces, and unhinged the hearing ear and the touching body from the reign of seeing. In many instances these processes work in blindness, thus directing our attention—both visitors’ and my own in this study—to the measures of pressure, the weight of bodies, their vibrating contours, and the limits of hearing.

**Practice and Theory**

Essential to my research, and reverberating throughout this text, is a close reading of Gilles Deleuze and Jean-Luc Nancy. Here I illuminate an affinity between the evolution of Nauman’s work and what Deleuze describes as establishing the conditions for the creative transformation of structuralism. In his book *The Logic of Sense*, Deleuze opens with a discussion of Wittgenstein. In a logical examination of language and being, he highlights the unique connection established with the sensuous body. Deleuze calls for a dynamic genesis of language; he writes, “what renders language possible is that which separates sounds from bodies and organizes them into propositions, freeing them for the expressive function.” Nauman, as shown in the first chapter, engages with the idea of separation as part of an effort to create a porous body by dismantling the persistent grip of controlling mechanisms. Throughout this study I

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propose that we should consider Nauman’s work under the condition of the separated senses. Such separation allows thinking about perception without unity or ground. It further allows considering subjective perception as active and relational. Extending this approach, when considering Nauman’s topological spaces (presented at the Venice Biennale as *Topological Gardens*), we may just end up stretching more than the separated senses, but their relations yield new subjective spaces that cannot adhere to a priori schemes. During his undergraduate studies Nauman took a course in algebraic topology, and I would like to suggest that his translation of the flexible, deformed space formulated by his study of topology found its way into his own installations. Nauman transforms the qualities of sound—pitch, augmentation, rhythm, and flexibility—into spatial traits.

Whereas Deleuze is vital to my arguments concerning the creation of sonic milieus, Jean-Luc Nancy aids my grounding in the senses. Following Nancy’s ontology of touch, I demonstrate the centrality of touch in the creation of multiple bodies. Nancy distinguishes sight—the visual, form, and representation—from sound, which is perpetually spreading out and reverberating in incessant transition. These events, or contours, are the processes of becoming, of creation, or are the folds of internal difference, and are reminiscent of Deleuze’s and Guattari’s planes of consistency. Nancy seems very close to this train of thought when his query “what does *to be* listening… ‘to be in the world,’ mean?” leads to an investigation of sound as edge of meaning, an edge whose meaning resonates with the listening ear. The choice of the words “an edge whose” reflects the ontological move Nancy constitutes of *self* as the edge of meaning. Accordingly, internal difference does not

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happen somewhere out there, but is the concrete creation of self. In Being Singular Plural, Nancy writes: “Being itself is given to us as meaning…. in fact, it is the spacing of meaning, spacing as meaning and circulation.”\(^\text{30}\) Doing away with the subject and object dichotomy—predicating a self not having meaning, but self as meaning—is well articulated in Nauman’s work. The move from dialectics to the relational is marked by the withdrawal from the ontological distance imposed by the gaze and is uttered and performed through the intersections of subject and object; “Now I wasn’t just making shapes to look at,” he explained, “by saying ‘these are templates of my body,’ I gave them reason enough for their existence.”\(^\text{31}\) In 1965 Nauman substituted the sculptural object with his own body in a performance piece that would form the basis for his later videotape Wall-Floor Positions (1968). In the first performance he assumed seven successive poses, each held for one minute, in each of four varying stances relative to the wall.

Whereas the centrality of the body has been well established in the extensive art historical critique asserting the anti-Cartesian move—as embedded in Nietzsche, Simone de Beauvoir, Merleau-Ponty, Judith Butler, and others—of the subject as embodied, intersubjective, and always contingent on the other, most approaches were born as the psychic and social offspring of feminism. Accordingly, the body was not only interrelated with the flesh of the world but it was also considered a projected phenomenon and thus an effect of our psychic desires. “As such, it is always gendered and sexed, raced, classed,

marked and experienced,” writes Amelia Jones.32 Art historians have situated Nauman’s 1960s body procedures in performance art. The majority of current writing continues to hold this stance: it considers ideas of the entrance of the body into the arena, the replacing of sculpture with the living body, and the creation of tight situations to allow behaviorist methodologies as well as phenomenological practices to be elaborated.33 In contrast, my contribution considers the sensing body in specific spatial-temporalities, at times staged by the artist’s body, at others created by activating specific perceptual domains in which the visitor participates in creating new grounds.

Close examination of Nauman’s oeuvre reveals that the artist did not merely substitute his living body as living sculpture, but stressed the shape, position, and state of the body according to its architectonic surrounding. By physically touching, pressing, and forcing his weight and stature against surfaces, and by imposing their morphed physique on his own body, he was able to show how touch as force is the liminal location of an event. He was not simply altering his bodily contour, but effacing it, transforming its own self-perception. Nauman’s enduring desire to surpass our perception of sculpture as object, a retinal experience constricted to the visual, aligns with the philosophical move from Merleau-Ponty’s “chiasm” to Nancy’s ontology. In the plastic arts this move was

well articulated by Duchamp’s withdrawal from painting and his turn toward the conceptual. An additional consideration, one that derives from this change of philosophical stance, is a common concern we can detect in Nauman’s work. The senses, their division and distribution, as well as the unique role played by touch and hearing, allow for resonance and the creation of edges.

Nauman’s preoccupation with the sensing body can be traced back to his early work. For example, whereas Westerman’s Ear is the result of folded matter morphing into the sonorous organ, Separate Touch and Sound (1969) is a proposal for a spatial installation that showcases the opposition of two sensual frontiers through spacing. At the bottom of the sketched proposal Nauman writes:

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touch left wall, sounds on right wall
need 40 feet to separate sound from touch
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My proposition concentrates on this very partition as perpetually morphing spatial bodies. Nonetheless, my route transmutes Nancy’s tangible paradigm to exhibit Nauman’s multiple spatial bodies as produced by sound, i.e., what I call touching sound. Drawing upon Nancy’s ontology of touch where the tangible space between bodies, organs, and machines depends on the alterity of the other, I propose to consider the reverb of sounding intervals as productive bodies. My research traces the sensible experience to advocate the partition of the senses as an apparatus through which perception becomes a generator of bodies. A plethora of theories aid my analysis: from Aristotle’s treatment of

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34 The critique of the retinal as a move toward not only the conceptual, but the nominal is advocated clearly in Thierry De Duve, Pictorial Niminalism: On Marcel Duchamp’s Passage from Painting to the Readymade, translated by Dana Polan (Minneapolis: University of Minnesota Press, 1991).
hearing in *De Anima*, through Denis Diderot’s concepts of sense deprivation and Étienne Bonnot de Condillac’s radical superiority of the senses, to Rancière’s heterogeneous sensory regimes.

**Becoming-music**

The prolific trajectories opened by new research of perception and hearing encourage me to place Nauman’s work in this realm of thought. In *Listen: A History of Our Ears*, Peter Szendy brings into consideration the transformation of bodies within musical experience. Music, according to Szendy, composes a body midway between the organic body and the instrument. In Nauman’s work, I suggest, the artist instrumentalizes his body to produce sound as well as become-sound. These hybrid formations are a becoming midway between the body’s finite limitations, its form, *morphe*, and the amorphous, ever expanding, resounding ground. Yet, caution is required when referring to the infinite re-sounding of sounds. I do not argue for an expanding, vibrating space taking place outside self but rather for an intimate re-sounding played between the ear hearing itself as it hears.

In accordance with the active participating body, the listener, argues Szendy, does not perceive sounds passively, for we reconfigure the given sounds and thus intervene in the work. This sonorous activity establishes two folds: a heterogeneous sonorous space moving towards the body, and an internal fold where we, the listeners, listen to ourselves listening. This is what Szendy calls a floating listening.\(^{35}\) Thus we may trace not only the

\(^{35}\) Peter Szendy, *Listen: A History of Our Ears*, translated by Charlotte Mandell (New York: Fordham University Press, 2008), 129. Interestingly, when writing about the pleats of matter in the Baroque, Deleuze refers to the idea of its endless connection to unlimited space in all directions at once as a “broad and floating world,” see Deleuze, “The New
sonority of the outside, but also an inner fold. However, in order for Szendy to provide listening with an active place, like Nauman, he takes music down from its distant pedestal and relocates it in the arena of the amateur’s ear. As a result we are given both the predicate and the nature of work as open and perpetually changing.

It is not surprising that the foreword to Szendy’s book was written by Nancy. Five years prior to the publication of *Listen*, Nancy provided us with his essay *Listening*. In this seminal piece he ponders: “Assuming that there is still sense in asking questions about limits… Is listening something of which philosophy is capable? Or—we’ll insist a little, despite everything, at the risk of exaggerating the point—hasn’t philosophy superimposed upon listening, beforehand and of necessity, or else substituted for listening, something else that might be more on the order of understanding?” Throughout his essay, Nancy calls attention to the tension between “listening” and “understanding,” between sense and truth. Nancy proposes visual sound as an enduring battlefield presented by entendre “to hear”—suggesting pure sonority—and comprendre, “to understand”—suggesting set topographies. Further, he proposes a separation of sense and sense (logic) as creation of meaning released from any a priori given. My research shows the specific connection to this shift, this rivalry of the visual and the sonorous, as an in-between ground that is generated as unique meaning, i.e., unusual milieu, self. I would suggest also that creating a sonorous body, a porous body, underscores the sonorous body as blind. It is only in loosening intentionality, within blindness, that intention may be acceded to, eliminated, and withdrawn.

*Nancy,* *Listening*, 1.

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In alignment with the thought of Nancy, the body may now be folded with edge and with meaning: “as if the sound was nothing else than this edge, this fringe, this margin,” he writes.\footnote{Nancy, \textit{Listening}, 7.} This is the key to opening up the system, since an edge as limit and liminal space is perpetually perceived as a place of referrals. Yet this is a very special kind of edge for it is no longer attuned to understanding, or to language, but spreads in space, resounding “in that between or antrum [\textit{entre ou antre}] of sound where it is what it is,” with itself and with others.\footnote{Nancy, \textit{Listening}, 15.}

\textbf{Minimal Scores and Post-Minimal Spaces}

The connections between sound and musical scores are entangled in complex relations and borders. How to define each? Where do they begin, or end? May we speak of beginning and ending in music only? As explored in the groundbreaking book \textit{Sound by Artists}, compiled by Dan Lander and Micah Lexier (1990), these kinds of questions were vital not only to the atonal composers and their minimalist predecessors but also to Nauman, whose familiarity with the works of Arnold Schönberg and Pierre Boulez are explored in my second and third chapters. In various interviews, Nauman reiterates the fundamental influence that John Cage, La Monte Young, Steve Riley, Philip Glass, and Steve Reich have on his work. These connections are explored within the historical formations and friendships established on the west coast of the United States, where Nauman met and collaborated with composers of the San Francisco Tape Music Center. Nauman was strongly influenced by Cage, Young, and Reich, reinterpreting their theoretical innovations as well as absorbing their procedural compositions into his own
work. Young’s *Composition 1960 #7* is echoed in Nauman’s *Raw Material with Continuous Shift: MMMMM* (1991), in which the artist rotates his head as he mimics a drone. Young’s desire to penetrate sound is, again, an attempt to posit the listener inside sound; no longer as the external listener perceiving a whole outlined scheme, but an opening of hearing as such, of resounding—an unmapped sound that is but a line constituted simultaneously by a 5th and the ear’s variations. “To be held for a long time,” writes Young, ensuring the listener the aperture and the time to enter the work, to adapt to its surroundings, and to differentiate variations from within its monotone ground. “Simultaneously,” John Cage remarked, “the attentive listener is struck by the simplicity of the action and the complexity of the sound.” Hearing becomes listening as it delineates a new territory that is not subordinate to any teleology, but to unanticipated trajectories inventing bodies. But how should we speak of the deterritorialized experience?

Deleuze and Guattari consider music as an open structure that permeates, and is permeated, by the world. The expansive, inherent quality of music adequate with their concept of the world as an open whole whose dimensions can never be given as such. This is music as a becoming, a creation of worlds. Again, caution is required. Whereas adequation may suggest a Pythagorean stance advocating for the unified harmony of a cosmic order, Deleuze and Guattari do not see the world and music as mechanical and mathematical, but as machinic and rhythmical. For them music is “the active, creative operation which consists of deterritorializing the refrain,” an expansive becoming wherein

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encounters generate the unpredictable.\textsuperscript{40} The refrain is a territorial assemblage, individuated and repeated constantly according to ammetrical rhythms of the incommensurable and the unequal.\textsuperscript{41}

**Time and Space**

Nauman’s early video pieces have a common ground—they all play with rhythm(s). Rhythm is a constituting key: it is relation, the in-between, difference as such. Rhythm also suggests we consider *self* as temporal becoming. As Nancy argues, “rhythm separates the succession of the linearity of the sequence or length of time; it bends time to give it to time itself, and it is in this way that it folds and unfolds a ‘self.’ If temporality is the dimension of the subject, this is because it defines the subject as what separates *itself*, not only from the other or from any external ‘there,’ but also from self.”\textsuperscript{42} Accordingly, differentiation folds place and space into the sonorous, in its temporal, unique re-sounding vibrations. Thus becoming-sonorous is becoming-subject. Deliberating sonic spaces and subjective formation, Deleuze and Guattari consider rhythm as separation and relation. They argue rhythm takes place between milieus, or between a milieu and chaos. Thus rhythm may be thought as edge and body at once. It may be a rhythmic pattern that stakes out a territory, while at the same time a differential force that pushes toward effacement. I suggest thinking of the chaotic unground as a beating multiplicity reverberating the dispersed, the vibrating porous body sensing the outside and itself through the separation of the senses.

\textsuperscript{40} Deleuze and Gauttari, *A Thousand Plateaus: Capitalism and Schizophrenia*, translated by Brian Massumi, (Minneapolis: University of Minnesota Press, 1987), 369.
\textsuperscript{42} Nancy, *Listening*, 17.
In considering Nauman’s early videos, in which he stomps around his studio using his body as an instrument to produce sound, I suggest that an intimate listening is territorializing spatial temporalities that are kept open specifically by spacing, that is, by syncopated rhythms. In music, syncope is often considered a disruption or dissonance: “The queen of rhythm, syncope is also the mother of dissonance; it is the source, in short, of a harmonious and productive discord... Attack and haven, collision; a fragment of the beat disappears, and from this disappearance a rhythm is born.”\footnote{Verena Andermatt Conley. “Foreword: East Meets West,” in Catherine Clément, \textit{Syncope}. Translated by Sally O’Driscoll and Deirdre M. Mahoney (Minneapolis: University of Minnesota Press, 1994), x.} The variations, produced by the irregularly spaced beats produced by Nauman’s accented and unstressed stomping, create syncopation that releases the rigid formulas from their finite, closed seriality—spacing inherently beats folds into unpredictable folds.

In an interview with Michele de Angelus (1980), Nauman related spatial relations, space and bodies:

I guess one of the more important parts of a lot of the work had to do with the difference between private space and public space, and how it’s psychologically different to be in a room with a bunch of people by yourself and find that – for instance, if you’re in a space and then other people enter, then your apprehension of the space changes, or the way you function in the space and how you locate yourself in the space, where you don’t know the people, all that kind of stuff. So that one of the main things that I had thought about was to deal with trying to find the edge, to enforce the tension between that sort of transformation, between your space and having to share it, socially or whatever.\footnote{Michele de Angelus, “Interview with Bruce Nauman,” May 27 and 30, 1980, \textit{Please Pay Attention Please: Bruce Nauman’s Words: Writings and Interviews}, edited by Janet Kraynak (Cambridge, MA: The MIT Press, 2003), 278.}

This “kind of stuff”: being-in-space, sharing, sensing the other, others, spacing, and becoming-sound, re-sounding, becoming-edge, becoming a porous body, an open body

\textsuperscript{44} Michele de Angelus, “Interview with Bruce Nauman,” May 27 and 30, 1980, \textit{Please Pay Attention Please: Bruce Nauman’s Words: Writings and Interviews}, edited by Janet Kraynak (Cambridge, MA: The MIT Press, 2003), 278.
among bodies, are the focus of my research. In the following section I outline my chapter divisions.

**Chapter Divisions**

The three chapters trace and contextualize the relations between the modernist hegemony of the visual and its interruption by sound. My contribution to the extensive literature on Nauman is to argue that his oeuvre should be included in contemporary sound art, and that this in turn is rooted in opposition to the modernist ocular regime as propelled by Descartes and Kant.

By contrasting the tight, almost synonymous, relations between knowing, thinking, seeing, and appearing that underlay artistic production in the eighteenth and nineteenth centuries with the contemporary twentieth and twenty-first century turn to the sonorous and the tactile, I argue that Nauman’s work is situated at, and explores, the limits of perception. My study reinterprets the work of this leading artist by showing how hearing sound and making sound overturn earlier philosophical ideas about perception that were entrenched in systems of signification and logic.

The first chapter, “Echotechnicity: From Mute Objects to Sonorous Bodies,” is dedicated to setting up the relations between an aggregated ground that considers a mutual primacy of the arts in several media (sculpture, painting, architecture, happenings, performance, sound, etc.) and the sensuous perceiving body. The latter offers ways to think through the five senses and their organic contraptions as discrete instruments understood with respect to art media. Composing a sonic history of Nauman’s work necessitates positioning him in his time, that is, the post-minimalist and post-
Greenbergian era. While Greenberg deemed opticality as essential to the art of the fifties and the sixties, and thus seems to have sealed off the possibility of including non-visual senses in the production and experience of painting, his theory regarding the essential criteria composing the differentiated media (sculpture, painting, and architecture) of the multiple-arts predicates an opening to art involving more than its traditional components. When modern art is thought through the Greenbergian preference of the optic, other arts and technologies, including sound, knock art off its pedestal. Thus, the first chapter sets up the open and multiple grounds of the echo-technological arts. The chapter ends with attention to the specific interaction between sight and sound in Nauman’s work as tracked through the work of American composers Morton Feldman and John Cage.

The second chapter, “Acéphal Topographies: The Production of Indeterminate Instruments,” focuses on the question of sight, or (to follow Nauman’s own proposition), on impeded sight and obstructed visual contraptions. Since 1968 Nauman’s corridor pieces have provided a foundational axis from which to explore his battle against the visual and his importation of the sonorous into his work. This move has a tremendous significance, for it pulls down the set form of signification variously found in Descartes’s conception of the function of the pineal gland and Kant’s a priori knowledge. I examine Gilles Deleuze’s interpretation of Pierre Boulez’s serial technique to differentiate the latter’s proposition of smooth and striated space/time. I further trace this fundamental shift to composition techniques found in Arnold Schoenberg’s atonal matrices, John Cage’s hexagrams, and Pierre Boulez’s serial grids. The chapter ends with Nauman’s establishment of listening as the primary constituent forming subjective space and time.
Thus, the second chapter establishes the sonorous ground for the third chapter, fully
dedicated to sound.

In the third chapter, “Topologies of the Interval; Touching Sound,” I am
called concerned with the challenge of placing Nauman’s sonorous productions within the
modernist discussions of the tense interrelations between reason and sensuous perception.
The connecting concept, tightly woven throughout Nauman’s work and accordingly
examined closely in this chapter, is the concept of the interval. What is an interval? How
is it used in systems of signification, and how does it play out in the delineation of a
world based on sensory experience? Predicating the formation of the modern subject on
the tension between the rationalists, mostly Descartes, and the empiricists, such as Locke
and Condillac, my reading centers on works that concern the practice, and sometimes the
derivation, of tactility, aurality, and visuality. Placing Nauman’s work in the
seventeenth-century discourse of perception is pertinent to the emergence of the
importance of sound culture, and art in general, as it weaves an unusual idiosyncrasy for
the modern subject. Moreover, this placement moves against the claim for visual
superiority in the field of the history of art, and allows us to trace the historical roots of
contemporary categories such as sound art.

With this dichotomy in mind, I return to Descartes’s first written work,
*Compendium on Music*, and take as its counterpoint Denis Diderot’s essay on the tactile
perception of the blind. I also turn to Étienne Bonnot de Condillac’s sensuous proposition
to stress the triumph of the sensual in Nauman’s work. Nauman’s performative acts, his
bodily productions, the instrumentalization of his body, and his sounding spaces, may
thus be woven into the rise of empiricist sensual perception; this is a subversive trajectory
within the modernist tradition, defying reason and its interlocutor, sight.

However, the interval does not pertain only to the history of ideas, for it was used and developed in music as well. Nauman’s work with audio-visual means expresses the influence of his contemporary musical milieu in San Francisco. Inspired by such fellow artists and composers as Philip Glass, Terry Riley, La Monte Young, Karlheinz Stockhausen, and the activities taking place at the newly established San Francisco Tape Music Center, Nauman’s trajectories reveal the rich communities of the Bay Area and their fundamental bearing on American art. One of the key figures through whom I track the work of Nauman in this chapter is Steve Reich. The influence of Reich reveals a rich and complex history of the artistic scene in San Francisco. Provoked by the crisis of war, the protests for human rights, and the Berkeley Riots, the Bay Area was imbued with anti-authoritarian activities that ranged from untying the rule of politics to forgetting traditional artistic means and searching for new ways of expression. Nauman’s turn to the sonorous in the 1960s, at the time of Marshall McLuhan’s call for the primacy of hearing and the production of sonic space predicated on tactile vibrations, is not accidental. I propose to understand Nauman’s destabilization of the tradition of Descartes’s sound maps by tracing a path though the nineteenth century: the physiological investigations of Hermann von Helmholtz, the emerging medical field of otology, and Christian Wolff and Wilhelm Wundt’s studies of sight and sound in the emerging field of psychology. The physiological investigation of the ear and hearing undermined the putative stability of schematically conceived harmony. I argue that the division of sight and hearing in Nauman’s work marks his own use of physiology to undermine “signification.” The world, perceived through unsympathetic sounds, reveals a
cracked unity that leads to the production of sonorous milieus in Nauman’s work. To support this I contextualize Nauman’s 1968–69 videos, in which rhythmical beat and harmonies emerge from his bodily stomping, heartbeat, and breathing, by referring to Deleuze’s conception of rhythmical bodies preceding signification that establish difference, the very basis of signification, through rhythmic patterns. Nauman’s use of sound is a decisive choice of an artist attempting to evade a formal discussion where the body ends up reproduced as an object of knowledge, for he is interested in generating a dynamic body as expression of meaning.
I didn’t know I was going to be an artist. When I went to school, I was first interested in physics, and then more interested in math and physics, and one thing that happened is that I could do the stuff, but I was around people who had a passion for math and physics that I didn’t have, and I saw that I wanted that. That I wanted to be able to do that and so I went over to the music department, but my music training had been playing the bass viol and playing classical guitar, and so, when I tried to get into the music theory classes, everybody played piano, so I had to teach myself to play the piano – and I didn’t like to practice, so… Anyway, one day I decided I could just be an artist and that would work. So I signed up over at the art department and that worked out ok. Art had a moral purpose I guess, and that was reinforced when I went to California, and that was very strong there.

The music was always there.

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Bruce Nauman with Meredith Monk, Kathy Hulbreich, and Neil Benezra

*Bruce Nauman: Panel Discussion*

4 October, 1994, tape recording, Walker Art Center Archives.
In an interview with Willoughby Sharp, in May of 1970, Bruce Nauman stressed the role our ears play in our perception. He was speaking about his corridor piece recently installed at the California San Jose State College, and stressing his interest in the physicality of the construction pressing on the sonorous organs.

Bruce Nauman: When the corridors had to do with sound damping, the wall relied on soundproofing material which altered the sound in the corridor and also caused pressure on your ears, which is what I was really interested in: pressure changes that occurred while you were passing by the material… as you walk in… the pressure increases quite a bit, it’s very claustrophobic…

Willoughby Sharp: Pressure is also felt on the spectator’s own body. Does that come from your ears?

BN: It has a lot to do with just your ears

WS: So space is felt with one’s ears?

BN: Yeah, that’s right.45

From Painting to Performance Sculpture

How is space felt with one’s ears? How does spatial pressure affect the way we perceive space with our ears? If we were to characterize Bruce Nauman’s oeuvre with some dysfunctioning of metric topographies, what role would the ears play in this abnormal functioning? Are the ears restricted to hearing, to listening, to mapping sound milieus by perceiving articulated signification that makes sense? Can the ear choose to be, or play a role as, a primary filter touching indistinct chatter, failing murmur? Or, perhaps our ears always function as a balanced double for making sense of coherent symmetry. Balance is a choreographed arrangement that incorporates various organs to

tell the body where and how it is in the world, in relation to its environment and to itself. But the ear is also multiple: the outer ear, the middle ear, the inner ear, tubes, tunnels, tissue. Each mechanism is an assemblage, connected by tunnels and gaps, inner organs, volumes, air-filled- and liquid-filled-spaces that echo sculpture in formed matter.

When Nauman began making art in the 1960s, museums, gallery spaces, and art schools were predominantly mute. Nauman reacted to this silence by sculpting ears and mimicking mute sculptural positions with his body. He was engaged with problems of perception and position of the body in space. The relation between the body and its surroundings, and Nauman’s approach to the sonorous within a preliminary ground of mixed media, is the focus of this chapter. Such plurality of technē is key to understanding how sound was brought into practice and display in the white gallery spaces. The importation of sound into the visual field reflects the interdisciplinary and hybrid nature of multimedia. It engages the subject through exploration and experimentation with the body in relation to an ever-expanding set of objects. These interactions mark the move from silent reflective viewing to an experimental experience that is set against the optical purity sought in satisfying the eye. Against this backdrop, Nauman’s artistic trajectories reveal peculiar formations of spaces employing sound, matter, and bodily gestures. Like many of his contemporaries looking to subvert the infrastructure of art’s compartmentalization in specific media, his turn to the sonorous—as sound and as bodily organ—aimed to pull down modernism’s hierarchical regime, as confined in the discrete disciplines of sculpture and painting propagated by Clement Greenberg.46

In 1965, more than a decade after Harold Rosenberg declared “new American painting is not ‘pure art’,” and proclaimed presentness of artistic action to be an open arena, Nauman, then an MFA student, focused on the problems of painting at University of California, Davis, and pushed past the boundaries of the performative and painterly gestures executed by Jackson Pollock’s movements around a flat canvas by substituting the painted surface with his own body.\textsuperscript{47} Thinking spatially and sculpturally, Nauman was experimenting with the relations between media, while adhering to the collapse of the illusionist support exhibited in the advent of installation and performance artworks. In a 1972 interview with Lorraine Sciarra, Nauman explained his 1965-6 fiberglass sculptures in terms of the relations between bodily positions and painting: “The early pieces were just shapes that came out of paintings. The paintings were kind of like West Coast free landscape paintings. The shapes were there and then I started to make the shapes stick out of the paintings. Then I stopped making the paintings altogether and just made the shapes” (figs. 9–13).\textsuperscript{48}

Hung on walls, flattened on the floor, or pressed in between surfaces, the fiberglass pieces marked a moment when sculpture overcame its perceived stasis via the dynamism and singularity of the performative act.\textsuperscript{49} These early pieces assumed their

\textsuperscript{49} The history of art reveals previous instances where sculpture overcame its inherent stasis: kinetic sculpture, and performative acts, seen in events such as Cabaret Voltaire in which Hugo Ball, dressed in his own design of mechanical-geometrical costume, utters the gibberish sound poem “Karawana” (1916). Unlike kinetic sculptures, which are literally movement-mechanisms, and unlike Ball who breaks into the plastic arts through his stylized suite, Nauman’s fiberglass sculpture are results of his own body’s movement,
form in relation to the walls and floor. In doing so, they succeeded in collapsing architectonic surfaces into sculpture. Thus, instead of expanding into installation, the bodily gestures suggested in these pieces stress inner movement as pushed against surfaces. These gestures articulate the in-between, the transversal, physical interval of the outside that runs from one to the other, separating and connecting. The physical intervals are singular volumes of becoming. Their unique formation separates them from their surroundings, while the surroundings register their imprint on the sculptures’ form. As corporeal intervals they assume their shape by their form of becoming in-between surfaces. They form in situ surfaces, but also in between the very discrete media that mark their limits.

Formed within the relations between media, these early works respond to Clement Greenberg’s ideas about purity and the autonomy of art. Whether embraced, critiqued, or rejected, Greenberg’s theories became a dominant discursive ground for many artists. Greenberg’s formulation of the discrete autonomous arts, fixed in their idiosyncratic technical nature, was key to the evolution of intermedia art. In “Modernist Painting” (1960), Greenberg constructed the material and technical categorization of the arts. This seminal text first appeared as a pamphlet in a series published by the *Voice of America*; it was broadcasted over the agency’s radio in the spring of 1960. By 1965 the essay was reprinted in *Art and Literature* in Paris, and then in *The New Art* anthology, edited by Gregory Battcock in 1966.\(^5\)Throughout the text Greenberg sought to identify in

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modernism “the intensification, almost the exacerbation, of [a] self-critical tendency…
[that] uses characteristic methods of the discipline to criticize the discipline itself, not in
order to subvert it but in order to entrench it more firmly in its area of competence.”51
Nauman, as we shall see, uses the characteristic methods of the art discipline to overturn
the Greenbergian account. Restricted to painting, sculpture, and architecture, Greenberg
proved self-criticism by defining art’s traditional media according to its sufficient
conditions. Hence, for example, painting was deemed as strictly optical, and separated
from the other arts by its flat surface, the shape of the support, and the properties of the
pigment.

What had to be exhibited was not only that which was unique and
irreducible in art in general, but also that which was unique and
irreducible in each particular art. Each art had to determine, through its
own operations and works, the effects exclusive to itself. By doing so it
would, to be sure, narrow its area of competence, but at the same time it
would make its possession of that area all the more certain… It quickly
emerged that the unique and proper idea of competence of each art
coincided with all that was unique in the nature of its medium… Thus
would each art be rendered “pure,” and in its “purity” find the guarantee of
its standard of quality as well as of its independence.52

Discarding Greenberg’s teleology, I suggest the separated art domains allowed for
the importation of new media, including sound, into the visual realm. Working inter-
media, that is, between media, provided the ground for Nauman’s distinctive fiberglass
performance-sculpture. Only by predicating the Greenbergian extremity of media
isolation did the possibility of questioning and traversing sculptural and painterly limits
yield the interplay that ended in their annihilation. Greenberg’s entrenched definitions
marked the contours of differentiating media that, in turn, yielded the segregated grounds

51 Clement Greenberg, “Modernist Painting,” 85.
52 Ibid., 86-87.
of a specific modernist discourse of abstraction. The widespread experimentation with new, synthetic materials at this time was part of this movement away from Greenberg’s many restrictions expressed in the transgressive forces of (mix-) and (inter-)reversals emerging from media’s confining tissues.

In 1964, a year prior to Nauman’s fiberglass sculptures, and at the height of minimalism, Donald Judd countered Greenbergian modernism by opposing positive dialectics in the course of calling for three-dimensional work. A peculiar formation was generated in between the neglected illusionism of painting and sculpture: three-dimensional work marked the now, being here. If “the essence of modernism lies,” as Greenberg saw it, “in the use of characteristic methods of a discipline to criticize the discipline itself,” his trajectory sought to “elevate” art to the rule of logic. “Kant used logic to establish the limits of logic, and while he withdrew much from his old jurisdiction, logic was made all the more secure in what there remained to it,” he wrote. Following Kant’s transcendental philosophy, Greenberg wanted to secure the arts in their independent domains. And yet, artistic practice did not adhere to logic, and Judd’s insistence on presentness did not accept Greenberg’s autonomous production as it was embedded in the latter’s own interpretation of Kantian self-criticism.

Opposing such transcendentalism, the opening to Judd’s influential essay “Specific Objects” positioned the new 3D works as transgressing artistic limits: “Half or more of the best new work in the last few years has been neither painting nor sculpture,” wrote Judd, “usually it has been related, closely or distantly, to one or the other.”

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predicating the technological limits of painting and sculpture while resisting them, Judd’s new 3D works were now present, in-the-world, and the old artistic regimes (yielding to transcendental temptations) were to be abandoned. Greenberg’s methodology of self-entrenchment, defining the limits of each medium, resulted in Judd’s search for an art practice set between painting and sculpture, and the evolution of art as aggregated media. While for Greenberg the separation of the arts predicated a unified logic, or a common ground, Judd’s dismissal of this common ground, and his desire to annihilate the (re-) in representation, proved to yield aggregated media through transgression of the old categories. This move, as we shall see later, provided the possibility to introduce other media, including sound, into the plastic arts.

This kind of introduction was hardly new, and without regressing into the theatricality of a Wagnerian Gesamtkunstwerk, a few modernist precedents that are closer to our examination of the tripartite relation between sound, painting, and the body, such as Kandinsky’s synesthetic Yellow Sound (1909), Kurt Schwitters’ Ursonate (1922-23), and Mondrian’s Boogie-Woogie (1940), have all been considered deviations, brilliant departures from considerations of plastic formalism. Constructing a history that takes into account the plurality of media, Caroline Jones, in Eyesight Alone: Clement Greenberg’s Modernism and the Bureaucratization of the Senses, showed how modernism’s ocular preference fails Greenberg’s reading of Boogie-Woogie. Jones asserts that the modernist demand to separate hearing (the sounds of jazz demarcating the geometrical scheme in Mondrian) from seeing, was subjugated to the mid-nineteenth century’s order for formal abatement under “visual logic.” This formal sway was contingent on sensory segmentation and disembodied sound. Accordingly, “‘pure’ painting [was] the leitmotif
of high culture,” and “‘pure’ audio became fetishized in turn.” Recruiting this channeling of Greenberg’s proposition of discrete media intensifies the aggregated body, but leaves us with the scrutiny of the unifying mechanism overweighing its own heterogeneity by ordinate ocularity. A Foucauldian trajectory sets up seeing (sense) and visuality (imposing unified logical sense) as transcending forces. This query of transcended—and, as we shall see later, Nauman positions us amid transcendences—loops us back to Nauman’s reliance on Judd’s questioning of a priori mechanisms for intermedia. Yet, before we proceed, we must explore the move from transcendence to transcendences, from dialectics to connecting intervals.

Donald Judd’s seminal call for presence, for immanence, by discarding all notions of a priori settings, was axiomatic for Nauman’s procedures. Judd wrote:

I discarded ‘order’ and ‘structure’. Both words imply that something is formed. Material, area, volume, space or color are ordered or structured. This separation of means and structure – the world and order – is one of the main aspects of European or Western art and also of most older, reputedly civilized art.... Order underlies, overlies, is within, above, below or beyond everything. I wanted work that didn’t involve incredible assumptions about everything... I did not want work that was general or universal... A shape, a volume, a color, a surface is something itself. It shouldn’t be concealed as part of a fairly different whole... One of four boxes in a row, any single thing or such a series, is local order, just an arrangement, barely an arrangement at all.

Examining Judd’s work in retrospect, we see that his work differed from his writing. His 3D pieces were still attached to ideality via the mathematical progressive ground repeated in his serial sculpture and complete shapes. The artist’s hand removed

55 I shall return to the senses, and nothing but the senses, including Jones’ commentaries, in the second chapter. Caroline A. Jones, Eyesight Alone: Clement Greenberg’s Modernism and the Bureaucratization of the Senses (Chicago and London: The University of Chicago Press, 2005), 408.
from the final product adds to their sense of the ideal, and the smoothness of their surfaces and the polished joints wield Platonic ideal geometry.⁵⁷ Taking on Judd’s minimalist principles, and differing from the long history of frozen sculptures, Nauman’s concern with presentness rejected the unsoiled forms of minimalism and their ideal deportment.

And yet, there was still a need to apply Judd’s proposition in presentness. One of the solutions Nauman proposed to this problem was to turn to performance. At the time, many artists working in the San Francisco Bay Area and New York were already exploring the relation between subject and object while attempting to overcome the stasis and the teleological results of representation. Ann Halprin, Simone Forti, Bob Morris, Yvonne Rainer, La Monte Young and many more worked in the Bay Area from the 1950s. Some, like Morris and Forti, moved to New York in 1961 and joined the explorations of the limits of bodies and traditional categories alongside Brown, Lucinda Childs, Carolee Schneemann, Meredith Monk and others at the Judson Dance Theater. Using his own body as the subject of investigation, Nauman was able to reject the dialectical dichotomy through corporeal engagement, and thus overcome a priori transcendentalism. He moved from ‘re-presenting’ a central image, or concept, to

⁵⁷ One may think of Rosalind Krauss’s consideration of Constantin Brancusi’s The Beginning of the World (1924) in Passages of Modern Art. Here, she detects “something one might call the deflection of an ideal geometry,” and contemplates how Brancusi’s smooth egg-shaped head, posed on its side in a circular metal disk, differs from ideality by Brancusi’s choice of placement. For her, the play of difference between the head and its support shows the specific way in which matter is inserted into the world. However, both Krauss’s effort, ensnared as it is within Platonic terminology, and the title of the work rendering origin, makes me speculate whether there may be a gap between the interpretive results, the interpretive trajectory, and the sculpture at hand. Similarly, I note a disagreement between Judd’s writing and his 3D works. See Rosalind Krauss, Passages in Modern Sculpture (Cambridge, MA, and London: MIT Press, 1981), 84-88.
situating his own body on the margins. The locus of his work touched upon surfaces, thus
emphasizing the connection between periphery and the distance of the outside as place of
creative formation. He also rejected pedagogical art class instructions that called for
positioning a group of students in a circle all drawing a model in the middle.\(^\text{58}\) Such
positions were discarded as the artist worked alone in his studio using his body as living
sculpture or template. In a work dated to 1965, and now lost, he posed in four varying
stances relative to the wall. Nauman described the piece: “I did a piece that involved
standing with my back to the wall for about forty-five seconds or a minute, leaning out
from the wall, then bending at the waist, squatting, sitting, and finally lying down. There
were seven different positions in relationship to the wall and floor. Then I did a whole
sequence again standing away from the wall, facing the wall, then facing left and facing
right. There were twenty-eight positions and the whole presentation lasted for about half
an hour.”\(^\text{59}\) In the same year, in *Manipulating a Fluorescent Tube*, Nauman undermined
minimalist ideology by dislocating Dan Flavin’s fluorescent installations and putting
them into motion relative to his body. “I was using my body as one element and the light
as another,” said Nauman, “treating them as equivalent and just making shapes.”\(^\text{60}\)
Nauman used the fluorescent tube as an object to be played with, an equal element to his
own body in a dynamic composition. At this very early stage in his career Nauman
succeeded in leveling out the relations between subject and object, while emphasizing the

\(^{58}\) Painter Frank Owen remembers Nauman saying that one day he had a revelation—that
it didn’t make sense for students to sit in a circle all drawing a model in the middle. See
Constance M. Lewallen, “A Rose Has No Teeth,” in *A Rose Has No Teeth: Bruce
Nauman in the 1960s* (California: University of California, Berkeley Art Museum and
Pacific Film Archive, January 17-April 15, 2007), exhibition catalogue, 16.

\(^{59}\) Willoughby Sharp, “Nauman Interview,” *Arts Magazine* (March 1970). See also
Lewallen, “A Rose Has No Teeth,” 16.

\(^{60}\) Ibid.
The constitutive character of their interrelations: “Now I wasn’t just making shapes to look at,” said Nauman, “by saying ‘these are templates of my body,’ I gave them reason enough for their existence.”  

**The Techné of Bodies**

In removing the canvas that lay beneath Jackson Pollock’s bodily gestures, or the later canvases of Yves Klein, Nauman generated his new artistic arena from his own body. The painterly arena was now an open abstract space created by the artist’s bodily gestures, and given equal value as the contiguous physical architecture, the spectator, and surrounding conditions. With this complex move, Nauman replaced the ground of the image with the spatial conditions dictated by the studio’s architecture, while confronting the viewer with nothing but the singular performative registers produced in their singular shared space. In this genealogy, Michael Fried’s “theatricality” was actualized against discrete media (architecture, painting, sculpture), and accorded well with Donald Judd’s canonized battle with problems of the outside and their transcendent nature.

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64 Confronting Michael Fried’s negative critique of the theatrical nature of minimal art—or literal art as Fried preferred calling it in “Art and Objecthood“ (1967)—French art critic Nicholas Bourriaud discussed the relationality of the body in a post-feminist stance as “a set of artistic practices which take as their theoretical and practical point of departure the whole of human relations and their social context, rather than an independent and private space.” In this respect Bourriaud returns to Rosenberg’s arena, while expanding it to the inter-subjective realm. This expansion forgets the art media ground—whether discrete and autonomous or merged with installations—and marks the evolution of a groundless practice. Fried senses this forgetfulness when he replaces intermedia with Tony Smith’s topographical description of a car ride taken at night on the
Challenging the autonomous domains of artistic media, Nauman changed the very ontological structure of arts’ visible display in discrete media, while manipulating the intermedia relations to open up gaps that could be occupied by the body. One can say that artistic modes of display that function as supplementary spaces subjugated to the medium’s regime—places in which autonomy and unity take hold—were continually countered; they became transcendent to formatting bodies. They were the milieu in which Nauman’s procedures appeared. In fact, their appearance was contingent on their resistance to their milieu, to what Michel Foucault calls the outside:

…resistance comes first, and resistance remains superior to the forces of the process; power relations are obliged to change with the resistance. So I think resistance is the main word, the key word, in this dynamic.65

But how are we to describe the outside? Did Nauman merely resist the modes of display, or, if we stretch this thought, do modes of display exposed in the same manner as media’s discrete technicities result in the instrumentality of both? Nauman’s description of his bodily gestural sculptures evolving out of painting, and his incorporation of performative innovations, as influenced by Robert Morris, Yvonne Rainer, Meredith Monk, and others, suggest resistance to techné, that is, to the technological means of discrete media. In Why are There Several Arts and Not Just One? Jean Luc Nancy

New Jersey Turnpike. However, Fried, the art critic, could not fully forget painting, for he wrote: “What seems to have been revealed to Smith that night was the pictorial nature of painting - - even, one might say, the conventional nature of art. And this Smith seems to have understood not as laying bare the essence of art, but as announcing its end.” See Michael Fried, “Art and Objecthood,” 1976, and Nicolas Bourriaud, Relational Aesthetics, translated by Simon Pleasance, Froza Woods and Mathieu Copeland (Dijon: Les Presses du réel, 2002), 113.

accounts for how technology can make ontology. Nancy begins his argument with the myth of an outside force, the force of inspiration, the force of the Muses. The muses are always several, he reminds us; they animate, excite, arouse, they keep a forceful watch over form. They are always plural: the forces, the forms. This multiple origin is expressed in plurality itself, and it lends itself to several arts. History, claims Nancy, submits this multiplicity not merely to classification and hierarchy, but also to what is included in the aggregate we call art. Nancy’s task is to expose the singular plural of the arts by ungrounding all notions of unified ground and exposing plurality. To this end, Nancy engages Theodor Adorno’s assertion that art contains arts—various media, or technologies—that are always multiple expressions. Adorno, in turn, uses Paul Valéry to present the quandary of art as ground for arts:

As Valéry realized, most works of art fall short of coinciding with a generic concept of art… Supreme works are as a rule something less than pure art. They tend to contain an extra-artistic surplus, especially in the form of crude materiality, which works against the demand of immanent composition. Once the ideal of artistic production has become that of immanent elaboration bereft of any support… there is obviously no use trying to re-introduce impurities of this kind by decree. The crisis of the pure work of art… cannot be resolved simply by giving oneself over to extra-artistic materiality.

…The antinomy of pure versus impure art is part of a larger problem, which is that art is not a generic concept for the various types of species of art. These types are both specific unto themselves and related with each other… What needs to be done instead is to analyse what desubstantialization of art means concretely. Such an approach would put art into contact with the dialectic of the outside world. The above-quoted question, posed ad nauseam by traditionalists, seeks to put obstacles in the way of the free movement of discrete moments (which is what art is all about). At the present time art is most lively precisely when it subverts the validity of its generic concept. Then again, this subversion is nothing new

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but a familiar theme in art history: there has always been a tendency to break the taboo of impure or hybrid types.\textsuperscript{67}

Adorno recognizes a crisis in the pure work of art, and produces a relative autonomy that wants to hold both ends: purity and social engagement. Adorno concedes that the move into immanence entails a lost ground that changes the nature of the debate concerning purity/impurity. In this groundless scheme, art—and perhaps we should denote it as Art—is not generic to the different arts. Thus, the meta-concept of Art is disconnected from the arts, and further posed on a shared plane. Adorno praises the arts that subvert Art. For him, the break with unity marks a momentous, vital battle. The multiple divisions of Art into the arts as well as the latter’s further division is expressed in its own plurality of media. In these divisions Nancy finds the postmodern seeds for deconstruction: the first is annihilating the generic origin, while the second is operating Adorno’s description of the free movement of discrete moments under the scrutiny of transgression. While for Adorno, free movement works against a unified ground, in which unexpected movement of domains shift the way we perceive the world; Nancy aims at a different end. For Nancy, discreteness allows emphasis on transgression \textit{in between} domains. Adorno’s external point of view looking \textit{at} this dialectical movement is toppled by Nancy positioning us \textit{in} between the arts: we are no longer looking at this movement; \textit{we are movement}. The Muses are dodged in favor of the interval.

Placed amidst the arts, “There is no ‘Art’ in general,” Nancy reiterates in \textit{The Sense of the World}, “each one indicates the threshold by being itself also the threshold of

another art.” We may deduce that there is no essence of art. In fact, Nancy argues that art oversteps its own discreteness into an expanse of multiplicity, what he calls, *partes extra partes*. For Nancy, “parts outside parts” mark the world as multiplicity. In this way we can think of Nauman’s fiberglass formations and bodily poses as the in-between expressions of touching surfaces (we will return to this, and nothing but this), an assemblage constituted of thresholds affecting thresholds. Thinking through Hegel’s irreducible dialectics of “the purely external reality” and the “particular arts,” Nancy fragments Hegel’s ever-expanding Idealism into solitary substances. In this respect, we may return to Clement Greenberg’s proposition of discrete media as it resonates in Hegel, and it may serve us well to understand the relation between fragmentation (predicating a ground) and dispersion (rejecting the concept of ground). Predicating the dispersed, for Nancy, “the ideal is now resolved into its factors or moments and gives them independent subsistence… because it is precisely the art forms themselves which acquire their determinate existence through the particular arts.” Nancy overturns the Hegelian teleology. No longer the primacy of the Ideal, multiplicity is the generic force of bodies neighboring bodies. “No bodies produced by the autoproduction of the spirit and its reproduction,” writes Nancy in *Techné of Bodies*, “which, at any rate, can produce only a single body, a single visible image of the invisible.” Instead, “‘Creation’ is the *techné* of

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bodies… Our world is the world of the ‘technical,’ a world whose cosmos, nature, gods, entire system is, in its inner joints, exposed as ‘technical’: the world as echotechnical.”\(^{71}\)

**Echoing my Neighbor**

Nauman’s resistance to the limits of media continuously involving the body, his body, our bodies, in presence, or in withdrawal, generates new forms through the relations of *techné*. He uses pressure to create forms and forges relations between sight and sound to mark the limits of bodies. Such interactive bodies echo in Don Ihde’s post-phenomenological technological embodiment, which both constitutes and is constituted by technology.\(^{72}\) Dated 1966, both Nauman’s *Neon Templates of the Left Half of My Body Taken at Ten Inch Intervals* and his *Bronze Cast Based on Neon Templates* (figs. 14,15) are results of technological echoes. They express the interplay of the artist’s bodily limits, its resonating contour, and two-dimensional volumes. *Neon Templates* is a wall piece incorporating seven green neon arcs that reflect the left half of the artist’s body. Connected by a closed electric circuit the arcs sound their circulating electricity. The neon arcs are displayed vertically as piled-up segments, and subside into a transitory template of the body as the portrait of the artist is absent and present at once. The work vacillates between an ocular aesthetic that lures us back to the ideal proportions embedded in Plato’s musical cosmology, and the Greeks’ division of the human body into seven heads. *Neon Templates* is an auditory self-portrait of corporeal reverberations

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\(^{71}\) Ibid., 89.

\(^{72}\) Don Ihde, *Bodies in technology* (Minneapolis: Minnesota University Press, 2002).
marking its limits.\textsuperscript{73} Two additional works from the same year reiterate Nauman’s preoccupation with sound ambience and Greek aesthetics: the first is a sketch presenting the artist’s study of ideal measures (fig. 16), and the second, \textit{My Last Name Exaggerated Fourteen Times Vertically} (fig. 17, 1967), is a neon piece of the artist’s signature stretching the vocal recording of his name like a seismograph, extended vertically by a multiple of seven.\textsuperscript{74} What subsides the withdrawal from ocularity (forcing and subjugating mechanisms), are the sonorous vibrations (in signature and in repetitive cyclic reverb) that register their movement by spacing their own sonority in the image of the artist’s fixed plasticity.

An amalgamation of the Greek formula reappears in \textit{Bronze Cast}. An elongated echo of \textit{Neon Templates}, \textit{Bronze Cast} hints at the seven classical inter-divisions with its raw joints. The two pieces of art differ in material, volume, and composition. \textit{Neon Templates}, as the title suggests, is a collection composed of seven different neon tubes, spaced by gaps, while \textit{Bronze Cast} is an uninterrupted volume that, by its very rawness, suggests a fragment, a particular. The horizontal seam lines that are dividing the volume register ideal and classical proportions that prevent the particular from being itself. However, the same division works against the geometrical measures of imposed aesthetic by emanating the murmurs of the electric circuit. These undertones permeate the very physical structure of \textit{Neon Templates} and embody the internal reverbs of Nauman’s unique and singular body. The portrait of the artist imprints its face in-between its particular repeating reverbs and classic, forced aesthetic.

\textsuperscript{74} \textit{Bruce Nauman}, edited by Joan Simon (MN: Walker Art Center, 1994), 214.
External and internal forces of technicity dictate internal divisions; they dictate form. Now, we must seek the image between sound and vision, presence and absence. Technological embodiment, Ihde reminds us, allows us to come up against our perceptual limits. Ihde suggests embodiment in-between technicities, where perception is situated in between experiential horizons and is coming up against auto-perceptual limits. Yet, asks Ihde, how may these boundaries appear to perceptual limits? And how may we consider the tangible relations between technical embodiment (or media) and perceptual limits? Ihde’s solution resides in technological and instrumental mediation. At this point Ihde meets Nancy, in the spacing where our singular-plural horizon is exposed. This exposition takes place in between media. For Ihde, as for Caroline Jones, perception is channeled from one dimension, from one sense, to another. I will argue that in Nauman’s artistic practice sensual perception manifests in media as well. Ihde stresses the idea that this aggregated channeling keeps the body’s experience of the immediate environment as continuous; as a result, we can now see how plurality makes bodies sporadically aggregated centers, even when constituted in between one another.

*Neon Templates* adheres unfailingly to this inter-perceptia in partes extra partes, with an absent body traced by a reverberating visual shell. It is the articulation of ancient aesthetic in reverb. In his later work Nauman employs the aforementioned visual tactics to sound imagery that escapes its own face in order to produce the image in between ordinate systems. Thus, the image produced intermedia appears in the dynamic locale of spacing where the only place for the image is in its retreat. In *Platform Made up of the Space Between Two Rectilinear Boxes on the Floor* (1966), Nauman forces ordinate

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geometry to retreat by sculpting the threshold of two three-dimensional squares. The negative interval is formed in matter; it assumes its face where thought equalizes becoming-image with becoming-retreat. This is a retreat from a coherent locale, taking place in between bodies as Nancy writes:

The empty place of the absent as a place that is not empty: that is the image. A place that is not empty does not mean a place that has been filled: it means the place of the image, that is, in the end, the image as place, and a singular place for what has no place here: the place of a displacement, a metaphor – and here we are again. The image calls out: “Make way! [Place!] Make way for displacement, make way for transport!”

In explaining the work of the echotechnical Nancy writes explicitly: “The echotechnical functions with the technical apparatuses, to which our every part is connected. But what it makes are our bodies, which it brings into the world and links to the system, thereby creating our bodies as more visible, more proliferating, more polymorphic, more compressed, more ‘amassed’ and ‘zoned’ than ever before.” In this fashion we may see Nauman’s body templates echoed in neon, between contingent surfaces and methods of Greek aesthetics. The tension between the trace left by the absent body and its internal division trapped in the cradle of Western art—the classical Greek proportions—is in constant regression. The echotechnical generates bodies in two correlating ways: first, through the projection of linear histories and final ends which are the work of dominant apparatuses, such as the Greek, that have formed through history and forcefully imprinted themselves on the particular. Second, the echotechnical generates bodies by “linking and connecting up bodies, placing them at sites of

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77 Nancy, “Techné of Bodies,” 89.
intersections, interfaces, and interactions.” This crossbreeding yields in proximity of bodies, traditions, and media—all are considered to be in *techné*. “In sum,” writes Nancy, “we’re in the *techné* of the neighbor.”

In this crowded expanse of neighboring and discrete arts, of bodies, media touch. The discrete arts approach each other in similarity and divergence. They advance in mimicry and difference. Here, Greenberg’s insistence on the self-sufficiency inherent in each medium impedes its own *telos* as it folds back on the unique characteristics he defined. Greenberg’s entrenchment not only paved the way for intermedia and mixed media, but also for making technology into ontology, and allowing the incorporation of new and other media into the expanded field.

An image is now contingent on interaction, on the intimate relations of its neighbors, of touching and spacing. And in Nauman’s work this move manifests in the proximity of the tangible image and the reverberation of sound, in the touching of media: sculpture, sound, architecture, and the body. In the mid 1960s, Nauman’s approach to mixed-media, and the substitution of the static sculpture with the dynamic body, was growing on fertile ground. The echotechnical intertwined the body and media and rendered them equals. This leveling out makes clear the operation and nature of the echotechnical, which is now understood as overcoming oppressing unity and allowing various forces to outline and efface images simultaneously. Now the expanded field has

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78 Ibid.
79 Ibid., 91.
opened up into what Umberto Eco termed *open work*, or what Nancy calls the problem of “art,” the *singular plural*.  

In these proximities, when considering Nauman’s exposure to his contemporaries, I will present three historical archives that exemplify such echotechnicity: the collaborations and cross-media procedures executed at the Judson Theater in New York; Nauman’s contemporary artistic milieu in the San Francisco Bay Area; and the dissemination of the first 3D art magazine, *Aspen*. These echotechnical archives are flexible local(e)s; they are time capsules that allow my subjective historical intervention.  

*Aspen* serves as our primary, and therefore vital, physical place permeated by a conceptual frame; the Judson Theater’s archives are concrete collections of secondary documentation of intellectual material; the SF Bay Area is an historical-imaginary collective. Through their aggregated nature and anticipation to present stored, and accumulated times (simultaneously re-presenting—as echo—and presenting as they are the closest to primary presentness), they drift, changing their nature according to their relational locale and *re-vision*. However, all three archives are to be considered on a common historical plane—our fabricated memories of the mid 1960s. In what follows I will concentrate on *Aspen* as it reflects intermedia approaches and rejection of signification.

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80 Eco’s open work rejects the definitive and multiplies the formal possibilities of the distribution of their elements. It does so by considering all neighboring components, including the body while he/she experiences them. See Umberto Eco, *The Open Work* (1962), translated by Anna Cangogni (Cambridge, MA: Harvard University Press, 1989), 3.

81 For the magazine as time capsule that sifts and sorts information, see Stephen Perkins, “Boxed up: time capsules, archives, and magazines,” *Afterimage*, 35.5 (March/April, 2008), 7-8.
While in all three locales the subject/object dichotomy collapses into the interchangeability of bodies and media, I wish to concentrate on three-dimensionality and the introduction of sound, as it pertains to Nauman’s “hearing” and the production of sonorous bodies since 1967. In all three archives we will see the strong resistance to traditional and immediate media, and adaptation of distant interdisciplinary media, that dis-considers (a conscious and active reconsideration) traditional hierarchies and taboos (what to do or not to do in each medium) to result in open hybrid formations. No longer relying on a priori rules, the new artistic procedures evolve out of individual actions and the proximities of neighbors. Thus signification and the embodiment of sense (logos) are abandoned in favor of non-sense and sense\(^82\), now produced with-in (with, in, and through) bodies. The latter contingent traits manifest in Nauman’s work insistently, and specifically pertain to his use of sound and music in cooperation with volume and space, with sculpture and the body.

**Nauman and Instructive Scores**

Nauman was exposed to music throughout his childhood. Robert C. Morgan accounts for the artist playing bass with jazz combos, studio classical guitar, and piano during his early days at the University of Wisconsin where he was studying music theory and mathematics.\(^83\) His clear, structurally-orientated approach to music later grew into

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\(^82\) Sense is a key term in Nancy’s thinking. The plurality of meaning embedded in sense will be traced in detail in the second chapter, specifically as it pertains to the tension between sensing (bodily sensuous perception) and sense (logic, signification).

his investigation of Arnold Schönberg’s concept of 12-tone composition, and later John Cage’s immanent indeterminacies. Two of Nauman’s earliest pieces incorporating music are sketches entitled Love Me Tender, Move Te Lender and Cry to me, Cry to me (fig. 18, 1966). Both provide a platform for language games and formal transformations that foreshadow his later instructional scores. Love Me Tender considers Elvis Presley’s song as a language game template, a source of individual letters that when put into movement under the strict instruction of dislocating the first letter of each word clockwise, end up in nonsense; a modus operandi that keeps indeterminacy by decapitating its own head continuously. Interestingly, Nauman seems not merely to reposition letters, but also to consider the forceful relations of each letter’s linear composition. The first letter of the word “Love” – L – is decomposed into horizontal and vertical lines with the artist stressing their potent geometrical relations with arrows. A small arrow pointing left pushes the vertical upwards, while the arrow pointing downwards to the right presses the horizontal. Nauman broke down the depiction of the capital letters into linear components; his exposition of their juxtaposed relations work similarly to the fiberglass pieces in forcing them against the wall and floor. The difference lies within the problems posed in each work. While the fiberglass pieces were results of the artist’s body positions in relation to the given architecture, exposing the geometrical joints of capital letters results in dislocation and a disintegrating system—a failing language. The following letters “M” and “T” are broken down in the same manner to expose the transformative act as a play of signifiers that takes into account spatial forces. Here, we may ask whether Nauman’s shared tactic—in the body pieces as well as language games—does not pull
down language’s representational podium into the neighboring arts, into the shared plane
of the echotechnical.

The second piece, preserved as a drawing, reads as sculptural instructions:

Cry to me, cry to me, yellow neon at bottom pile of felt
pads with letters cut out – neon light at bottom; if pad is say
5’ or 6’ square, can’t see light at bottom except what light
shining up from the holes – (could be lead rather than felt);
need 7” of felt, 5/16” per layer, say 22 layers; if 6 sq. cost
$8 for 9 x 12, or $4 per layer, cost $88 for sufficient felt.84

The instructions of *Cry to me, Cry to me* fuse Joseph Beuys’ material innovations
and Ludwig Wittgenstein’s influence into what seems like a rock and roll lyric.

Recognizing the musical derivations of these works, Coosje van Bruggen emphasized
Nauman’s choice to infuse his work with whatever influences were around. His
propositions are created intermedia, importing untraditional means into hybrid
aggregates. Nauman recalled a sculptor defending her right to use bread as a material:
“this confirmed to me that I could use anything I wanted, whatever was around.”85 For
Nauman, it seems, various materials, as well as different signifying systems, could be
worked with in equal value. Nauman had read Wittgenstein’s treatises, and like the
philosopher and his language games he constantly examined the proximities and limits of
language and objects.86 He posed questions executed as actions, and documented all his

84 Coosje van Bruggen, “Sounddance,” 54.
85 Ibid.
86 Numerous essays concentrate on the semiotic ground, to mention but a few, prominent
eamples see: Vincent Labaume, “Bruce Nauman: Are You Roman or *Italic,*” *Bruce
Nauman* (London: Hayward Gallery, 1988), exhibition catalogue, 34-49; Coosje van
Bruce Nauman (Minneapolis: Walker Art Center, 1994), exhibition catalogue and
catalogue raisonné, 47-66; Johanna Drucker, “Procedures Prefomed and Executed,”
Bruce Nauman: Make Me Think Me (Liverpool: Tate Liverpool, 2006), exhibition
inquiries, both the ones that yielded results and the ones that ended in failure. He overlapped, wove together, examined, and dismantled many different hierarchies, including the English language and musical notations.

Aspen: The Magazine as Medium

The attempt to overcome signification and representation was pertinent not only to artists, but also to editors. Between 1965 and 1971 Phyllis Johnson edited the first 3D art magazine called *Aspen*. This unique publication avoided the very essence of representation by discarding art criticism. Differing from regular paper-bound journals, *Aspen* was a multimedia aggregate filled with art works, including 8-millimeter films, concrete poetry, flexidisc records, posters, and “Do It Yourself” minimalist sculptures. *Aspen* was a composed object, a disseminated box. An ad published in the *New York Times* on October 1967 (fig. 19) declared: “ASPEN is the first truly new idea in publishing since paperback. It is pioneering a revolutionary magazine format: a slender, sturdy 3-dimensional box filled to all its dimensions with a wealth of reading and hearing and touching and moving and thinking matter.” And indeed, *Aspen*’s multimedia and multi-sensual objects appealed to an open platform that fast became a haven for experimental art and literature. An eclectic collection, contingent on various works in different media, the magazine echoed collaborative work and intermedia artistic production to introduce new types of mobility and expansiveness.

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In the editor’s note to the first volume, Johnson delineated her aspiration: “In calling it a ‘magazine,’ we are harking back to the original meaning of the word as a ‘storehouse, a cache, a ship laden with stores.’” The anti-authoritarian political stance resounding in Johnson’s multiple-spaced nautical vessel reminds me of Michel Foucault’s drifting ship across heterotopic vastness. It accumulates its shape in the dispersed pieces compiling the unbound magazine, while producing new spaces through its movement. The magazine’s body, which aspired to be a constitutive vibrant accumulation of many authors, introduced the first English version of Ronald Barthes’ “The Death of the Author” in volume 5/6 of 1967. This dynamic folding of dispersed and neighboring formations was disseminated as an interactive object, and presented a format for interweaving different media, including sound, in a shared space.

**Improvisation and Process**

Alongside visual art and literature, *Aspen* featured sound scores and musical tracks throughout all its ten volumes. Spoken word recordings by Marcel Duchamp, Naum Gabo, Merce Cunningham, Alain Robbe-Grillet, Samuel Beckett, and many more captured the voices of authors reading their work. Electronic music featured Mario Davidovsky’s “In Memoria Edgar Varèse,” an homage to the inventor of organized sound, Gordon Mumma’s electronic chance operations, and compositions by John Cage Maciunas in autumn 1964, was the first “organized” crate to replace the traditional art’s magazine, however, this amalgam was fastened together with bolts and therefore does not escape the book format. See Ken Allen, “Conceptual Art Magazine Projects and their Precedents,” PhD Diss., University of Toronto, 2004, 51.

and John Cale and La Monte Young. Classical musicians, such as Alexander Scriabin, were also featured; their work included musical tracks as well as writings about the synesthetic relation between vision and sound. Atmospheric works by Morton Feldman and John Tavener were included, along with psychedelic recordings influenced by Peter Walker’s raga-style acoustic guitar, and the drug-inspired, random playing of indigenous instruments. Yoko Ono and John Lennon chanted texts from newspaper stories about themselves.

The first volume included three perspectives on jazz dedicated to answering the question, “What is jazz?” It also featured two phonograph recordings: *St. James Infirmary Blues* performed by Peanuts Hucko, Yank Lawson, Clancy Hayes, Lou Stein, Lou McGarrity, and Morey Field, and *Israel* by the Bill Evans Trio. The editor brought together the writing of three active musicians who were keen to voice their interests and procedural activities. Dixieland jazz player Freddie Fisher—founder of the *Schnickelfritz*, a group billed “America’s most unsophisticated band,” and yet “still the biggest novelty recording action”—focused on the etymology of the word “jazz,” stressing the players’ role in creating music that is not subject to rationalism or conventional structure. “The term ‘all that jazz,’” wrote Fisher, “meaning something on the order of ‘stuff and nonsense,’ illustrates pretty well the potential involved.”

Expanding on the concept of jazz as “stuff and nonsense,” he refers to the results produced by jazz as “sound,” and opposes the jazz musician’s instinctive practice against the scientist’s measured rational: “Today, analysis, strategy and science have become everything. Two and two is four, man. Don’t Julliard and Berkeley say so! The old time

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jazz didn’t know that two and two is four, this being true because he was instinctively aware of the fact that no two was ever equal to another two because no ones were ever alike.” Interestingly, a similar type of aggregated constituents, fluid and organic constituents, were experimented with by Nauman in relation to Wittgenstein’s language games. Several early works showcase Nauman’s musical thinking: seven color photographs of flour piles from the artist’s studio (1966); a waxed ear (1967); a tape recorder cast in the center of a block of concrete (1968); and an aluminum slab with a mirror-finish facing the floor (1968). The first piece, entitled *Flour Arrangement*, and the last, dedicated to John Coltrane, recall jazz-influenced procedures that Nauman transposed into the visual domain. Avoiding structure was a key concept for both jazz players and artists. Improvisation required changing means of measurement and unfolding formation via variation, “one thing after another,” to return to Frank Stella’s proposition. Excess and improvisations marked the margins of rigid systems and thus becoming crucial for variation.

Nauman, who studied Wittgenstein’s writing closely, found that language situations work in variation as an aggregate of many different practices, and are irreducible to a single basic pattern. This is in opposition to the traditional idea that the philosophy of mathematics discovers objective truths, while proving that any found system is no more than our own construction. Wittgenstein argued that the appearance of independent objectivity is only an effect of the procedures that come naturally to us, and are then reinforced by rigorous training. 92 Wittgenstein created language situations that provided laboratories for understanding singular events. Wittgenstein’s examination of

perception, posed in relation to the external world, defined internal and external pictures, and touched upon the edges of language by setting sense and nonsense side by side.

In accordance with Wittgenstein’s variations, Nauman's 1966 work *A Rose Has No Teeth* is a direct quote from *Philosophical Investigations* (fig. 20). Here the seeming line between logical validity and the realm of metaphysics becomes prominent. Nauman was interested in the places where the philosopher allows for a variety of meaning others may not. In the *Investigations* Wittgenstein ponders the following: "A new-born child has no teeth."—"A goose has no teeth."—"*A rose has no teeth.*" The last example, he says: "one would like to say—is obviously true! It is even surer than that the goose has none. And yet it is none so clear. For where should a rose's teeth have been? The goose has none in its jaw. And neither, of course, has it any in its wings; but no one means that when he says it has no teeth." Wittgenstein does not reject the last sentence as nonsense; what he sought to conceive was the connective tissue that weaves the outside into language. For one could say that a rose has teeth: "Why, suppose one were to say: the cow chews its food and then dungs the rose with it, so the rose has teeth in the mouth of a beast. This would not be absurd, because one has no notion in advance where to look for teeth in a rose." 

Variation in jazz, evolving in real-time, allowed emerging and blocked situations to appear. Nauman's use and presentation of “raw material” and Wittgenstein's writings show all dead-end, unsolvable states recorded equally. Nauman claimed that the

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philosopher "pursued an idea until he could say either that it worked or that life doesn't work this way and we have to start over. He would not throw away the failed argument. But include it in his book."\textsuperscript{96} On a different occasion, Nauman commented on his own work: "My conclusion was that [i]f I was an artist and I was in the studio, then whatever I was doing in the studio must be art... At this point art became more an activity and less of a product."\textsuperscript{97}

The second Aspen author to approach the question of "what is jazz" was the American jazz lyricist and singer Jon Hendricks, an originator of vocalese (which adds lyrics to existing instrumental structures and replaces many instruments with vocalists), who was regarded as a sort of James Joyce of jive. His essay reflects his fast musical compositions using words that not only replace all-instrumental compositions, but also overflow their basic structure. Although each syllable is matched to a single note, the rapid singing makes language overflow the musical composition, thus effacing it in cacophonic violence and variation. And, indeed, Hendricks refers to good avant-garde jazz as de-territorializing one’s brain: “I have an idea what the term ‘avant-garde’ means on today’s music scenes, so I wanna warn you that it means ‘before you put your guard up I’m gonna whip this swindle on you and’... mess up your head.”\textsuperscript{98} Playing fast and loud were considered part of jazz avant-garde innovations à la John Coltrane, and Hendricks description of what good avant-garde is was concerned with Coltrane’s variations. Hendrick’s ideas influenced years later Nauman’s description of his own

\textsuperscript{97} Ian Wallace and Russell Keziere, “Bruce Nauman Interviewed,” \textit{Vanguard}, 8:8 (February 1979), 18.
\textsuperscript{98} Jon Hendricks, “Jazz: A Cool Duel: Now wait a minute, Dad; those young cats ain’t all bad, answers Jon Hendricks,” \textit{Aspen}, 1.
work. In 1988, Nauman recalls the playing of blind pianist Lenny Tristano as “he hit you hard and he kept on going until he finished. Then he just quit. You didn’t get any introduction, you didn’t get any tail—you just got full intensity of two minutes or twenty minutes or whatever. It will be like taking the middle out of Coltrane—just the hardest, toughest part of it. That was all you got. From the beginning I was trying to see if I could make art that did that. Art that was just there all at once. Like getting hit in the face with a baseball bat.”

The third jazz player who answers Aspen’s question was Chuck Israels, a composer and bassist best known for his work with the Bill Evans Trio. In his text, Israels concentrated on the jazz traits of highly syncopated rhythm and improvisation within the framework of harmonic structures laid down by bass, piano, and/or guitar that, together, provide an open continuous foundation for the music. Mostly, this definition excludes evaluations, “it does not tell you whether the music is good or bad.” Similar to contemporary artistic procedures, jazz, writes Israels, is “an amorphous, changeable combination of ideas and executions which is only vaguely defined and whose boundaries defy solidification.” This free flow of music production avoided structure to such an extent that many of the “progressive jazz” makers, according to Israels’ critique, were not music makers but noisemakers and happening makers—they were bad

100 Chuck Israels also worked with Billie Holiday, Benny Goodman, and John Coltrane. He grew up in a musical home and was introduced to jazz when his parents produced the Louis Armstrong All Star series.
101 Chuck Israels, “Just what is this thing called jazz? Note by note, Chuck Israels takes it apart,” Aspen, 1:2.
musicians. He deems Fisher’s “progressive” jazz as anarchist due to its “unattractive, anti-social, uncommunicative, and formless sort…”

Thinking about the unbounded possibilities inherent with jazz improvisation, in 1966 Nauman emptied his studio, and each day, for over a month, improvised ephemeral piles of baking flour. Nauman’s choice of medium reflects jazz-like improvisation, since flour’s boundaries defy solidification. The long and continuous process yielded a series of seven photographs taken by Jack Fulton entitled *Flour Arrangements* (fig. 21).

Influenced by Wittgenstein’s play with linguistic systems and artist William Willey’s pun games, *Flour* alluded to “flower.” The baking ingredient was dislocated from its domestic milieu and moved into the artist’s studio. In 1967 Nauman collaborated with William Allen to perform the piece live on the San Francisco KQED Experimental Project show and broadcast by the later renamed NCET (National Center for Experimental Television). Between 1967 and 1975, the NCET was an artists’ research facility for incubating cross-disciplinary performance focused on video and image processing (fig. 22). The Experimental TV Project explored new modes of expression while developing new modes of visual languages. In real-time broadcast Nauman used a wooden bar and his body to form shapes in flour arrangements. He spread the flour, made squares, triangles, ripples, rings, and other forms. He moved around the periphery of the flour and in its center. He stamped his elbow, arm, and hands in the flour to create negative dimensions in the white body, creating shapes that constantly avoided solidification and signification.

At various moments Nauman asks host Michael Krasny what he thinks; interestingly,

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102 Ibid.
both artist and host were cautious not to fall into finite judgments. Instead, their mundane conversation stressed the open-ended potentials of the flour procedures:

BN: Do you like this one?
MK: That’s a nice one
BN: Do you think it’s symmetrical?
MK: No
BN: Is it too symmetrical?
MK: No
BN: Then, it must be just right
MK: Ah… I think it’s just right, yah… is it enough?
BN: Enough what?
   Do you like this one?
MK: No
BN: Too rigid
MK: It makes it a real thing, an arbitrary thing, too symbolic.
   Why are you anxious that it shouldn’t mean anything?
   Your sensory perception should pick up on what something is rather
   than having to make a story about it and justify it… I’d leave off any
   literal definition.\textsuperscript{105}

Each of Nauman’s improvised arrangements was contingent on several referents: preceding formations, the artist’s body, the bar, the floor. The flour arrangements grew out of spontaneous and procedural improvisations. The flour, a fine, soft material that is difficult to control, resisted the limits imposed on it by the artist, constantly leaving its trace beyond the appearing contours. This contamination, combined with Nauman’s instantaneous open compositions, demanded the in situ attributes of avant-garde jazz. They both exceed the artist’s intentionality and expectation, and end up in new transient, spatial fields that avoid permanence and certainty in favor of flux and change.

\textsuperscript{105} For the full sequenced documentation of \textit{Flour Arrangements} broadcasted live on the San Francisco KQED Experimental Project show (1967) see: www.ubu.com/film/nauman_flour.html
If we may refer to the *Flour Arrangements* through musical variations and improvisations, additional works from this early period show Nauman’s concern with sculpting sound, beginning with sculpting the sensuous apparatus of hearing—the sonorous organs. *Large Knot Becoming an Ear* (fig. 5, 1966) is the earliest drawing in the artist’s oeuvre concerned with the physical formation of an ear. The drawing was realized a year later in *Westerman’s Ear* (fig. 6), a wall piece composed of a waxed ear cast in a looped rope. The proximity of sight and hearing resonates in the echotechnical production of a visual scheme presenting sonority as unfolding in the ear’s physical makeup. The concentric, yet centerless, composition doubles in the echo-image of the looped rope and the ear’s folds. This doubling, posed visually, delineates another resonating stratum, in which the visual follows the sonorous in formal organized resonance. Such an echotechnical mosaic resounds between sensual milieus and their inner folds.

**The Medium is the Message**

Mosaic topographies stemming from heterogenic technical environments were the focus of *Aspen 4*. Dedicated to Marshall McLuhan and electronic music, the cover of the box depicted black piano keys fused with Information Technology cables and featured a quotation from McLuhan and Fiore’s poster-sized mosaic “the medium is the message” inserted inside:

All media work us over completely. They are so pervasive in their personal, political, economic, aesthetic, psychological, moral, ethical, and social consequences that they leave 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.  

McLuhanism worked well with contemporary, conceptual art procedures that were attempting to expose power regimes. Whether dismantling monolithic language or pushing against set media, Nauman’s turn to sound was illuminating. The second chapter of my investigation will examine Nauman’s battle against the imposing technologies, but before that, my purpose here is to explore McLuhan’s technological environments in correspondence with Nancy’s echotechnicity in order to understand Nauman’s subversive turn to sound in the art domain.

In *The Gutenberg Galaxy* (1962) McLuhan gives dynamism to the imposition of media. “Technological environments,” he writes, “are not merely passive containers of people but are active processes that reshape people and other technologies alike.”

McLuhan makes a direct analogy between technological milieus, media, and processes—they all work on our nervous systems and on our sensory apparatuses. However, man, the programmer of total environments, may induce change in his surroundings. “The mark of our time is its revulsion against imposed patterns,” wrote McLuhan, and the way to change begins with the sensory perception apparatus and its mode of functioning in

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mediating the experience of the world to the individual. Sensory transduction processes, that is, anatomical pathways of communication, constitute the gate through which the world enters into the nervous system. It is the technological communicative channels imbedded in the senses that play a critical role in our understanding how various media and technologies affect our experience of the world; they are mechanical modalities that react to the pressure of our media environment. In order to penetrate the force of the apparatus, McLuhan, following the Aristotelian tradition, asserts sensory mediation as aggregated media operating in given hierarchical preferences. Working against the primacy of sight, McLuhan called to reorganize the mediating mechanism—the senses—to undermine habitual visual imperatives in favor of audition and tactility.

Nauman’s turn to sound seems to move in the same direction. By fusing the visual with the sonorous, he opens new, engaging environments that ignite the viewer and unleash her from passivity.

And yet, Nauman and Nancy are less ideological than McLuhan. The latter sees technology and the dominance of the visual as overwhelming, and a dominance that overwrites the oral/auditory experience to result in unbalanced sensory perception. For Nancy, who poses the question “can technology make an ontology,” less intentionality is involved. In fact, after claiming we are in technology, he poses teleology without telos,

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110 In an interview with Paul Brennan, Jacques Derrida observed the ideological susceptibility in McLuhan: “I think that there is an ideology in McLuhan’s discourse that I don’t agree with, because he’s an optimist as to the possibility of restoring an oral community which would get rid of writing machines and so on. I think that’s a very traditional myth that goes back to… let’s say Plato, Rousseau… And instead of thinking that we are living at the end of writing, I think that in another sense we are living at the extension – of writing. At least in the new sense…” in Paul Brennan, “Excuse me, but I never said exactly so: Yet Another Derridean Interview,” *On the Beach*, 1, 42.
since technicity is aggregated and so are the senses. The difference between the arts, argues Nancy after Hegel, is the difference between the senses. The division of the senses constrains, carves up, and limits artistic expression. Considered in this Hegelian manner, the senses are supplementary to art, and therefore are entrenched in signification—a subjugating mode that reintroduces a dichotomy Nancy attempts to avoid. Further, this kind of heterogeneity, claims Nancy, is not a direct reflection of the division of the arts; it is not fixed and does not abide with sensual integration. Yet how can we think of such integration without falling into unity and mimicry that ends up in total art? A solution may be found in the physical character of the senses, and not their metaphysical transcendence. The senses must “remain physical, therefore sensuous and singular plural,” writes Nancy, “this is doubtless the core of the problem. The singular plural/singular is the law and the problem of ‘art’…”

It is only in physical sense, in the presentness of singular physicality that the problem of art is exposed. The problem of the apparatus, devoid of signification, of making sense, and the role of the sensuous neighboring senses, is the problem posed in Westerman’s Ear. Here, the sonorous organ discloses the problem of art in exposing the organ of perception—the hearing machine. The work marks the physical folding of the sonorous organ into visual formation; such folding occurs at the limits of the rope hung on the gallery wall as painting. The materiality, the physicality of the sense of hearing, sets it apart from the other senses as its position is set against the visual mode of art’s representation. Set apart, the ear discerns a particular sensual domain discrete from the heterogeneous expanse of other senses. In Plato and Aristotle this heterogeneity is one of

elements, and modern physiology has proved these elements as differentiated matters from a given milieu: here, the milieu is the rope, and the corresponding gallery wall donates artistic space. The ear’s formation is a result of the knotted rope, but it departs from the knot by its differentiated waxed skin. Thus, we are given a circular argument of the heterogeneity of the origin and the origin of heterogeneity, which is presented in the mode of art.\textsuperscript{112}

To anchor further the physicality of the senses in art, and relevant to Nauman’s introduction of the sonorous apparatus in the sculpted ear, it is useful to look at Nancy’s final adaptation in \textit{Why Are There Several Arts}? Nancy fine-tunes Sigmund Freud’s concept of \textit{erotogenic zones} in his own thinking of discrete domains. It is important to revisit McLuhan’s claim that sight dominates sensory perception and therefore unbalances the connections between the five senses. Overcoming such domination entails a resistance to patterns, again, a singular force that works against a dominating background. When Nancy turns to Freud’s preliminary pleasure he overcomes the problem of ground to form diverse relations amidst a plurality of zones. Freud’s \textit{Vorlust}, Nancy reminds us, is a force of becoming contingent on zonal diversity; it is always in tension and incompletion. The concept of \textit{Vorlust} provides Nancy with the temptation of nondirectional forces—required in his echo system of aggregated bodies—since it coalesces erotic and aesthetic sensualities aroused by diversity itself. Erotogenic zones function “in any part of the skin and any sense-organ,” writes Freud, and “their character as zones,” adds Nancy, “their discreteness (in the mathematical sense), and their heterogeneity come from this function: in saying quantity, one also says additive growth

\textsuperscript{112} Ibid., 14.
and discontinuity. And in desire… (the tension of the Vorlust)… is the discreteness of
pleasure.”113 The pleasure of art is constituted in the erotic attraction of overlaying media
as seen in Westerman’s Ear—a wall piece corresponding to paintings that are hung—a
sculptural, waxed organ taking into account presentness. The proximity of
sonorous/visual organization amalgamates intermedia.

**How to Grow Sounds in Visual Compositions: The Visual Doesn’t Know It**

The difference between McLuhan and Nancy in their approach to
media/technology illuminates Nauman’s trajectory. If McLuhan views technological
environments as extensions of a being’s nervous system—and therefore rooted in the
Cartesian concept of *res extensa*, where distinct bodies are thought as distinct extended
substances—then technological milieus and corporeal substances are simultaneously
mediated by the senses. Nancy insists on discrete multiplicity, *partes extra partes*. This is
closer to Merleau Ponty’s use of the term, yet without its causal undertaking, for Nancy,
who aims at discarding signification and its accompanying dialectics, “parts outside
parts” is a general, and generic being-outside-itself, a zoned being of the so-called
“sensuous” condition.114 He replaces Merleau Ponty’s consciousness with polymorphism;
multidirectional expanse that does not know its own relations, limits, and encasement.

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113 Ibid., 16.
114 It seems Nancy’s muse here is Merleau Ponty’s use of the concept *partes extra partes*. However, as Dermot Moran explains, Merleau Ponty establishes his use of the term according to traditional Cartesian dialectics (abandoned by Nancy) where physical things are extended outside each other – *partes extra partes*. This does not correlate to mental things, which are not extended, but are known all at once. In *The Structure of Behaviour* Merleau Ponty writes: “Our goal is to understand the relations of consciousness and nature: organic, psychological or even social. By nature we understand here a multiplicity
Over and over again, Nancy refers to a phrase Freud wrote shortly before his death: “Psyche ist ausgedehnt, weiss nicht davon” (Psyche is outstretched, without knowing it). For the French philosopher who was following Aristotle, psyche, or the soul, is the form of the body. Nonetheless, psyche is not a form of knowledge; psyche is an extension [but] knows nothing thereof. Psyche, writes Nancy, “is but a dispersion of infinitely parcelled out places in locations that divide themselves… Psyche alone knows nothing of this; for her, there is no relationship between these places, these locations, these bits of plane.”

Does the visual know of the sonorous? Has the audio volume of the resonating loops—sketched in the concentric rope and in the waxed ear—interrupted visual form, dictated its trait, shifted its course? Does the visual encasement of the gallery know of the neighboring arts: the visual and the sonorous? Does this proximity know itself? Or perhaps Nauman is suggesting that only in their unknowing proximity the visual regimes designating Art can be loosened in favor of an open system where neighboring bodies, media bodies, touch, and constitute an interruption that agitates the space of the visual in creation of new organs, other organs, sonorous organs.

Nancy’s neighboring bodies, and his reading of Freud’s *Psyche*, echo the earlier thinking of John Cage, who called for similar aggregated proximities. The dread of
intentionality that yields prearranged results is featured in Aspen’s item #4, Cage’s Diary: How to Improve the World (You Will Only Make Matters Worse). As the title informs us—all intervention guided by intention, even the good, works against free formation—it will only make matters worse. Formatted like a long sonata that resonates with McLuhan’s typographic mosaic, Cage’s text was composed of multiple voices presented in different tones and fonts. Between “getting rid of ownership,” praising non-measurement, all at once-ness, multiple directions, and discerning “a vibrating complex,” Cage brings into the unintentional aggregate his fascination for mushrooms. He quotes a Haiku Japanese poem from R. H. Blythe’s collection of autumn. In the spirit of delaying my interpretive intentionality, following is a documentation of Cage unfolding the interpretations of the mushroom poem:

Cage: Basho: Matsutake ya
shirano ko no ha no hebaritsuku.

English translation:
Mushroom ignorance, leaf of tree adhesiveness

R.H. Blythe translates Basho’s Haiku as follows:
The leaf of some unknown tree sticking on the mushroom

I showed this translation to a Japanese composer friend, he said he did not think the translation was very interesting… two days later he brought me the following:
Mushroom does not know that leaf is sticking on it (Takemitsu).

So I got to the idea, and it took me about three years, and I made another translation:
That that’s unknown brings mushroom and leaf together.

And the one I prefer:
What leaf? What mushroom?¹¹⁸

Two organisms, the mushroom and the leaf, are posed in their inverted relations. While in nature these organic systems depend on mutual symbiosis, Cage exposes their vital proximity by stating the leaf sticks on the mushroom—the mushroom does not know thereof. In nature, the single mushroom is but an expression, a dispersed appearance, a bodily formation of *mycelium/hyphae*, an expansive ecosystem of networks that connect sparse milieus (fig. 23).¹¹⁹ Neighboring systems are seen in Nauman’s proposal for organic branching, the knotted rope forming an ear, and from the same year, a knotted shoulder forming the trunk of a tree (figs. 24, 25).

Heterogeneity constructs open formations that are connectable and juxtaposed, proclaimed Cage. And this heterogeneity of elements, and of media, was also seen in experimentation with the score’s notation. Visual means were developed by Cage’s musicians circle to notate indeterminate scores. Such were the scores accompanied by a phonograph recording of Morton Feldman’s *The King of Denmark* and Cage’s *Fontana Mix-Feed* featured in *Aspen* 5/6 (figs. 26, 27, 1967).¹²⁰

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¹¹⁹ In Micology *mycelium* is a collective term referring to a mass of branching *hyphae*, see Steven D. Harris, “Branching of Fungal Hyphae: Regulation, Mechanisms, and comparison with other branching systems,” *Mycologia*, 100:6 (December 2008), 823-832.

¹²⁰ Both recording were performed by Max Neuhaus, see *Aspen* 5/6 (1967), items #6, 20, and 21.
Morton Feldman is perhaps one of the earliest musicians to develop graphic notations. In *The King of Denmark* (1958), Feldman is concerned with unhinging linear time trapped in traditional notation and instrumental percussion. The score reestablishes the relation between the performer, the instruments, and notation by discarding the use of mediating sticks and mallets as well as traditional notes. Feldman used Arabic and Roman numerals, English letters, dots, and lines to denote an open score. He also wrote “the performer may use fingers, hand, or any part of his arm.” Percussionist Steven Schick refers to the work as an “antipercussion piece,” since, unlike traditional percussion music, *The King of Denmark* takes the elements of composed or intentional rhythm out of the compositional equation. Feldman unhitched sounds from their pitch relationships and was the first composer to put into practice what Cage called indeterminate music. Similar to a fungus *hyphae*, Feldman’s sound network creates a surface of dense clusters and weak connections, realized in the bodily organs tapping, pressing, holding notes on bells, skin instruments, cymbals, a triangle, a gong, and a gong roll.

Feldman’s equal use of pictorial means and musical consideration in the creation of the score was key to avoiding imposed structure. A close friend of Rothko, Pollock, de Kooning, Guston, and others, Feldman wrote extensively of the relation between sound

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121 The first graphic notation by Feldman was *Projection 1* for solo cello (1950). Already here we see the performer’s free choice in each of the three ambiguously specified categories, high, middle, and low.
and painting. In his search for music as an open surface that *constructs* with time, and
does not *submit* to time, he wrote: “My obsession with surface is the subject of my music.
In that sense, my compositions are really not ‘compositions’ at all. One might call them
time canvases… I have learned that the more one composes or constructs—the more one
prevents Time Undisturbed from becoming… I prefer to think of my work as: *between
categories*. His work is between time and space, between painting and music, between the
music’s construction and its surface.”

Feldman’s graphic scores emerged inter-media, in between the echoing bodies of
*techné*. The composer escaped traditional methodologies and chose to create between
categories, in the uncharted domain where unforeseen appearances unfold in the overlay
of the visual and the sonorous. And as in Nauman, these overlays work quietly, de-
territorializing their architectonic milieus. Recalling the birth of his graphic notations as a
mundane activity occurring between unintentionality and the unknown, Feldman wrote:
“Oh, it’s like one of those things you don’t know is going to have significance
afterwards… Actually, I was living in the same building as John Cage and he invited me
to dinner. And it wasn’t ready yet. John was making wild rice the way most people don’t
know how it should be made… so we were waiting a long time for the wild rice. It was
while waiting for the wild rice that I just sat at his desk and picked up a piece of

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notepaper and started to doodle. And what I doodled was a freely drawn page of graph paper…”

Feldman’s obsession with surface grew from Cage’s concept of the aggregated expanse. The a-causal and non-symbolic relations brought discrete sounds circumscribed by silence. “Silence,” said Cage about Feldman’s compositions, “surrounds many of the sounds so that they exist in space unimpeded by one another, yet interpenetrating one another for the reason that Feldman has done nothing to keep them from being themselves.”

John Cage was very excited with his friend’s innovation; Feldman recalls that he later sat down to copy Intersections and Projection 4. In his own score, The Fontana Mix (1958), Cage brought together a kit of graphic elements to be combined by the performer. Featured in Aspen alongside Feldman’s King, The Fontana Mix presented a composition of four sheets, three transparent papers, and an opaque coordinate sheet. The transparent sheets could be rotated and layered freely. One layer had randomly distributed dots, and two others had curved lines, the first dotted, the second thick and continuous. In the instruction to the graphic score Cage allows one or a few sheets to be performed, alone or together, and they may be used freely for instrumental, vocal and theatrical purposes. The infinite multiplicity of events potentially generated from the dispersed sheets keeps an open, echotechnical structure, contingent on the potential of its performed components.

When Nauman hung Westerman’s Ear in Leo Castelli’s Gallery (1968), he raised the paradox of intermedia: the question concerning technology and the discrepancy of the

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126 Nyman, 54.
neighboring arts. As many artists before him, he succeeded in undoing both phenomenological seeing directed at consciousness, and the opposition of art and technology (in the various traditions of Descartes, or Husserl and later Heidegger). In the formation of the doubling resonance of the visual and sculptural ear, technology is no longer a means to an end, an instrument revealing essence, but a technological-becoming predicated on bodily sonority. Articulated in the relations of media, which had occupied Nauman since the early fiberglass sculptures, sonority sketches its own face within visual form. This echotechnicity, this interconnection in between heterogeneous elements, exposes the human body as taking part in technological bodies (media), and reverberating proximities. It is Nancy who re-delineates the question concerning technology to render it free from instrumentalization and allow the neighboring arts: “if there is a ‘question of technology,’ then this is so from the moment when technology is understood as finiteness of being, and not as a means of some other end (science, mastery, happiness, and so on).”

In A Thousand Plateaus: Capitalism and Schizophrenia Gilles Deleuze and Felix Guattari consider painting and music as expressions that hold their content within themselves. These two mediums, or what they call machines, do not correspond to the same thresholds. “The greatest sound paradox,” they argue, arises when music is given a face (visage), a title, or a visual encasement, and the only way to line up these two machines is by revealing the forces of de-territorialization. The next chapter will

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address the question of de-territorialization in the subversion of the vertical apparatus of Art’s visual regime.
... blind from birth, of sound then, if you like, we’ll have that, one must have something, it’s a pity, but there it is, fear of sound, fear of sounds, the sounds of beasts, the sounds of men, sounds in the daytime and sound at night, that’s enough, fear of sounds, all sounds, more or less, more or less fear, all sounds, there’s only one, continuous, day and night, what is it, it’s steps coming and going, it’s voices speaking for a moment, it’s bodies groping their way, it’s the air, it’s things, it’s the air among the things, that’s enough, that I seek, like it, no, not like it, like me, in my own way, what I am saying, after my fashion... what what can be, what I seek, no, what I hear, now it comes back to me, all back to me, they say I seek what it is I hear, I hear them, now it comes back to me, what it can possibly be, and where it can possibly come from, since all is silent here, and the walls think, and how I manage, without feeling an ear on me, or a head, or a body, or a soul, how I manage... it’s not clear, dear dear, you say it’s not clear...

Samuel Beckett, *The Unnameable*, 1953
Chapter Two

Acéphal Topographies: The Production of Indeterminate Instruments

Bruce Nauman: When the corridors had to do with sound damping, the wall relied on soundproofing material which altered the sound in the corridor and also caused pressure on your ears, which is what I was really interested in: pressure changes that occurred while your were passing by the material… as you walk in… the pressure increases quite a bit, it’s very claustrophobic…

Willoughby Sharp: Pressure is also felt on the spectator’s own body. Does that come from your ears?
BN: It has a lot to do with just your ears
WS: So space is felt with one’s ears?
BN: Yeah, that’s right.130

Two ears, always double, already a multiplicity. These holes at the perimeter of our heads transmit sound and pressure to the nervous system and the brain. The external canals turn into the spiral-shaped pinnas that grace the outside of our heads; and the inner semicircular canals turn into the cochlea, also formed as a spiral. This double mirroring image of the outside and inside has one direction. From the external pinna to the inner hollowed temporal bone, the forces of the outside are transported to the nervous system. The hollow channels of the inner ear are filled with liquid and contain a sensory epithelium that receives sound and balances the entire body. We are pressed in between the sonorous, in between sounding bodies and in between our double hearing. But we are also pressed in our reverberating contour. Multiple pulsations in different frequencies are

130 Willoughby Sharp, “Interview with Bruce Nauman,” Avalanche (winter 1971), 23
dispersed in slowness and acceleration exposing bodies in echo and resistance to neighboring bodies.

Between 1968 and 2009 Nauman installed numerous corridors that exhibit the tension between auditory and visual milieus. From the early corridors exhibiting the proximities of sight and sound to his present work pertaining to sound alone, Nauman’s use of sonorous tactics questions the hegemony of the ocular-centric regime dominating the pyramid of art while exposing the heterogeneity of the senses. Contingent on touch and pressure, Nauman’s corridors pose partes extra partes. The walls press upon the ears’ inter-media. Our visual and auditory pathways, membranes and canals, retinas and pinnas, are caught between the wooden boards and in between sculpture/installation and painting. Drawing upon the echotechnical condition considered in the first chapter, here I address the proximities of seeing and hearing and the conundrum of ordinate painting. Thus, if in the preceding chapter there came into appearance Nauman’s mixed-media—as the zoning of the plurality of media in an open expanse delineated by Nancy’s partes extra partes—this chapter will show how Nauman, influenced by John Cage, Merce Cunningham, and the activities taking place at the Judson Dance Theater, develops an exchange between the techniques of media and those of the senses. I argue that by stripping off the habitual practice of the sense organs as well as exposing and exhausting the forces of significations embedded in the techniques of fused perception, Nauman changes the mechanics of sensory experience.

Nauman explores the relations between the instruments of media and the organs of the senses. A conceptual resemblance may be found within the mechanics of bodily
organs and the anatomy of media.\textsuperscript{131} During the late 1960s, the latter imposed the primacy of sight in the economy of unified perception. Nonetheless, it also began to disintegrate. Nauman’s corridors mark a line of flight in this disintegration, one that affects sensory perception by diminishing the forces of the visual. Accordingly, if we were to consider the forces of the visual as the unifying forces of signification, as making sense under the relegation of sight, then it is only within the diminishing of the visual that other senses may be expressed. I will show how Nauman’s corridors exhibit sound in the proximity of sight, however, its expression is no longer subjugated to visual delineation, which in turn does not adhere to a priori signification.

In my trajectory, I return to Rosalind Krauss’s haunting optical grid and Susan Buck-Morss’s surface pattern to no longer consider them as a priori grounds dictating metric topographies à la Cartesian coordinates or Kant’s a priori forms of time and space or categorical divisions, but rather to consider Nauman’s sonorous blocks as a sensual becoming. I propose to embrace Deleuze and Guattari’s move from set sense (logos) to making sense. This move resonates with Jean-Luc Nancy use of “sense” and demands overturning a priori forms into chaos and rhythms, object-based mechanisms to vital machines, and fused coherent perception to dispersed sensory experience predicated on nomadic effect amidst technical monads. Thought of as machinic nomads, the technical components of the installations interchange with the technical categories of the senses; the corridor pieces are instruments that interrupt vision. Nauman exhibits them as tools of

\textsuperscript{131} My argument holds a general gesture rooted in the assumption that a relation between the body and technology may be drawn in thinking of technological apparatuses as extensions of the senses. In his book \textit{The Audible Past}, Jonathan Sterne situates a particular construct of the ear and its becoming a construct of media technologies. See the first chapter, “Machines to Hear From Them,” 31-85.
exploration and division. They summon sight through visual apparatuses that hark back to reconsider the symbolic form of Renaissance perspective and modern stereoscopic technologies. However, they bear a blocked vision, for they employ blinding mechanisms that work against the primacy of visual signification and determine a separation and distinction of the senses, which in turn allow the open heterogeneity of sensory experience.

Jane Blocker alluded to the corridors’ blinding nature. Following Derrida’s “blind man,” Blocker asserts the corridors are thresholds submitting to the limits between “the nature of the real and the traumas of representation,” they enact the turning away from “thing to representation.” This dialectical reading is rooted in categorical thinking. As Blocker reminds us, “thought begins, in Western metaphysics, where one draws a line, a conceptual boundary, such as that between day and night, without which there would be no categories, no taxonomy, no epistemology, no time.” And yet, what if we were to consider blindness within immanence alone, without the question of representation and extension. Then we would be faced with the task of observing the nature of inter-aggregated-relations. We are poised in an open expanse composed of nothing but thresholds, one where the dialectics of body and environment, representation and invisibility, collapse into bodies amidst bodies, organs amidst organs, senses amidst senses, or partes extra partes. I suggest thinking between assorted instruments, multiple instruments: thinking that demands reshuffling our ideas regarding the primacy of form and the immediate ties of visuality and reason.

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133 Ibid., 7.
Under this heterogeneous condition, I consider each sense as a separate and distinct instrument, that is, each sense as it seeks differentiation. The discrete domains of the senses dictate they are neither dependent on other senses nor subordinated to the senses’ synthesis. In this chapter we will see how Nauman’s use of sound segments fused perception and exposes the heterogeneity of the senses while defeating the subordination of fused sense and reasonable unity. Sense experience remains independent in discrete sensory domains predicated on their physical contraptions. In this open expanse, the relations between sensory organs and sense-based instruments (e.g., perspective, monocle devices, monitors, speakers, amplifiers, etc.) may be considered without the subject; however, this does not mean that they do not affect the subject, which takes part in the plurality of systems. Hence, on the one hand, the technological apparatuses’ uses of sense (biological and artificial mechanisms) are considered as independent of the subject, and yet, on the other, it is not inevitable that they hold sway for the subject, in effect.

Nauman’s corridors propose a transformation of instruments that moves from static mechanisms to active machines, from a system governed by instrumentality to an aggregate system of instruments, from sensory-fused perception to the discrete assemblage of the senses. The corridors intimately tie together sensory organs and sensory instruments. These ties, which expose the question of sense-instrumentality and its intimate ties to symbolic signification embedded in seeing are battered. Significant to many of Nauman’s contemporaries, these encounters prevent the act of taking place, from gripping a coherent locale, thus assuring the corridor’s indeterminacy as interval.

The question of how to form volumes or bodies among other bodies while avoiding unified locales yields unpredicted trajectories with Nauman’s use of sight and
sound. Nauman’s unique turn to the sonorous allows importation of an unrecognizable 
machine into the visual arts, akin to a Trojan horse inaudibly transforming the hold of the 
visual apparatus. Sound is employed in two ways. The first is in shaking the ground, 
releasing the hold of the visual while maintaining the (division of the) plurality of the 
arts. The second are the transgressive forces of sound working amid visual 
instrumentality. These transgressed soundings have unique characteristics that do not 
dissolve in transgression, but produce topographies securing the heterogeneity of the 
senses and the partition of the neighboring arts. Thus sound at once deterritorializes and 
reterritorializes given milieus while securing an unstable dynamic morphogenesis.

Nauman’s corridors show how to impede sight’s overarching reach and allow the 
rhythmic expression of sound, or how to expose art’s visual regime, knock it from its 
distancing pedestal and strip off the coordinates that manage and subordinate the singular 
pulsations of the arts. In theory, this move could yield several trajectories that my 
discussion will explore. At its base rests the question of the violence of set sense and the 
necessity to defeat signification by moving away from sensibility—which in the arts is 
closely tied to the jurisdiction of the ocular—to the senses.

My argument will again follow the writings of Gilles Deleuze, Felix Guattari, and 
Jean-Luc Nancy. The first two help me trace how Nauman substitutes metric 
topographies with rhythmic heterogeneities, while the third makes clear how the 
juxtaposition of sight and sound in Nauman’s corridors insistently releases the sensory 
apparatus from its unitary integrity and emphasizes the zoning senses as interrupting 
machines that secure discreteness.
**Forced Perspective – And Again, Why Painting?**

One of the main problems posed by Nauman’s corridor pieces is how to avoid phenomenological seeing predicated on a bracketed, and thus distanced, object and pertaining to conscious experience. The majority of the corridor pieces are installations the viewers occupy and thereby collapse the distance between subject and object while maintaining a visual disorientation that prevents cognitive fusion. The corridors experiment inside the genealogy of dysfunctional perspective. If linear perspective since the Renaissance has attempted to reveal the world in unity and with direct relation to the real, Nauman demonstrates the problematic of perspective’s symbolic projection, now displayed as an exhausted prosthetic apparatus. He chooses indeterminacy, secured in the act of jamming the system’s coherency, or more dramatically, in constantly decapitating its rational machinery, the place where sensory-data fuses—inside the head. From his first corridor piece, *Walk with Contrapposto* in 1968, to the 2009 Venice Biennale installations *Days* and *Gironi*, Nauman is addressing the proximities of obstructed seeing and incoherent hearing. Close examination of this genre in Nauman’s oeuvre shows channeling compositions, that is, headless tunnels and blind passageways reminiscent of organic pores (or those earholes on either side of our head), organs for channeling perception without end. They lend to Kurt Schwitters’s grotto-like *Merzbau* (1922–33) as channels that are but dysfunctional instruments, which change the order of sense, of the senses, and of making sense. The difference lies in Nauman’s diminishing of the visual. While Schwitters’s *Merzbau* amasses excessive visual motives and shapes, Nauman blocks vision. It is worth noting that while Schwitters worked on the *Merzbau* he was also developing the *Ursonate*, sound poetry that fragmented and collaged language
structures of signification into nonsensical soundscapes. Nauman is also engaged in 
language games; however, while sound poetry dismantled language to create new audible 
and visual (see the spread of words on a sheet) terrains that remain within the limits of 
signification, Nauman diminishes signification and explores the limits of perception 
though the body, and the instrumentality of the senses.

Nauman’s demonstration of seeing exposes art’s great pedestal—Renaissance 
perspective. Artists have been exploring the relations between visual perception and 
pictorial representation from the evolution of scientific perspective in the fifteenth 
century through its mannerist manipulation and its shattered rejection in the work of 
Cézanne. In 1966 Nauman concretized the traditional organization of illusionist space 
by geometrical means in Untitled (Model for Room in Perspective) (fig. 28). His stance 
regarding the organizing device was explicitly expressed in the title for his show at 
Konrad Fischer Gallery in Düsseldorf: Forced Perspective: Open Mind, Closed Mind, 
Equal Mind, Parallel Mind (1975–76, fig. 29). I will trace chronologically the works 
concerning vision and its techniques as it pertains to our understanding of the 
introduction of sound to the corridor pieces. Methodologically this exploration pertains to 
two different disciplines: the visual and the sonorous (anchored within music and the 
plastic arts). I must therefore consider a few approaches for laying bare this body of 
work, and since the visual tools scrutinized in the corridors are the very constitutive 
planes of the art historian brought into question by Nauman in the propinquity of 
interruptive acoustics, I will begin with what meets the eye—a visual analysis. This route

will reveal how Nauman’s investigation of measurement, of art’s linear perspective underlying the ocular regime, gives way to the production of unoccupied space via sound (what Deleuze calls a sonorous block), a space that flees forced perspective by way of sonorous blocks predicated on rhythmic production.

The earliest corridor piece, *Walk with Contrapposto*, is a 60-minute video loop featuring the artist’s headless body walking in a twenty-inch-wide corridor built in his Southampton studio (fig. 30). “The camera was placed so that the walls came in at either side of the screen,” Nauman recalled, “you could not see the rest of the studio, and my head was cut off most of the time. … in most pieces I made you could only see the back of my head, pictures from the back or from the top.”\(^{135}\) The video features Nauman, with his hands clasped behind his neck, swinging his hips to animate a classic contrapposto pose as he walks up and down the length of the corridor.\(^{136}\) Nauman’s physical pose references the visual dynamics of Polykleitos’s fourth-century BCE contrapposto, but with its head stripped off and its aesthetic module put into what Robert Pincus-Witten deemed performance sculpture.\(^{137}\) The wooden corridor extended the wooden frames of Robert Morris’s *Portals* (fig. 31, 1961) establishing themselves both as architectural appendages and corollaries to the space of the body and how it occupies space.\(^{138}\) It was in 1968 that Nauman met Morris in New York. The Leo Castelli Gallery represented the two artists, and in 1968 Nauman participated in Morris’s show *9 at Leo Castelli* seen by

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\(^{136}\) Ibid., 230


Max Kozloff as initiating “an attack on the status of the object.” Thus Polykleitos’s dynamism fused into the artist’s body marks the sculptural discourse of the time, and its collapse into presentness, into performance. Nauman’s hips, the center of counter-motion, rhythmically oscillate between the bounding corridor walls. Prior to each swing of the hip comes a stomp, a loud rhythmical hitting of the foot on the wooden floor, segmenting the walk and dividing the space—14 steps forward, 14 returns, and then more, 16, 17. The photographic frame featured on the monitor’s screen displays the two parallel walls in linear perspective. The perspectival tunnel, reminiscent of Michael Snow’s 1967 Scope, was turned into a walking corridor (fig. 32). However, Snow’s mirrors were replaced by the bare walls, and the mirrors’ reflection was supplanted by the documenting film projected through the monitor. Devoid of apex, the open vanishing point marked the limit of the moving contrapposto and the endpoint where the artist turned around in his walking loop, thus exposing a displacement in the failing mechanics of perspective.

Pincus-Witten scorned Nauman’s figurative approach as “infantile narcissism,” and in reviewing Nauman’s first retrospective, curated by Jane Livingston and Marcia Tucker in 1973, Hilton Kramer asserted that “there is pathetically little here that meets the eye.”


Given a classic aesthetic predicated on measured visual division and Greenberg’s optical regime, Kramer’s remark is not surprising. There literally is nothing here that meets the eye. And Kramer continued his assessment: “a few sculptures of no sculptural interest, a few photographs of no photographic interest, a few video screens offering images that somehow manage to be both boring and repugnant.”

The negative critique of Kramer’s failed seeing, inoperative critical cataloging, and general disinterest dovetailed with Nauman’s concerns:

A lot of the early installations are about making a space that might at first appear not to be anything that much out of the ordinary, and then you realize that the space isn’t exactly what you expected. The walls or the light or something is happening and you’re not quite sure how to categorize it.

Nauman walked with contrapposto between the corridor’s walls and between categories. He walked inter-media, that is, in the proximity of the neighboring arts: a video piece, a sculpture, an installation, a problem of painting or an ocular conundrum, performed within a theatrical setting and reflecting his earlier concerns with aesthetic forms and proportional divisions rooted in Greek aesthetics (see first chapter). With each medium having the potential to become raw material for further work, Nauman left the corridor construction in his studio for a year before deciding on its installation at the Anti-Illusion: Procedures/Materials exhibition held at the Whitney Museum of American Art in 1969 (fig. 33). In the museum, the visitor now replaced Nauman’s body. The work’s performative novelty has been well reflected in the historiography of the

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Removing the narcissist’s head; the mechanism of self-reflection entrenched in the operation of seeing as well as the psychological machine. See Rosalind Krauss, “Video: The Aesthetic of Narcissism,” October, 1 (Spring 1976), 55.


transition Nauman makes from the stasis of sculpture to the living body. The collapse of the subject/object dichotomy and the later transition from the artist’s body to the viewer’s, declaring a second integration of the viewer as producer of her own disciplined experience, were key concerns for post-minimalist artists influenced by dance operations in the beginning of the 1960s.\(^\text{143}\) Experimentation with the body oscillated between anthropocentrism, asserting the body as source of measure and producer of information, and the body as palimpsest, imprinted by machines of representation.\(^\text{144}\) What I want to argue is that Nauman’s work exposed the tension between disciplined machines and the


\(^{144}\) While influential examples of the latter allude to Kafka’s *Penal* machine inscribing the flesh with disciplined meaning (elaborations in Artaud, Foucault, Deleuze, and many others are far from this thesis’ scope), or Benjamin Buchloh’s administrative machines mimicked and penetrated by conceptual art, the first is closer role to the echotechnical in the experimentations held at the basement of *Judson Memorial Church* during the 1960s. Michel Foucault proposition of the body is key: “It is always the body that is at issue — the body and its forces, their utility and their docility, their distribution and their submission… The body is… bound up in accordance with complex reciprocal relations, with its economic use; it is largely as a force of production that the body is invested with relations of power and domination… the body becomes a useful force only if it [is] both a productive and subjected body.” In *Discipline and Punish: The Birth of the Prison* (New York: Vintage, 1995), 25-26, see also *Madness and Civilization: A History of Insanity in the Age of Reason* (New York: Vintage, 1988), preface. Benjamin H. D. Buchloh, “Conceptual Art 1962-1969: From the Aesthetic of Administration to the Critique of Institutions,” *October*, 55 (Winter 1990), 105-143.
echotechnical to eliminate the subject/object dichotomy. Here, distance between representation and presentation is collapsed in the forgetting of ground. Discarding the dialectical dichotomy placed the body on its very trace, subsuming pre-given edges into uniquely making the body a polymorphous center. Making the body an edge by including prescribed contours meant weakening and collapsing the dividing support permeating the very detachment between subject and object, which in turn resulted in the body as connecting tissue—as an interval. When Nauman filmed *Dance or Exercise on a Perimeter of a Square*, or *Walking in an Exaggerated Manner Around the Perimeter of a Square* (figs. 34 and 35, 1967–68), he was alluding to this very collapse: his pacing on and around the square’s contour folded the vertical and the horizontal into a rhythmic structure. Nauman’s procedures on the floor account for the dislocation of the pictorial support from its vertical distance to what Leo Steinberg will later argue, in regard to Robert Rauschenberg’s work, are “opaque flatbed horizontals,” supporting performative gestures “in which the painted surface is no longer a visual experience of nature but of operational processes.” Steinberg found that the great shift dislocating the vertical support occurred when Robert Rauschenberg proposed the flatbed as “a different order of experience” in *The Lily White* (formerly titled *White Painting with Numbers*, fig. 36, 1967–68).

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145 Although I will not delve into a discussion concerning the collapse of distance and the technological reproduction, in Walter Benjamin, it is necessary to regard his concept of aura as the unique phenomena predicated on distance, that the operation of painting maintains and thus keeps us at distance from presentness, in *The Work of Art in the Age of Mechanical Reproduction* (1936), in *Illuminations: Essays and Reflections*, edited by Hanna Arendt, translated by Harry Zohn (New York: Harcourt, Brace and World, 1968), 224.

1949).\textsuperscript{147} By the early 1960s Rauschenberg created a dispersed ground when working on multiple photographic transfers that “kept on interfering with one another, intimations of spatial meaning forever canceling out to subside in a kind of \textit{optical noise}. The waste and detritus of communication—like radio transmission with interference; noise and meaning on the same wave-length, visually on the same flatbed plane.”\textsuperscript{148} Rauschenberg’s flatbed was at once a palimpsest, a canceled plate, a map, and an aerial view.\textsuperscript{149}

A palimpsest producing optical noise? Was John Cage, friend of and collaborator with Rauschenberg, haunting Steinberg’s text? It is quite clear that Steinberg’s observations, although unattributed, are close to John Cage’s concepts of (horizontal) sound (including noise vs. vertical music) and aggregated indeterminacy (connections Joseph Branden established three decades later).\textsuperscript{150} Nauman’s fusion of the pictorial flattened contour with the artist’s body poses similar problems with the contingency of the contour, the rhythmical contour, and the breathing contour. The body is the edge, and it is squeezed and imprinted upon by other bodies. The body is at once the edge of painting, marking its end, and an edge marking a location in between other bodies, as in between the corridor’s walls. At once, a line and a gap, an opening of body among bodies, Nauman’s corridors reconsider Jackson Pollock’s performative gestures around the perimeter of painting. Pollock produced a body painting, a spatial object that

\begin{flushright}
\textsuperscript{147} Ibid.
\textsuperscript{148} ibid., 29.
\textsuperscript{149} Ibid., 30.
\end{flushright}
oscillated between floor and wall. Like figurative artists using their finger as measuring device to translate the distance of their models into accurate reproduction, Pollock would hang his colored surfaces vertically in order to see them, to judge their pictorial nature, thus plumbing them as painting. In the collapse of distance, body and painting fold into each other.

Here, an alternative, an addition to the late 1940s scholarship concerning the performative gestures of Jackson Pollock around the perimeter of painting, is displayed in Irving Penn’s iconic series of photographs for *Vogue* magazine in 1948. The series exhibits the royalty of the art world—themselves iconic images—tucked into a corner. The tight architectural setting dictating the relations of form and pressure preceded the 1960s genre of objects stuffed into the edge of the cube à la Flavin’s fluorescents, Morris’ triangle sculpture, Beuys’ fat corner, and others. Penn’s series brought a new set of relations between body and architectonic limits when concerning individual bodies of renowned subjects. The claustrophobic setting—just like Nauman’s corridors—produced different spatial propositions depending upon what each subject did with his or her body in relations to the corner walls. “This confinement, surprisingly, seemed to comfort people, soothing them. The walls were a surface to lean on or push against … limiting the subjects’ movement seemed to relieve me of part of the problem of holding on to them,” wrote Penn in his 1991 book *Passage*. Among others, the famous icons photographed in the fixed corner were artist Marcel Duchamp and composer Igor Stravinsky (fig. 37).

Duchamp, who rejected retinal art and perspective, pressed his body deep into the corner, folding his shoulders inward while smoking his pipe, and Stravinsky, the transformer of

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rhythmic structure, posed openly marking the width of the space while lending it his ear, paying attention to the corner’s opening via hearing. Two decades later, Nauman is concerned with the tension posed by the visual thin line and the width of the auditory gap in *Acoustic Wedge (Sound Wedge – Double Wedge)* (fig. 38, 1969–70). The work poses a triangle-based double corridor insulated with soundproofing material to mute sound. The visitor walks into the space sideways, body pressed to the walls and senses stressed, reaching its apex in blindness and a diminished acoustical environment. The result lends itself to one sense: hearing, and hearing oneself hearing. However, this sonorous pressure does not work autonomously within the mechanism of hearing, but is juxtaposed with the interruption of sight. The acoustical dampening actively presses upon the visual perspective—the floor plan of the darkened V-shaped corridor—and thus blocks the sight while engaging the body in sonorous pressure.

**Nauman After Cage: Interrupting the Ground; Producing Organs**

Following Pollock’s gestures at the end of the 1940s came another interesting evolution significant to Nauman’s exploration of acoustical pressure: John Cage and Merce Cunningham exploring the relations of bodies and sound. Cage was changing the traditional grounds of music, the very organs of instrumental music, by intruding into and

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152 Marcel Duchamp, argued Thierry de Duve, wanted to get away from the *idea* of painting entrenched in color and perspective. “Perspective resembles color which like it cannot be tested by touch… I wanted to get away from *la patte* and all that retinal painting,” see Thierry de Duve, *Pictorial Nominalism: On Marcel Duchamp’s Passage from Painting to the Readymades*, translated by Dana Polan (Minneapolis: University of Minnesota Press, 1991), xiv, 23, 73, 76, 135. In the *Rite of Spring*, Igor Stravinsky dispensed with metric rhythm and the underlying stable pattern of beats in favor of single impulses and short motifs built into irregular sequences, see Stanley Sadie and Alison Latham eds., *Stanley Sadie’s Music Guide* (Englewood Cliffs, NJ: Prentice-Hall, 1986), 439-441.
manipulating the piano’s viscera as well as playing with the ground of tonal music and aggregated pitches; Cunningham transformed choreographed dance by exploring the body to its inherent physical limits and to the effects registered by interaction with other bodies. Cage’s and Cunningham’s experimentation with music and sound, dance and daily gesture, had a far-reaching influence that marked an avant-garde battle still vital in the exploration of minimalist art, serial music, and post-minimalist procedures later exemplified by Nauman. One of the main traits of their work was insistent interruption; interruptions and disturbances were the acute means of disjointing rationalism, causality, and intentionality in order to open the system and make the aggregated expanse dynamic. I argue that interruption was the only means to secure indeterminacy. I will risk suggesting an interruptive determinism of a sort, one that, although necessary, flees its determinate hold by the very contingent movement of bodies—a movement that produces bodies in time and therefore is never trapped in determinism, as I will show in Chapter 3. In Cage’s work the consistency of interruption yields inconsistencies produced by musical instruments, the transformation of hierarchy in the musical concert hall, the change of writing and reading notations, and positive consideration of noise in aggregated sounds. These experiments are not swayed by anything but vibrant grounds, that is, by the transformation of vertical hierarchies to horizontal machineries/organs.

Cage’s ideas regarding indeterminacy evolved from within constructive musical systems; in the process, he shared concerns with French composer Pierre Boulez. In 1949, at the suggestion of American composer and critic Virgil Thomson, Cage knocked on the door of Pierre Boulez in Rue Beaufreillis, Paris. The two became friends. Among the painters, playwrights, and novelists that Boulez introduced to Cage was composer
Olivier Messiaen, who invited him to play his *Sonatas and Interludes* for prepared piano.\(^{153}\) On June 17, the piece was performed at Suzanne Tézenas’s salon. The piece, composed of score and piano preparation, was created between 1946 and 1948 for pianist Maro Ajemian (fig. 39).\(^{154}\) Jeffery Perry asserts that the work completed the first phase of Cage’s compositional development, and Jonathan Kramer termed it antiteleological, stating that it “presents static, endless Nows.”\(^{155}\) In addition to the aggregated score, Cage transformed the very ground of sound production by penetrating and changing the technical apparatus of the piano’s body, as Perry’s detailed analysis proves: “As Cage demonstrates, the strings, soundboard and action of a concert grand piano comprise a non-linear device *par excellence.*”\(^{156}\) To change the sound of the piano meant interrupting its organs, its internal beats, the trajectory of its sound streams channeled by its nervous system, its strings. Cage began transforming pianos in 1938 when he composed his first piece for prepared piano for dancer Syvilia Fort’s *Bacchanal*. There was not enough room on the stage for both ensemble and dancer and Cage’s composition was restricted to one  

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\(^{153}\) Virgil Thomson wrote an enthusiastic review for the *Herald Tribune* about the music and performance of *Three Dances, A Book of Music* and *The Perilous Night*, composed for five prepared pianos, see John Cage, “How the Piano Came to be Prepared” (1972), in *Empty Words: Writings ’73-’78* (Middletown, Conn: Wesleyan University Press, 1973), 8. The performance took place at Suzanne Tézenas’s Salon, but there seems to be a debate about whether the performance took place on June 7\(^{th}\) or June 17\(^{th}\). In Pierre Boulez’s notes, as in Cage’s letter to his parents, the date is June 17\(^{th}\), but Peyser dates the event to June 7\(^{th}\). See Jean-Jacques Nattiez ed., *The Boulez-Cage Correspondence*, translated by Robert Samuels (Cambridge UK: Cambridge University Press, 1990) 5, 27.  

\(^{154}\) Cage’s first prepared piano piece was altered in the late thirties for Syvilia Fort’s *Bacchanal* at the *Cornish Theatre*. After “conscientiously trying to find an African twelve-tone row [a combination of African rhythm and Schoenberg’s atonal technique]… I decided that what was wrong was not me but the piano. I decided to change it,” wrote Cage. See “How the Piano Came to be Prepared,” 7.  


\(^{156}\) Perry, “Cage’s Sonatas and Interludes for Prepared Piano: Performance, Hearing and Analysis,” 37, and footnote 7.
piano. He decided that the problem was not restricted to the composer but to the piano, and decided to change it.\textsuperscript{157} Cage credited Henry Cowell’s unexpected results of placing pressure on the \textit{una corda} as a significant source of influence on his obstructed piano. It is worth noting that Cage mentions the pressure as a significant act that yielded a novel set of transformed sounds. Cowell also used pressure when he changed the piano’s sound by plucking and muting the strings with his fingers and hands. However, Cage was not satisfied with endogenous manipulations or with Cowell’s transitory solutions, so he introduced interruptions that maintained constant change. Cage inserted domestic tools into the piano to change its soundscape while dissolving the edges that differentiate and define its elevated status as musical instrument. In regards to his first prepared piano for Sylvia Fort, Cage wrote:

I went to the kitchen, got a pie plate, brought it into the living room, and placed it on the piano strings. I played a few keys. The piano sounds had been changed, but the plate bounced around due to the vibrations, and, after a while, some of the sounds that had been changed no longer were. I tried something smaller, nails between the strings. They slipped down between and lengthwise along the strings. It dawned on me that screws or bolts would stay in position. They did. And I was delighted to notice that by means of a single preparation two different sounds could be produced. One was resonant and open, the other was quite muted.\textsuperscript{158}

The change of timbre produced segregated sounds that at times are unrecognizable as emanating from a piano. Cage’s manipulation of the piano’s physicality resulted in a unique underlying order, creating sounds that could no longer be coherently ordered by the listener. Roger Shepard was quick to note how these

\textsuperscript{157} Cage, “Prepared Piano”, 7.
\textsuperscript{158} Cage, “Prepared Piano,” 7-8.
aggregated soundscapes broke down the barrier of coherence; they were produced in the image’s flight, in separation of sounds and novel accord:

When [several tones forming a series] are separate in timbre, they are difficult to hear as a coherent stream, and tones with the same timbre segregate out from the stream and are heard independently. Further, when repeating sequences of three or four tones are used, the order of the tones becomes difficult to identify.  

For *Sonatas and Interludes* “Cage spent three hours carefully inserting objects into the piano that he had chosen for the work,” Joan Peyser recollected, “the living room was jammed. Chairs were set up close together and Cunningham stretched out on the floor between the foyer and the living room.” Cage’s prepared piano changed the musical topography of projected sound. From his table of preparation we learn the details of his changes, a layering of multiple topographies of sound that fold in traditional musical hierarchies and place them in new milieus (figs. 40, 41). And yet, this was not all: the spatial setting of the performance, the packed crowd, and Cunningham’s body, a vertical body of performance, laid horizontally in between the architectural divisions of Tézenas’s Paris apartment, between the foyer and salon, marked not the center of the musical domestic hall but a periphery that pulled in other spaces, irrelevant spaces. Cunningham’s body stretched on the floor dislocated the visitors’ perceptive awareness. His performing body became a counterpoint to Cage’s soundscape. Lying amidst the listeners Cunningham’s body pulled their seated position downward to the floor. He marked new terrain, a body that not only listens to the music, but is exposed to it. Cunningham

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answered the sonata’s pitches, rhythms, and tones with his body as he responded unpredictably to the piano’s vibrations through the floor.

This kind of dislocation and misalignment produced by the combination of Cage’s preparations and Cunningham’s body movements produce the same kind of disturbance in our sensory perception of proper space and its functions. When Nauman walks on the perimeter of the square or in his corridors piece, he opens a location between sight and hearing as he collapses our habitual responses. The sense organs do not align with the direct sensed object (and, please note, I am not referring to synesthesia), their poor alignment disturbs and substitutes the topographical limits of the body, the instrument, the score. They become interchangeable milieus and thus make their very instrumentality porous. Into the now impaired visual milieu, the body introduces its rhythmic breath, its calculated stomping, and oscillated hips, inter-media, opening a locale by way of interruption, by keeping a wedge between spaces and technologies.

Cunningham’s flattened body, Cage’s prepared piano, and Nauman’s stamping and zigzag oscillations weaken the hold of linear perspective and time. Peyser remembers that when Cage worked on preparing the piano, “something was not in order with the una corda pedal and Suzanne Tézenas watched with apprehension as Cage poured Cognac into her Bechstein to weaken the glue between the strings.”\(^\text{161}\) In the text accompanying the first recording of Sonatas and Interludes, Cage specifically stated that the use of preparations was not a criticism of the instrument, but simply a practical measure needed to obtain change.\(^\text{162}\) Although the preparation for Sonatas and Interludes is very complex,

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\(^\text{161}\) Ibid.
\(^\text{162}\) Cage, booklet text for Ajemian’s recording of the cycle: John Cage: Sonatas and Interludes, Composers Recordings Inc. CRI 700 (reissue).
including forty-five prepared notes, the transformation of the piano’s sound is mostly obtained by change of pressure. Using screws and various types of bolts, the exogenous bodies press the strings of the piano, changing the gaps between the strings. The length of vibrating segments results in a higher or lower pitch and increases the variety of timbre (fig. 42). The preparation of the piano, like a string or percussion instrument, uses intermedia to activate its inner organs.\textsuperscript{163}

In the introduction to Cage’s performance, Boulez explained how the prepared piano changes the grounded imperatives of Western music.\textsuperscript{164} Cage was “questioning acoustic ideas received in the course of the evolution of Western music, ideas on which the most radical and challenging works are still based,” said Boulez:

\begin{quote}
Instead of giving what might be called pure sounds—fundamental and natural harmonics—John Cage’s prepared piano supplies us with complex frequencies… he set about destroying the notion of the octave and avoiding the successive repetition of any one note in two- and three-part counterpoint, using scales of twenty-five chromatic tones, so that each sound is individualized and at least nine sounds occur between repetitions. These essays took place at the same time as explorations in the field of abstract painting.

Boulez’s remarks on Cage’s move from octave to frequencies supports the core of my argument regarding the correspondence between the visual and the sonorous in Nauman’s work. While the connection between destroying the notion of octave and the movement against art’s reliance on the ocular are hardly new, Nauman’s realignments are tied in with the transformation of frequencies. This entails exchanging metric topographies with varying rhythms. Whether he is
\end{quote}


\textsuperscript{164} Cage’s first prepared piano was for \textit{Bacchanale} for Sylvia Fort (1938), see Bunger, \textit{The Well Prepared Piano}, 5, 64.
effacing painting by introducing the body’s measured movements (stamping, oscillating on the perimeter of painting); or by creating claustrophobic situations that change the frequencies of the viewer’s breath, heartbeat, nervous system (corridors, excruciating sound to be discussed later); or by producing rhythmical topographies (sound pieces, also discussed below), Nauman works against common units of measure by generating spatio-temporalities contingent on different rhythms. For Gilles Deleuze, a close friend of Boulez, the foundation of perceptual aesthetic comprehension is rhythmical. At the very base of metrical concepts rest rhythmical percepts, spatio-temporal rhythms that take place prior to concepts. In fact, metrical ordinates mask and subordinate rhythmic processes. The only way to flee this territorialization is to interrupt it; Boulez continued:

Cage came to realize that no matter how carefully the clichés of the old tonal language are avoided, the responsibility for them remains, for a large part, with our instruments, which were created according to the requirements of that language… After many cautious experiments Cage tried to establish what objects could remain stable between the strings of the piano (the resonance displacing objects], what were the materials to use and how they should be placed; from this he deduced the necessity of modifying duration, amplitude, frequency, and timbre—in other words, the four characteristics of sound. To facilitate realization, he used everyday objects, such as screws, nails, nuts, felt, rubber, and pennies, wedged vertically between two strings or horizontally straddling the three strings relating to a key.’’

Boulez stresses that Cage’s acoustical transformation was a transformation of technique. The only way to flee Western music was to changes its instruments, its organs. Cage’s solutions do not evolve ex nihilo but are a palimpsest of previously given grounds by way of interruption. Disuniting the strings of the piano, and thus the melodic intervals

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165 Nattiez, 27-30.
between notes and chords, immediately yielded a new topography, an unknown ground that demanded neglecting intentionality and avoiding telos, for how to produce meaning from an unknown territory while overcoming projection? Thus interruption as effacement became a programmatic device for keeping the indeterminate aggregate. Interruption was not restricted to the discreteness of music, but demanded making music porous by pulling in outside mechanisms and techniques to render a material, immanent solution found beyond the limits of the medium. Using screws and bolts, pressure and release, wedges and Cognac, Cage modified duration, amplitude, frequency, and timbre, effacing music and changing sound as such. Following Cage’s experimentation, we will see how visual artists who had direct influence on Nauman explored the grounds of art to find solutions that exhausted traditional hierarchies by way of interruption and technical experimentation.

**Losing My Mind: The New York Scene**

Many of Nauman’s corridors initially pose the visual apparatus as the ground into which the visitor enters. The pieces work like two-dimensional maps that delineate a perspectival support transformed into three-dimensional grounds for the visitor to occupy. Reminiscent of Cage’s *Music Walk* (fig. 43, 1958), where the five-line staff is turned vertically, withdrawn from its purpose as support for aligning and reading notation, Nauman’s perspectives become raw materials for the subject to occupy. Cage’s *Music Walk* features ten pages marked with points (one lacking them) to be interpreted by the performer in any order by superimposing the plastic rectangle containing the empty staff in any position. Featuring exhausted musical topography, Cage keeps an
empty coordinate sheet as an underlying stratum; the effacing of signification results in a move to sense-making—the production of sensory experience is the praxis. In a series of drawings for *Parallax Piece* and *Corridor Installation With Mirror – San Jose Installation (Double Wedge Corridor With Mirror)* (figs. 44–47, 1970–71) Nauman’s overlay of illusionist topographies and real spaces becomes transparent. This superimposition imports distortions from pictorial illusion into real space, rendering the latter contingent on immediate sensual perception alone. Here, percepts are exchanged for concepts. A percept is subjective and singular, generating spatio-temporalities through actual experience, as stressed by Nauman: “The Parallax Pieces have to do with experiencing distance and space. You think about illusions in painting, but they also happen in real space.” The drawings show distortions in our perception of space. They stipulate dynamism submitted to walking through the space as delineated by the mechanics of seeing. However, the distortions Nauman seeks, and the realization of the drawings in the actual installation the visitor occupies, mark not the emergence of sense from a substantial origin but from the affectability of a singular manufactured and unstable material locus. Although delineated by the very ground of art, perspective weakens its “referential ideality” to become a counterpoint in the process of sense making, an a-teleological mechanism that overturns expectation.

Nauman’s three drawings for *San Jose Installation* exhibit triangular perspectives. The first displays an isolated sharp-angled isosceles triangle fixed with a mirror at its apex; the second poses the same triangle on the leg of a rectangle designating a room; and the third doubles the isosceles triangle horizontally, creating symmetry between its

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converged tips. The triangles are twice interrupted: they are posed horizontally on the paper plane and their apex is impeded by mirrors. They challenge the eye’s expectation to reach a vanishing point, and their mirrors do not lend direct reflection. These illusionist mechanisms become blocking instruments, and it is only in the exposition of their inoperative bodies that they unhinge their instrumental causality to become nonvisual instruments that support rhythmic soundings. The equal measured legs of the triangles, dictated by perspective, are divided into two corridors, thus merging the flat device with the stereoscopic machine, which in turn becomes a walking corridor, sustaining rhythmic pace while disengaged from the ocular regime. “What I liked about that piece was how the image changed as you walked through it. You walk down what you assume is a straight corridor expecting to get to the end at some point, and then when you get to a certain point, you see yourself. There would be some confusion as to whether you see yourself entering or leaving,” said Nauman. Further, the *San Jose Installation* drawings serve as keys to understanding Nauman’s rectangular corridor and suppressing rooms. While his triangular rooms, lit in unforgiving yellow or green, directly correspond to the support of the perspectival, it is interesting to see how Nauman exchanges the triangle zenith of perspective with the corner of architectural spaces. The *San Jose Installation* drawing explicitly shows the tip of the triangle touching the corner of the room. In *Going Around the Corner Piece* and *Four Corner Piece* (figs. 48, 49, 1970), the viewer literally walks between monitors and cameras fixed at the corners of a sealed room, trapped between pictorial geometry translated into a surveying apparatus. Dated 1970, *Two Fans Corridor* (fig. 50) occupies the blinding mechanism of two industrial fans. The

167 Ibid., 22.
installation is composed of a U-shaped corridor formed by three walls installed twenty-four inches from the existing walls of a room. The blind gap between the existing room and the false walls is marked by the fans blowing into each of the two entrances to the corridor.\textsuperscript{168} The work evolved from Nauman’s use of fans in setting the stage for Merce Cunningham’s dance piece \textit{Tread}, performed at the Brooklyn Academy of Music in 1970. Nauman had employed ten fans placed across the front of the stage blowing at the audience, again interrupting orientation and perception.\textsuperscript{169} What is interesting about these pieces is the evolution of perspective from an illusionistic device that pertains to an oriented space to a linear device that makes spaces. As the latter it may display in triangles, rectangles, or lines, but it is always a wedge, marking an interval that changes topographies—reminiscent of the very wedge placed by Cage between the instrument’s organs as key interruption in the transformation of sound topographies, of sounding bodies.

The difference between signification and making sense has many faces. While Nancy’s move from sense (logos) to sense (sensorium) will be touched on in the next chapter, among the plethora of terms used by Deleuze to distinguish pre-given topographies from making lines of flight are the trace and the map. Maps, for Deleuze, unlike traces, are entirely oriented toward experimentation in contact with the real. While traces recall some prior activity, the map fosters connections between mediums and directions; it is open and connectable, detachable, reversible, susceptible to constant modifications. It can be adapted to any kind of mounting, and as a rhizome it is a

\textsuperscript{168} Kathy Halbreich notes that Nauman used a swiveling electric fan pointed at the audience at Davis (circa 1965), see \textit{Bruce Nauman}, edited by Joan Simon, 249.

\textsuperscript{169} Ibid.
passageway. A map “has to do with performance, whereas the tracing always involves an alleged ‘competence,’” wrote Deleuze.\textsuperscript{170} In his reading of the musical harmony of the Baroque, Deleuze turns Leibniz’s monadology into nomadology; he offers an opening, one that pertains to becoming in-between topographies, an opening amid strata.\textsuperscript{171} This opening persists when thinking of the neighboring arts as located in between dispersed connectabilities or contingent substrata that mark nothing but themselves. Amid the dispersed, connectabilities actualize in becoming intervals that continually, though discretely, deterritorialize and reterritorialize their momentary shapes. I propose that Nauman’s corridors are not restricted to constructions made of parallel boards, for they may be shaped as rectangles, triangles, lines, perimeters, etc. They adhere to one property: interruption. And, as such, they are intervals and dividing operations. Susceptible to and dreaded of unity, they do not forget ground, but subvert its very constituents to produce maps.

The tension between performance and set maps was the subject of experiment in the early 1960s at The Judson Theater in New York. Drawing upon the Deleuzean performative maps, I will show how many artists used cartography to disregard recorded schemes (geographical maps, notations etc.). Cartographic performance is a creative intervention shaping its own face, its own movement, while bounding what there is: the very activity and its compartmentalized definition in effect. Such activities exposed the instrumental forces of symbolization and regulation of pregiven cartographies. Although my interest lies in the performance activities affecting Nauman’s work, it is worth noting

\textsuperscript{170} Deleuze and Guattari, \textit{A Thousand Plateaus}, 12-13.
that cartographic games, or play with schemes of signification involving geographical, pictorial, and linguistical maps, were produced at the same time by Jasper Johns, Robert Rauschenberg, Yves Klein, George Brecht, Nam June Paik, James Turrell, Nancy Graves, Sol Lewitt, Adrian Piper, Nancy Holt, Robert Smithson, and others. The surface pattern, the traced map, was used by these artists as a medium, or a surface indicating governance. Artist Peter Fend describes maps as dynamic performances predicated by action: “An action of mapping is followed by an action in the site mapped.” Maps are thus no longer objects articulating a priori space. This move, from perceiving maps as objects to thinking of them as actions, marks their end state, their instrumentality as a product of making sense. And yet, maps were not restricted to making geographical locales: they had the potential to define anatomy, the mind, physical movement of individuals, of groups, of their relations, and so forth. Maps, charts, diagrams could be seen as both bounding movement and yet contingent on movement.

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172 The scope of this dissertation cannot outline the evolution of cartography in the arts, however, bounded within the 20th century significant contribution to the definition and deconstruction of the pattern surface is traced in Salvador Dali (Baby Map of the World, 1939); Surrealists’ Map of the World (1929); the work of Max Ernst, see for example Artist’s Proofs for the Bell Ringer and the Map of the Ocean, in La Chasse au Snark by Lewis Carroll, 1950); Joseph Cornell (Space Object Box: Little Bear etc., 1950-early 1960, Planet Set, Tête Etoilée, Giuditta Past (dédicace), 1950); Piet Mondrian (Broadway Boogie-Woogie, 1942-43); Joaquin Torres-Garcia (Upside Down Map, 1943); Ellsworth Kelly (Terra Incognita, 1950); Guy Debord (Psychogeographic guide of Paris, 1955); George Brecht (Candle Piece for Radios, 1959); Christo and Jean-Claude, Hamish Fulton, Richard Long, Claes Oldenburg, Yoko Ono, Larry Rivers, Robert Watts, George Macianus (Ginger Island Map, 1969), and more. See also Robert Storr, Mapping (New York: Museum of Modern Art, 1994); Nina Möntmann et al., Mapping a City (Ostfildern-Riut: Hatje Cantz, 2004); William Cartwright et al. eds., Cartography and Art (Berlin: Springer, 2009); Katharine Harmon and Gayle Clemans, The Map as Art: Contemporary Artists Explore Cartography (New York: Princeton Architectural Press, 2010); Cornelia H. Butler and Catherine de Zegher, On Line: Drawing Through the Twentieth Century (New York: Museum of Modern Art, 2010).

This double nature will open a gap between a priori schemes and experience to overturn the primacy of the first and allow spatio-temporal productions contingent on touching media. These medial effects exhibit the tangible relations of neighboring maps.

The collaborative activities that took place in the legendary spaces of the Judson Church experimented with inter-media, transgressing pregiven grounds through interruption and penetration of limits. If one were to visit the Judson Dance Theater in New York in the early 1960s, one would notice that performances took place upon the delineated topography of the basketball gymnasium. The linear arena appears in many photographs by Al Giese documenting the work of Yvonne Reiner, Ruth Emerson, Elaine Summers, Trisha Brown, Carolee Schneeman, and others (figs. 51–53). The basketball court manifests the typical support for public games, and it not only alludes to Nauman’s studio demarcations, or the very support for the activities taking place at Judson, but to the forces of the gymnasium as a conventional and ideological support. The lines marked upon the basketball parquet, reproduced in geometrical accuracy, demarcate a democratic dissemination of eventful locales; they embody the legislative mechanism controlling and regulating the movement of bodies in the athletic game, and yet, when supporting the operations of the Judson Theater artists they become inoperative. Dispersed rhythmic movement and inter-media experimentation replace the geometric imperative pertaining to the eye, allowing or prohibiting occupation.\(^{174}\)

\(^{174}\) The demarcations of the basketball court govern the rules of the sport, but the choreographer certainly does not consider such boundaries when composing a dance number. An opposed approach to the one offered at Judson may be traced to the work of Oskar Schlemmer. The German painter, sculptor, designer and choreographer, played with the human body and geometry. In his most famous work \textit{Triadisches Ballet} the actors are transfigured to geometrical shapes. Schlemmer’s theory of performance, kept in a diary since 1911 until his death, was a unique dialectics between the body and
The Judson Dance Theater’s collaborative activities performed at the Judson Memorial Church in Greenwich Village involved musicians, dancers, and visual artists working together to produce dance concerts. Resonating with the collaborative activities of Cabaret Voltaire (1916), their inter-media approach exposed the bare elements of the various mediums at play by transforming and withdrawing from their own commonalities, from their territorialized grounds. The Judson Dance Theater was cultivated beside The Judson Poet League and the Judson Art Gallery—it was a place for “happenings” and a minimalist arena. A key figure who explored inter-media in the basement of the Judson Church and the New York gallery scene was Robert Morris. Morris moved to New York from San Francisco with his first wife, Simone Forti, who introduced him to movement and improvisation. Primarily an object-based artist, he brought performance into the province of sculpture.

In 1960 Morris joined the Judson Dance Theater, and between 1963 and 1966 he produced seminal choreographic work in tandem with minimalist environments. Morris’s Passageway, a 1961 installation, anticipates Nauman’s corridors by placing the visitor between two arcs fastened at their ends (fig. 54) and introducing a recording of rhythmic heartbeats in the tight space. In this corridor, Morris replaced the 2-D Euclidian planes with Riemanian spheres into which the visitor could enter. In Nauman’s corridors the geometry, theory and practice, and their Apollonian/Dionysian roots. Two works from 1927: Figure in Space with Plane Geometry and Spatial Delineation, and Dance in Space, we see the relations between the instinctive body and its geometrical demarcations. Mensch und Kunstfigur (1925) exhibits the body as both producer and product of geometrical spheres. See RoseLee Goldberg, Performance Art: From Futurism to the Present, (New York: Thames and Hudson, 2001), 99-106; Melissa Trimmingham, The Theater of the Bauhaus: The Modern and Postmodern Stage of Oskar Schlemmer (New York: Routledge, 2011), 47-103.

recorded heartbeats are replaced by the artist’s stomping or by the singular rhythmic movements of the visitor. However, when a body is wedged in the corridor, we may recall the problem of creating signification on the surface of a painting. In his construction of *Kassel Corridor: Elliptical Space*, composed for Documenta V in Kassel (fig. 55, 1972), Nauman follows Morris’s *Passageway* quite closely. Nauman’s drawing for the piece explicitly demarcates (in green) and inscribes the “area not visible from either end opening”—a blind zone devoid of signification constituted within the apparatus.176 *Passageway* marked the evolution of Morris’s later blind labyrinths. In an interview dated 2008 he recollects,

Wittgenstein’s remarks in the *Tractatus* that “I am my world. (The microcosm),” my heart skips a beat. I make a 50-foot long plywood *Passageway*, which narrows as it curves. Two arcs of a circle converging. I wedge my body between the narrowing walls, which curve ahead and out of sight. I am suspended, embraced and held by my world. I listen to the faint sound of the hidden mechanical heartbeat I have installed over the ceiling of *Passageway*. There is nothing to look at here in this curving space which diminishes to zero. In this blind space whatever constitutes the “I” of my subjectivity evaporates and I think of that other remark of Wittgenstein: “The subject does not belong to the world: rather, it is a limit of the world.” Others who visit *Passageway* leave messages written on the walls such as “Fuck you too.” I repaint the grey walls once a week… Never again will I lose myself in such blind and self-sufficient spaces. Never after am I as unhappy and as exhilarated as in these years.177

Morris’s reference to Wittgenstein’s section 5.6 of the *Tractatus* draws the limit as the locus constituting subjectivity. Throughout the *Tractatus*, Wittgenstein’s logical construction seeks to find the limits of representation, thought, and language. Wittgenstein asserts that “The limit can … only be drawn in language and what lies on

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176 Bruce Nauman: Drawings for Installations, 33.
177 Simone Grant and Robert Morris, “Interview: Robert Morris” see www.tate.org.uk/tateetc/issue14/interviewmorris.htm
the other side of the limit will be simply nonsense.”178 The condition for having sense rests on the possibility of representation or picturing. And yet, logic cannot be represented; instead, logic is the limit of language and thought, and thus the limit of the world.179 Here, Wittgenstein derives the thinking subject that does not know itself. The thinking subject does not exist, for there are no means to speak of her: “There is no such thing as the subject that thinks or entertains ideas … in an important sense there is no subject; for it alone could not be mentioned.”180 Wittgenstein correlates the act of thinking with representation, contending that we cannot speak of the subject in the same way that the representational apparatus cannot be represented. He expands this idea by asserting the direct relation between the subject and the eye: “Where in the world is a metaphysical subject to be found? You will say that this is exactly like the case of the eye and the visual field. But really you do not see the eye. And nothing in the visual field allows you to infer that it is seen by an eye.”181 Morris’s blind Passageway references Wittgenstein’s (non)seeing subject directly by performing the visual mechanics of the eye ungrasped by seeing.

For Morris the “I” is a limit of the world constituting subjectivity by touching upon its very limit. Morris draws upon Wittgenstein’s seminal argument that the outer can be said to be the locus of the inner, and more specifically, the inner as set against the background of which someone is part. Three years after Passageway, Morris posed the problem of geometrical representation and the limits of his body in his first solo

179 Ibid., §4.0312, 26.
180 Ibid., §5.631, 69.
181 Ibid., §5.633, 69.
exhibition at Green Gallery (fig. 56, 1964). Morris arranged seven geometric plywood objects, painted in Merkin Pilgrim gray, in relation to the spaces’ architecture. Human in scale, the pieces transposed the artist’s physical and architectural limits into new sculpture. Influenced by Morris’s compositions, Nauman created his fiberglass pieces (1965), and in Wall-Floor Positions (fig. 57, 1968) he replaced Morris’s objects with his body by assuming a set of positions in relation to a wall and floor. Exposing the body’s technicity by way of the physical interval pressing the bounding architecture is similarly executed in between the corridor’s walls. The problem of how to flee the illusionist order in favor of physicality was a significant concern for post-minimalist artists. In 1968 Morris published his decisive essay “Anti-Form,” regarding the problem of the forced support:

What remains problematic about these schemes is the fact that any order for multiple units is an imposed one which has no inherent relation to the physicality of the existing units … these simple orderings … simply separate, more or less, from what is physical by making relationships themselves another order of facts… The focus on matter and gravity as means results in forms which were not projected in advance … It is … silly to define [painting’s] “thingness” as acts of logic that acknowledge the edges of the support. The optical and the physical are both there. Both Pollock and Louis were aware of both. Both used directly the physical, fluid properties of paint … The forms and the order of their work were not a priori to the means.  

By 1969, Richard Serra was splashing melted lead onto the angled junction of floor and wall at the Castelli Warehouse (fig. 58). The result of this process was displayed by Serra in Anti-Illusion: Procedures/Materials alongside Nauman’s Performance Corridor. This exploration of the architectural junction of planes was also

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seen in Nauman’s variable body movements, explored a year prior to Serra’s lead splashes. By displaying process against a “background,” these artists sought to overcome the problem of projecting predetermined formations; however, as Serra quickly realized, pictorial results sneaked in the back door. “A recent problem with the lateral spread of material, elements on the floor in the visual field,” he explained, “is the inability of this … mode to avoid arrangement qua figure/ground: the pictorial convention.” Rosalind Krauss observed that the need to do away with illusionism by way of physical processes applied to material “is obviously the desire to … embed its existence in the world.” Nonetheless, the problem of (pictorial) ground, and how to form volumes or bodies among bodies while avoiding unified locales persisted. Serra detected the problem of imposed point of view: “when the pieces are viewed from above, the floor functions as a field or ground for the deployment of decorative linear planar elements. The concern with horizontality is not so much a concern for lateral extension as it is a concern with painting. Lateral extension in this case allows sculpture to be viewed pictorially—that is, as if the floor was the canvas plane.” From this Krauss deduced the circular logic of process, given that “when the material operation was used to break up the grip of the image, the image came back to lay hold on the operation and to convert it into terms of painting, to threaten it with a space that was virtual rather than actual.” While Serra’s solution was to avoid extraneous and external forces as in One Ton Prop (fig. 59, 1969), which remains in the hegemony of one material adhering to its own heaviness and

184 Ibid.
185 Ibid., 106.
186 Ibid., 107.
resistance, Nauman was exposing the pictorial apparatus, bringing into consciousness what Krauss deemed the optical unconscious, overturning its illusionary ground into matter of fact. Thus treated, Nauman exposed the physicality of art. If we consider the corporeal body manipulated in Morris’s work and the limits of matter explored by Serra, we see how Nauman deliberates both equally. What I am suggesting here concerns the collapse of the subject/object dichotomy in its extremity—in the creation of aggregate bodies that equally interchange bodily organs with the organs of the work of art, with arts’ technical support. Two trajectories may be traced in this move: the first works in interruption of sight, resulting in the decapitation of synthetic summoning; the second exchanges the a priori ground of sight/rationalism with dispersed rhythms.

In the tradition of Bataille’s acephalous labyrinths, Barthes’s dead author, Foucault’s panoptic regime, and so forth, the call for the collapse of architectures dismembered the unified body. Both the human body pertaining to the artist/viewer/producer and its corporeality were segmented into organs and senses, and the work of art as a body was exposed in technicity. The common propensity of this interchangeable segmentation was to permeate the body with gaps and pores that would discard pre-given projections. Artists sought to interrupt the ruling mechanism posed by each problem. In the attempt to flee painting they jammed its governing perspectives, and when dealing with the human body they sought to discard the reasoning mind as postulated by Descartes’s modern subject. For instance, the subjugation of the physical body to the mind’s hierarchical control was provoked when Morris ironically displayed the Cartesian predicated cogito in a series of Brains (figs. 60–62, 1963). The heavy weight of these self-portraits, the artist’s mind cast in plaster and covered with wax,
silver, and one-dollar bills, removed thinking from its mysterious fabrications, from its metaphysical undertaking, displaying its gravitas.187

The ability to exchange bodies with objects was seen also in Yvonne Rainer’s dance procedures, in particular her 1965 work Trio A, which emphasized the conditions of embodiment, the inter-subjective relations, and psychological processes.188 For Rainer, a student of Merce Cunningham, the transposition of objects and bodies was contingent on their materiality and physical limits. As a neutral purveyor of information, devoid of persona, in 1966 she posed the Mind as a Muscle to employ repetition, distribution of energy, neutrality, and singular actions. In a working version for “A Quasi Survey…” Rainer constructed her programmatic exchangeability between dance elements/objects, and traditional methodologies (to be “eliminated”) versus new approaches (fig. 63, 1966). Nauman’s walking pieces adhere to the new modus operandi set between dance and object, as Rainer’s list of elements shows:

<table>
<thead>
<tr>
<th>Substitute</th>
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<tbody>
<tr>
<td>1. factory fabrication</td>
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<tr>
<td>2. unitary forms, modules</td>
</tr>
<tr>
<td>3. uninterrupted surface</td>
</tr>
<tr>
<td>4. non-referential forms</td>
</tr>
<tr>
<td>5. literalness</td>
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<td>6. simplicity</td>
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Impeded Vision

*Video Corridor for San Francisco (Come Piece)* (fig. 64, 1969) decapitated the rational system of representation, but this time the disembodied mind was not on display, nor was it becoming a muscle. Nauman was directly interfering with our heads, with our vision, and with our perception. The work lays bare the optical mechanism of Renaissance perspective as ground for the visitor to occupy. The illusionary crust, supposed by the mechanics of perspective, outlined a floor plan from which construction is exposed in its fallacy. *Come Piece* is a virtual corridor extended spatially between two closed-circuit cameras and monitors. Adhering to linear perspective (*perspectiva artificialis*), two closed-circuit cameras with telephoto lenses were mounted at either end of the space, with a monitor for each camera on opposite sides creating two virtual perspectives. As Nauman explained, it is “like the corridor pieces only without the corridors.”

Replacing the human eye with a surveillance camera and posing the monitors as virtual mirrors, Nauman emulates Filippo Brunelleschi’s experiments with linear perspective. Around 1420 Brunelleschi painted a *tavoletta*, a small panel, representing the Baptistery in Florence as seen from the steps of the Cathedral in strict perspective. Then he pierced a hole in the *tavoletta*, turned it around, put his eyes to the hole on the reverse, and looked at the painting as it was reflected in a mirror that he held

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in front of the panel (fig. 65). He demonstrated that the viewpoint and the vanishing point are on one and the same line perpendicular to the panel, “with the result,” as Hubert Damisch argues, “in projective terms, that they coincide in what appears to be the point of departure (the ‘origin’) of the system. One century later, Pélerin Viator will call it the ‘point du sujet.’” In “good” alignment, the subject occupies the point of origin, creating a clear accord between subjective projection and the technique of *perspectiva artificialis*. Nauman’s corridor dislocates such alignment of subject and technique; here, the originating subject no longer generates prosthetic perspective, but is its subject. The work complicates the notion of fallacy of artificial perspective constructed by the projecting viewer. “*Perspectiva,*” Panofsky reminds us, “is a Latin word which means seeing ‘through.’” It is a window to be looked through in the order of projective geometry, an adequate order of ideal relations. Withdawn from idealism, Nauman’s virtual corridor is matter of fact, a metric materiality at once demonstrating the visitor and demonstrated by the visitor. As a visual web in exposing perspective, art is asked, in effect, to find itself as it is caught up in the act of exposure. Panofsky returns to Ernst

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191 Stephen Bann, “Hubert Damisch and Stephen Bann: A conversation,” *Oxford Art Journal*, 28:2 (2005), 161. For Hubert Damisch, the invention of perspective amounted to no less than a replaying of the origin of geometry according to Husserl. In the Western tradition the invention was a founding act that grew out of the artistic work on the regularity of shapes and volumes, edges and straight lines initiated by the Greeks when they started to approach geometrical thinking in mathematical terms.

191 The *Origin of Geometry* is concerned with Husserl’s detection of the crisis of the European sciences and humanity as such. In the *Crisis of the European Sciences* Husserl argues that science has lost its meaning and became an autonomous machine. Husserl traces the historical roots of science to their Greek origin; however, in his ideal transcendent self he hopes to reactivate the lost origin. See Ibid., 163. See also Edmund Husserl, *Edmund Husserl’s The Origin of Geometry* (1936) translated by John P. Leavey Jr. (Lincoln and London: University of Nebraska Press, 1989).

192 Ibid., 27.

193 Ibid., 30.
Cassirer to explain that “nowhere in the space of immediate perception can this postulate be fulfilled ... here there is no strict homogeneity of position and direction; each place has its own mode and its own value. Visual space and tactical space are both anisotropic and inhomogeneous in contrast to the metric space of Euclidean geometry.”194 As demonstrated by the projecting viewer, Damisch brings up Jacques Bouveresse’s discussion of Wittgenstein, claiming that subjective space is no “less” constructed than objective space. Maria Reichenbach called this constructed space a “subjective metric”: “Visual space which we are tempted to call ‘primary,’ can itself be interpreted as a second order construction erected on the foundation of physical space.”195

The technological novelty of the closed-circuit camera/monitor replaced Brunelleschi’s subjective viewpoint, aligning visual information into “incorrect” (incoherent) seeing. The see-er’s habitual cognizant processes, contingent on her explicit position, were undermined. Her abilities to perceive, process, and make sense (reason) of her surrounding stimuli were replaced by the apparatus’s ability to record and process concrete imagery. She could now turn her back on operative techniques dismissing her reflection, yet still occupy the space in between the mirror and the seeing eye.

The play of eyes—the viewer’s eyes and the technological eye—at once perceiving and projecting, charts spatio-temporal coordinates that reduce human occupancy to a mere point. Thus alluding to the Cartesian subject, one that, for Damisch,

194 Ibid. For the difference between immediate perception with ideal perspective Panofskys returns to his model Ernst Cassirer Philosophy of Symbolic Form (1925). See footnote #7, 77-78.
“is anything but ‘humanist,’ it is conceived to be strictly delineated by spatial and
temporal coordinates.” Damisch, The Origin of Perspective, 45. Cartesian ontology “cannot fail to see,” writes Damisch, since it is related to the cogito, itself a sort of geometrical point. However, it also carves its limit as a constructive technique of spatial orientation, the very limit Nauman marks in complicating the viewer’s perception within the multifold misalignment of eyes, the cameras, monitors, and the human. Perspectiva artificialis makes sense—at once rational topographies and the production of visual sense—only within the order of the visible, which has been tightly connected to modernist sensibility. Nauman’s return to the Renaissance mechanics of looking is provocative because it marks a return to the invention of perspective and its geometrical fabrication rooted in the Greek cradle of Western thought. However, it also expresses tension between two modernist histories: the first detected by Caroline Jones in the Greenbergian reign of vision and the formalism it birthed (in Michael Fried, Rosalind Krauss, Thierry de Duve, T. J. Clark, and others), and the second outlined in Martin Jay’s magisterial exhibit of the crisis of the scopic regime. Jones contends that the epistemological priority of vision is rooted in Kant. She correlates Kant’s disinterestedness with the disembodied subject, devoid, even deprived, of corporeal sensuality under the regulating forces of the ocular regime. She coins the phrase “bureaucracy of the senses” to claim its rational demarcation under the
priority of the visual. While Jones proves the dominance of ocularcentrism and
abstraction, Martin Jay, in his history, describes the denigration of the scopic stemming
from the Impressionists via Henri Bergson to George Bataille and further to the post-
structuralists’ dread of single perspectives and their totalizing accounts.\textsuperscript{199} From the
Cartesian point of departure, Jay asserts that the French antiocularcentrists have
“decisively jettisoned the ocularcentric assumptions of the Western tradition.”\textsuperscript{200}

And yet, I would argue that these two genealogies hinge on systems of
signification and the predominance of the visual in the fine arts. \textit{Come Piece} may be viewed as exposing the subject disembodied under the scopic regime, or it may do the opposite: it may express the body as the only locale into which (visual and distant) object and subject collapse. In this manner Nauman crystalizes a critique that may combine two historical moments that leap over the celebration/denigration of the Greenbergian critique and bring together common traits of the embodied subject and visual perception that counter Descartes’s rational seeing subject and Kant’s epistemological priority of vision. To elucidate these connections within Nauman’s work, let us consider two historical moments: the birth of private viewing in Jacques-Louis David’s 1799 \textit{Sabine Women}, exhibited at the old meeting hall of the Académie d’Architecture in the Louvre, and a 1968 work by Nauman’s contemporary Stephen Kaltenbach, \textit{Mirrored Contacts} (figs. 66–67).\textsuperscript{201} The first is an exhibition where David’s main concern is with controlling the conditions of spectatorship, and which, in addition to its many provocations, situated the spectator between the grand pictorial plane and a mirror; the second is a close-up

\textsuperscript{199} Jay, \textit{Downcast Eyes}, 545.
\textsuperscript{200} Ibid., 82.
\textsuperscript{201} Stephen Kaltenbach was a friend of Nauman’s, and the two took part in Morris’ exhibition \textit{9 at Leo Castelli}, December 4-28, 1968.
photograph of a man whose eyes are inscribed with the outside space he views. In both instances the margins of the seen, whether pictorial or framed in a distance, fold into the subject. Publicola Chaussard, writing in 1800, documented David’s installation effects in a similar manner: “A mirror,” he writes, “placed at the end of the room, repeats and reflects the scene and the tonality of the figures blends there with that of the spectators.” Spectators found themselves hemmed in between two planes and referred from one to the other,” writes art historian Frédérique Desbuissons. He continues to stress the performative transgressions of the Exhibition of the Sabine Women, noting that, at least symbolically, the boundaries between the pictorial space and that of the spectators were crossed. David himself referred to the mirror as “a looking glass [glace] placed in order to duplicate the objects,” thus exaggerating the illusionistic power of painting while enfolding subject and object within this overflow of duplicate (and fragmentary) images. While David created a corridor constructed by two illusionist planes (the painting of the Sabine Women and the mirror), Nauman situates the spectator in a similar manner, but he duplicates the seeing apparatus. The different results I would argue, yield a forecasting of immersive art by David’s installation allowing the reflection

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202 David repeated the use of a mirror in exhibiting his paintings in Coronation (1807) and Mars and Venus (1824).
204 Ibid., 441.
205 Letter by David to the Interior Minister, s.d., Archives nationals F13, 1196, in Frédérique Desbuissons, “A Ruin,” 439. Interestingly, Desbuissons takes a Foucauldian stance when writing: “The mirror in the Exhibition of the Sabine Women was a trap intended to capture the spectators and integrate them into the fictional space of the installation.” Chaussard, Sur le tableau des Sabines par David, 441. This is a fascinating historical segment of augmented reality, and therefore a means to understand the communalities of the scopic reign between the 1800 and the late 1960s.
and absorption of the reflected image of the spectator’s body amidst the images within the pictorial plane, and the resistance to the visual in Nauman. Nauman makes a clear analogy between mirrors and his use of monitors. In an interview with Willoughby Sharp he explicitly says: “the mirror takes the place of any video element. In most pieces with closed circuit video, the closed circuit functions as a kind of electronic mirror.” Sharp asks further:

WS: So you are really throwing the spectator back to himself. That’s interesting. I hadn’t realized the similarity between the mirror and the video image before. Is there a natural extension into video from a certain situation…?

BN: I didn’t consider it. The mirror allows you to see some place that you didn’t think you could see. In other words you are seeing around the corner. Some of the video pieces have to do with seeing yourself around a corner, or seeing a room that you can’t get into like one where the television camera is set on an oscillating mount in a sealed room. 206

The double perspective in Come Piece constitutes an external apparatus demarcating the subject’s space—as if one could only align oneself within the visual, however jammed. Also dated to 1969 was Michael Snow’s work Authorization, which is akin to Come Piece in framing the visitor in between two documenting instruments (fig. 68). Snow’s work does not perform in actual space, for the visitor’s image is reflected on a mirror mounted with photographs; each one documents the process of its own shooting apparatus affixing frames one after the other. The first frame is situated at the center, and the second, a smaller one, conforms in its size and location in the upper left high corner to a vanishing point. The virtual corridors in Snow and in Nauman prevented grasping one’s image. In both cases one was trapped between the apparatuses while trying to align

206 Willoughby Sharp, “Interview with Bruce Nauman” (1971), in Janet Kraynak, Please Pay Attention Please, 150.
one’s sight or reflection without gripping a complete image. Authorization blocked a section of the image behind the photographs, and Come Piece resulted in dysfunctional visuality. The sight contraption thought of as an extension of sensuous perception is impeded in self-reflection. Nauman further manipulated the eye’s position by turning the camera on its side, upside down, thus impeding kinaesthetic orientation because the images on the screen upset “normal” expectations. The image of the viewer was moving on a horizontal plane instead of the vertical; it diminished in size, seeming to recede, as one moved towards the monitor and away from the camera. “You can walk in it, and see yourself from the back,” explained Nauman, “but it’s hard to stay in the picture because you can’t line anything up, especially if the camera is not pointing at the monitor. Then you have to watch the monitor to stay in the picture and at the same time stay in the line of the camera.”207 Staying “in line” was almost impossible. Unlike the aligning homogeneous space of symbolic form, as demonstrated in the genealogy from Descartes to Kant, through Ernst Cassirer to Erwin Panofsky, and the later complications brought out by Damisch, the visual apparatus summoning sight in synthetic perspective is withdrawn within the very techniques that enable appearance.208

For Nauman, seeing, seeing oneself, is predicated on the concretization of seeing in technique. In 1966 he displayed two works entitled Untitled (Eye Level Piece) (figs.

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208 Although the genealogy of the ontology of vision is far too extensive for the scope of my argument, the background I suggest in regards to Nauman’s dysfunctional visual topographies may be traced in the following lineage: René Descartes, Discourse on Method, Optics, Geometry, and Meteorology, translated by Paul J. Olscamp (Indianapolis, IN: Bobbs-Merrill, 1965), see specifically the sections about optics and geometry, 65-228; Kant, Critique of the Power of Judgment, §59; Ernst Cassirer, Philosophy of Symbolic Form: Mythical Thought, translated by Ralph Manheim (New Haven: Yale University Press, 1955), 2, 83-84; Erwin Panofsky, Perspective as Symbolic Form, translated by Christopher S. Wood (New York: Zone Books, 1997), 31.
69, 70), the first made of cardboard and the second of metal sheets. These two triangular constructions hang on walls at eye level. However, the concrete perspective blocks the view—the viewer’s eye meets a material plane. In 1965 Michael Snow constructed Seen, a triangular piece overturning the perspectival vanishing point to meet the spectator’s eye (rather than recede into a distant vanishing point, fig. 71). Nauman further developed his wedged perspective in Device to Stand In (Brass Floor Piece with Foot Slot) (fig. 72). Here, the triangular device to be looked through is transformed into a theatrical model that one could now occupy, and yet its miniature size prevents actual occupation.

Nauman likened this piece to choreography for a dance in which the viewer is invited to participate within very narrow boundaries. The triangle form of perspective becomes a wedge, a small, uninhabitable blocking device. It recalls Cage’s frequent use of wedges between the strings of the musical instrument, changing its measures by pressure and release. And it also recalls Nauman’s stereoscopic pieces San Jose Installation (also titled Double Wedge) and Acoustic Wedge (Sound Wedge – Double Wedge), which make contraptions that see into machines that blind.

In 1966 Robert Smithson exhibited a stereoscopic blinding device in the show Art in Process: The Development of Structure, curated by Elayne Varian at the Finch College Museum of Art. Alongside Judd, Flavin, LeWitt, Morris and others, Smithson showed the Enantiomorphic Chambers (fig. 73), a wall piece composed of two green geometrical constructions mounted with mirrors that was an interpolation of Sir Charles Whitehead’s 1838 stereoscope. The work called the viewer to stand between two identical opposite

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209 Device to Stand In (Brass Floor Piece with Foot Slot) is an edition of two dated 1966: the first made of steel, and the second is brass-colored lacquer.

forms, that is, chiral figures, that manipulated the left and right monocular projections. Figure 74 shows how Smithson overlaid his chiasmic mechanism upon James P. C. Southall’s 1937 plan for a simple box stereoscope.\textsuperscript{211} Nauman uses the same device to establish two virtual channels between the constructions (picture planes in the original stereoscope) and the viewer’s eyes. In both works, the viewer is now posed at the chiasmic tip, the very locale of “good” synthetic observation; she is inside the image-machine, the very same machinery that René Descartes imagined as the mind; however, in Nauman’s installation the visual machineries are now blinded and the head, the seat of the mind, is decapitated from reflective representation.\textsuperscript{212}

Descartes’s mechanistic accounts of visual contraptions and interest in optics as a physical science lead to his larger discourse on illusion and illuminate metaphorically the powers of reason to attain certitude as clear and distinct ideas. His theory of vision rejects ocular vision in favor of a concept that affirms the arbitrary relations between the object of vision and the impressions that objects generate. Vision is understood as a theory of representation and its instrumentalization as a technical device that does not contribute to the illusion of perception but gives birth to the concept of reason based on formal mathematical schematism.\textsuperscript{213} Illusion is consistently tied to the problem of the deceiving senses, and perception threatens the thinking subject. But there remains a question: why is visual illusion given a central investigation in Descartes’ expositions? According to

\textsuperscript{211} Smithson refers to James P. C. Southall’s contraption; for the original drawing see James P. C. Southall, \textit{Introduction to Physiological Optics} (London, New York and Toronto: Oxford University Press, 1937), 238.


\textsuperscript{213} 64.
Erwin Straus, whereas the Cartesian subject essentially rejects sensations as false modes of thought, the mechanistic accounts of the body include those of the perceiving organs and leave an aporia between the totality of the mind and the dereliction of the senses. In the *Meditations on First Philosophy* Descartes explicitly states:

I shall now close my eyes, I shall stop my ears, I shall call away all my senses … I shall try little by little to reach better knowledge of … myself. I am a thing that thinks, that is to say, that doubts, affirms, denies, that knows few things, that is ignorant of many, that wills, that desires, that also imagines and perceives; for as I remarked before, although the things which I perceive and imagine are perhaps nothing at all apart from me and in themselves, I am nevertheless assured that these modes of thought that I call perceptions and imaginations, inasmuch only as they are modes of thought, certainly reside in me.  

Sensations, then, are a mode of consciousness along with true knowledge, judgment, imagination, and volition. Sensations differ from knowledge insofar as the latter is clear and distinct, the former a deficient and confusing mode of knowing. And yet, on many occasions Descartes exhibits links within the mind and body divergence. “Nature … teaches me by sensations that I am not only lodged in my body like a pilot in a vessel,” he writes in *Meditations IV*, “but that all these sensations … are in truth none other than certain confused modes of thought which are produced by union and apparent intermingling of mind and body.” In another passage Descartes claims that sensations are occasioned by stimulation of the sensory organs working against the will of the subject. They occur in the interstice of body and mind, and may only be characterized by a complete lack of communication. Considering sensations only within lack or

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216 Descartes, *Meditations*, VI, 93.
dysfunctionality enhances their role as artificial organs. Extended sensing contraptions import the imperceptible to perception and thus defy the misleading nature of their physical origin. They lack the intrinsic contact with physical things and are therefore extramundane to the mind. Descartes’s fascination with extended vision coincides with the instrumentalization of visual perception allowing a more perfect knowledge of nature.²¹⁷ It is the artificial organ that connects the perceiving of knowledge with human perception.

In the *Dioptrique*, Descartes gives an elaborate mechanistic account of the operation of human vision. Published in 1637, the essay is divided into ten discourses regarding visual perception and the role of light on external objects. Here, Descartes describes in detail how sensations are produced by external stimuli. In the third discourse he offers pure receptivity through an anatomical description of the eye; in the fourth he provides an account of the senses in general, explaining “how the mind, located in the brain, can thus receive impressions of external objects to the brain.”²¹⁸ Descartes explicitly divides the mind from the body, asserting “that in order to sense, the mind needs to perceive certain images transmitted by the objects to the brain.”²¹⁹ He repeats his claim that what senses is the brain:

We already know sufficiently well that it is the mind which senses, not the body; for we see that when the mind is distracted … the entire body is remained without sensation, even though it is in contact with various objects. And we know that it is … the mind … the brain, where it

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²¹⁹ Ibid.
exercises the faculty which is called common sense: for we observe injuries and illness attacking only the brain, which impede all the senses generally. 220

By situating the body, the visitor’s body (and here it would be worth noting that we may no longer name Nauman’s visitor either a spectator or a viewer), Nauman overcomes Descartes’s long-governing ideas regarding the primacy of visual perception in general and those pertaining to the visual arts in particular. My main concern here is showing how the monitors in Nauman correspond to the mirrors in Smithson as they do to Descartes’s visual machine—the eye. In his fifth discourse, entitled *Of the Images That Form on the Back of the Eye*, Descartes sketches the operation of mechanical vision via experimentation with an eye detached from the body. He advises taking an eye of a newly deceased man, or an ox, or some large animal, and cutting through the back through the three membranes that enclose it. He then draws a bisection of the eye alluding both to the organ’s physical mechanism and to its perceiving operation, to show how images are imprinted at the back of the internal membrane (the retina). Figure 75 plainly exhibits the imprint process of the external image on the internal screen after bisecting the eye. Descartes continues:

Then, having covered it over with some white body thin enough to let the daylight pass through it, as for example with a piece of paper or with an eggshell, RST [back internal retina], place this eye in the hole of a specially made window Z, in such a manner so that it has its front, BCD [pupil, the portal for lighted image], turned toward some location where there are various objects, such as V, X, Y, illuminated by the sun; and the back of it, where the white body RST is located … for when this has been done, if you look at that white body RST, you will see there, not perhaps without admiration and pleasure, a picture which will represent in natural perspective all the objects which will be outside of it toward VXY.

220 Ibid.
Descartes’s description of the imprinted image on the back of the eye is a mirror-image impression. “The objects we look at do imprint very perfect images on the back of our eyes,” he continues;

Some people have ingeniously explained this already, by comparison with the images that appear in a chamber [he is referring here to the Camera Obscura] … for they say that this chamber represents the eye; this hole, the pupil; this lens, the crystalline humor, or rather, all those parts of the eye which cause some refraction; and this cloth, the interior membrane, which is composed of the extremities of the optic nerve.

For Descartes, the physiological optics serve the brain; “first of all,” he determines, “it is the mind which sees, not the eye; and it can see immediately only through the intervention of the brain.” A drawing from his fifth discourse on The Treatise of Man further explains the double mechanism that operates the physiology of optical perception and its direct channel toward the perceiving brain situated in the pineal gland (fig. 76). Taking into account the interchangeability between the instruments of seeing, both physiological organs and seeing mechanical contraptions, Nauman creates his own visual device. He installs a seeing instrument that pertains to both Smithson’s memento of the nineteenth-century stereoscope and Descartes’s seeing/thinking machine. Nauman’s colossal stereoscope, Corridor Installation with Mirror—San Jose Installation (Double Wedge Corridor with Mirror) (fig. 77), is a V-shaped double darkened passageway blocked at its apex by a mirror hung at approximately sixty-six inches—slightly below eye level. As in the previous work, the mirror initially reflects its own

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221 Ibid., 91-93.
222 Ibid., 91.
223 Ibid., 108.
apparatus, its own seeing. Nauman opens a gap between the colossal seeing device and the perceiving performer walking inside the contraption. Folding the perceiving body into its own perceptual operation, the visual contraption becomes an interrupting machine. In this interruption each organ—brain, eyes, ears, skin—and each sub-organ—canal, retina, pinna, etc.—is expressed in discrete and unique relation to other organs, machineries, instruments. Alignment becomes more complex since the bounding corridors restrict bodily movement to result in a gap, syncope, in the body’s perception, an interruption in the body perceiving itself. For Smithson, and later Nauman, ocular seeing adhering to clear observation and lucid rationality was decapitated; in the “Interpolation for the Enantiomorphic Chambers,” Smithson wrote:

Superimposed over a plan of a “simple box stereoscope,” in James P. C. Southall’s book *Introduction to Physiological Optics* is a bird’s eye view of *The Enantiomorphic Chambers*. This superimposition indicates the removal of the illusionistic plane of focus, sometimes called the “picture plane.” It is a known fact that we do not see with our eyes but rather with our brain. Thinking about one’s sight enables one to build or invent a structure that sees nothing.

Exposing seeing through stereoscopic technique is physically installed in the brain, and channeling sight through a chiasmic mechanism mirrors a reversed apparatus

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224 Robert Smithson, draft of “interpolation of the Enantiomorphic Chambers,” Smithson Papers, AAA, roll 3834, frame 994. From the moment Smithson, the painter, destroyed and discarded painting, he has been interrupting the viewer’s visual capacity. His earliest piece, *The Eliminator* (1964) was a three-dimensional work constructed of two mirrors adjacent at forty-five degrees, reflecting four zigzag flashing neon-gas-filled tubes, that forcefully cut off the ability to be looked at. Eliminating sight as such, Smithson explained the exhaustion of sight: “*The Eliminator* overloads the eye whenever the red neon flashes on, and in so doing diminishes the viewer's memory dependencies or traces. Memory vanishes, while looking at the *Eliminator*. The viewer doesn't know what he is looking at, because he has no surface space to fixate on; thus he becomes aware of the emptiness of his own sight or sees through his sight. Light, mirror reflection, and shadow fabricate the perceptual intake of the eyes. Unreality becomes actual and solid.” Robert Smithson, “The Eliminator,” in *Robert Smithson: The Collected Writings*, edited by Jack Flam (Berkeley: University of California Press, 1996), 327.
of the mind’s visual pathway. A 1543 drawing by the Flemish anatomist Andreas
Vesalius clearly illustrates Smithson’s and Nauman’s double overturn as invalidation of
sight and fused perception (fig. 78). Still pertinent to contemporary understanding of
medical anatomy, Vesalius’s study, published in *De Humani Corporis Fabrica,*
demarcates the optic chiasm as the locale that joins the left and right eye information in
the optic tract and layers the visual stimuli into the stereoscopic fused image. The place
of the fused image was understood by Descartes as the pineal gland, the seat of the
common sense and the soul. The optic echoes of neurological organs and stereoscopic
instrumentation is striking when considered in the genealogy of artists who wanted to do
away with the synthetic fusion of pictorialism and its rationalizing reasoning mechanics.
Smithson does not allow such fusion, for he analogizes the fused image with illusionistic
space and explicitly writes in his illustration:

\[
\text{Fused Image}
\]

\[
is
\]

\[
\text{“Picture Plane”}
\]

If reversed, the chiasmic apex approaches the zenith of the vanishing point in linear
perspective, producing striated homogenous spatial perception. However it is no longer
an orienting device that controls space in the origin of my eye; it is exposed in its
instrumentality, differed from me, distanced, disoriented, blocked.

In place of the fused image, Smithson’s drawing *After Thought: Enantiomorphic
Chambers* places a decapitated “viewer” *after thought,* after rationalism (fig. 79, 1965).
Photographed with his back to the camera, hands in his pockets, the figure’s head is
canceled out by chiasmic optical apparatus. “Stopping of sight, not by brutal opposition,”
wrote Smithson below the figure, “but by lowering the ‘head.’” Nauman follows this operation by blinding perspective in installing the mirrors lower than eye level or, when filming himself, stomping in the corridor and in his studio, headless. Ann Reynolds argues that the ability to see stereoscopic illusions seems to depend on the viewer’s ability to repress the physical conditions of perception and to suspend knowledge. Smithson’s “optical” forms are concerned with “blindness, not transcendent vision … the space between cornea and the brain provides the spectator with nothing,” writes Reynolds.225

In February 1970, Nauman diagonally bisected the Galerie Konrad Fischer in Düsseldorf with a colossal wall thickly padded with soundproofing material. He not only critiqued privileged sight in the gallery space but blocked its view and allowed only measured movement within the confining division. Entitled Diagonal Sound Wall (Acoustic Wall) (fig. 80, 1971) the work generates an “odd sense of pressure—pressure in your ears as you walk into the space, into the wedge,” Nauman noted.226 In 1971, for the Leo Castelli Gallery in New York, he created Acoustic Pressure Piece (fig. 81), a corridor of two rows of discrete acoustic panels that extended diagonally across the full length of the front of the room and continued through a large doorway into the second room, where it angled to the right. When the piece was sold to the Panza Collection in 1975, Nauman produced a drawing inscribed “Piece may be acoustic + visual blocking.”227 The acoustic walls inserted in the gallery space imported sound into the dominion of the visual, not as seeing sound, for there was nothing to see, but as

227 Ibid., 251.
interruption that transgressed its own locale and subverted the proper order of senses in the gallery space.

Acoustic and visual blocking also featured in Michael Snow’s film *Wavelength* (1967). Unlike Nauman’s reduction of sight and sound, Snow’s film overloads the eye by channeling seeing through a relentless zoom and an increasingly unbearable sine wave. The film, wrote Snow, was “all about seeing. The space starts at the camera’s (spectator’s) eye, is in the air, then is on the screen, then is within the screen (the mind).”

Snow’s instrumentalization of the eye and mind relates to the same discourse seeking to overcome Descartes’s rational perception, but it also relates to Marshall McLuhan’s technological approach, which stretches perception within the prosthetics of media. I argue that it is worth paying attention to the role of the visual in *Wavelength*, for it will repeat a critical account of the proximities of seeing and hearing. In 1966 McLuhan argued for a shift from the print-based world ruled by the visual to an aural perception predicated on the primacy of hearing. Electronic media numbed the spectator’s senses, and it was the artist’s task to readjust new perceptive modes, preferably those pertaining to audition and touch. Throughout most of *Wavelength*, and just before a close-up of a picture of the sea, Snow’s perspectival zoom features a gridded pattern surface of four windows in a New York loft. Snow offers a critique on the history of painting, from the Renaissance pictorial advancements to the American minimalist gridded patterns. In *The Medium is the Massage*, under the fifteenth-century “Architectural Perspective” attributed to the School of Piero della Francesca (also known

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as the Berlin Panel), McLuhan and Quentin Fiore wrote:

The Renaissance Legacy

The Vanishing Point = Self Effacement
The Detached Observer
No Involvement!^{229}

Snow elaborates self-effacement in *Blind* (fig. 82, 1967), a multilayered installation of metal grids that screen vision by density and concealment. Hollis Frampton’s film of 1968 documents Snow walking, standing, looking at and between the sheets as if he were standing in the very topographies that constitute the zoomed-in, dense perspective and its symbolic ground.^{230} Corresponding with *Blind*, “The film [Wavelength],” wrote Snow “is a continuous zoom which takes 45 minutes to go from its widest field to its smallest and final field.”^{231} The mechanical zoom exchanged perspective originating in the eye, and the overriding sine wave was importing us into the field of vision. The pictorial support was again exposed in its instrumentality. No longer a bottom ground, sounds emerged from the street behind, as from the interior space demarcating the room and the space between grid and our ears. “Art, or graphic translation … is shaped by the way space is perceived,” wrote McLuhan;

Since the Renaissance the Western artist perceived his environment primarily in terms of the visual. Everything was dominated by the eye of the beholder. His conceptions of space was in terms of perspective projection upon a plane surface consisting of formal units of spatial measurement …Primitive and pre-alphabet people integrate time and

^{230} See Hollis Frampton’s movie *Snowblind: Homage to Michael Snow’s environmental sculpture Blind*, on Youtube: http://www.youtube.com/watch?v=C8xwdS5vbWk
space as one and live in an acoustic, horizonless, boundless, olfactory space, rather than in visual space.  

Nauman’s perspectival corridors pose the problems of McLuhan’s articulation of projected space. Snow and Nauman battled those symbolic orders embedded in the epistemological nature of the visual arts; both artists are musicians who added auditory tactics to visual strategies. And they both seem to dovetail with Cage’s renowned visit to the anechoic chamber at Harvard University in their own work.

In 1951 Cage had a revelatory experience in his study of silence when he entered a blocked acoustic chamber at Harvard University. To Cage’s surprise, he did not “hear” silence. From this, he would later conclude that there is no such thing as silence. He did hear two sounds, one high and one low; one was his “nervous system in operation,” and the other his “blood in circulation.” Interestingly, Snow commences his statement regarding Wavelength between McLuhan’s extended system and Cage’s discrete organs: “I wanted to make a summation of my nervous system,” he wrote. The forces of acoustic excess in Snow and acoustic blockage in Nauman differentiate and distinguish our operating mechanisms. They differentiate internal organs, external organs, and the senses, and thus allow the distinguishing of their unique mechanisms.

**Deleuze After Boulez: The Striated and the Smooth**

The separation of the senses into discrete domains will be addressed in the next chapter, but this separation is directly tied to and even predicated by Nauman’s concern with disjointing space and time from their a priori status. Nauman was concerned with

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interrupting unifying forces of symbolic, synthetic form that were traditionally subjugated to the regime of the visual. Exposing the techniques of perspective, Nauman transformed its illusionary forces into matters of fact. Now perspective could be considered as a weak instrument, that is, a technical body dethroned from its unifying grip and posed as merely an element amid elements. And yet, although the corridors pose perspective as aporetic, it is not passive; in fact, it is exposed in withdrawal from its own forces—an aporetic instrument and interrupting wedge. Thus perspective is no longer a mechanism that assists the forming of concepts, but a wedge in the synthetic unity and locus of reason. This move, while weakening the hold of representation, generates inconsistencies that are necessary for the system to overcome its own stasis, to exit its anchoring face, its definite posture.

In “Notes and Projects,” published in *Artforum* in 1970, Nauman wrote: “It has been shown that at least part of the information received by the optical nerves is routed through and affected by the memory before it reaches the part of the brain that deals with visual impulses (input). Now René Dubos discusses the distortion of stimuli: we tend to symbolize stimuli and then react to the symbol rather than directly to the stimuli. Assume to be true of other senses as well…” He continues his essay by quoting Kurt Gödel’s *On Formally Undecidable Propositions of Principia Mathematica and Related Systems* (1931): “1) If a system is consistent then it’s incomplete. 2) (Goedel’s incompleteness theorem [sic],) implies impossibility of construction of calculating machine equivalent to a human brain.”

Thus Nauman offers us the problem and its solution: in order to strip the system of its symbolic form, in order to cut it off from its

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234 My emphasis; see Bruce Nauman, “Notes and Projects,” *Artforum* 4:4 (December 1970), 44.
habitual recollections, one must look for or establish inconsistencies. Here we see
Nauman, although withdrawing from reason, returning to the brain machinery as physical
matter disposed from *metaphysical* allusions.

While Cage’s wedged piano and exhausted staff served as predecessors to our
understanding of the corridors (pertaining to the transformations of instruments), Pierre
Boulez and Deleuze offer to replace a priori space and time with rhythm and chaos. It is
this decisive move that I would like to address next, as it is significant for understanding
Nauman’s sonorous grounds proposed in the corridors.

The Forgetting of Ground

In his insistence on repeating Antonin Artaud’s call to be done with judgment,
Deleuze counters two systems of thought: conceptual and perceptual, and rational and
sensory. While as vigorous and dramatic as Artaud, Deleuze wants to do away with
judgment by rejecting Immanuel Kant’s aesthetic positing of a priori space and time. a
priori subjective projections attack perception from two directions: as underlying
schemata dividing the world into set compartments, and as subjective projection
subjugating the world to its limited faculties. The first is exhibited in *The Critique of Pure
Reason*, in which Kant shows that space and time necessarily underlie outer and inner
experiences.235 Space and time are the foundations of the sensible world. They are the
“schemata and the conditions for everything sensitive in human cognition,” and they
constitute the formal elements from which the synthesis of recognition produces a

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235 Immanuel Kant, *Critique of Pure Reason*, translated by Werner S. Pluhar
(Indianapolis, IN: Hackett, 1996), §17: 180.
concept of an object.\textsuperscript{236} The second is displayed in \textit{The Critique of Judgment}, where Kant outlines the free work of the imagination in indeterminate concepts. However, the demand for synthetic unity necessitates indeterminate concepts—concepts of reason—that can only be exhibited symbolically and thus summoned in the schemata of organizing imagination.\textsuperscript{237}

This organizing symbolization in synthetic judgment, argue Deleuze and Guattari, is metrical and dogmatic production. In \textit{Kant’s Critical Philosophy}, Deleuze asserts an immanent critique in which reason, the faculty of organizing indirect, oblique means, presents to us concepts that are “exclusively in reason itself.”\textsuperscript{238} Form, the presupposed object of sensation, is, as Deleuze emphasizes, the necessary correlate of the \textit{Cogito} (I think). This is an immanent critique in which reason is considered as the judge of reason. It is the principle of the transcendental critique, and a critique of Kant’s synthetic representation of a priori space and time.

For Kant space and time are pure intuitions, “pure” in that they are presupposed in the sensation of things, and “intuitions” in that they co-ordinate objects of sense. What a

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\textsuperscript{237} “symbolic,” writes Kant in \textit{The Critique of Judgment}, “where to a concept which only reason can think, and to which no sensible intuition can be adequate, an intuition is attributed with which the power of judgment proceeds in a way merely analogous to that which it observes in schematization, i.e., it is merely the rule of the procedure, not of the intuition itself, and thus merely the form of the reflection, not the content, which corresponds to the concept.” See Immanuel Kant, \textit{Critique of the Power of Judgment}, translated by Paul Guyer and Eric Matthews (Cambridge, NY: Cambridge University Press, 2000), §59, 225. Alexander Rueger and Sahan Evren discuss the Kant’s indeterminate ground in “The Role of Symbolic Representation in Kant’s Theory of Taste,” \textit{British Journal of Aesthetics}, 45:3 (July 2005), 229-232.

priori space and time do is co-ordinate objects of sense and they do so in accordance with “an internal principle of the mind”.239 They are independent of experience, for the objects are dependent on space and time through their higher form of knowledge. And as Deleuze’s reading of Kant stresses, a priori knowledge is identical to rational knowledge, for a priori knowledge is but subjective, synthetic judgments. As Deleuze writes, “‘Rational knowledge and a priori knowledge are identical’, or synthetic a priori judgments are themselves the principles of what should be called ‘the theoretical sciences of reason.’”240 For Deleuze, Kantian a priori space and time do not exist, they are but my own subjective projections. However, Deleuze insists on repeating the odd phrasing “synthetic a priori,” “a priori synthesis,” and “synthetic a priori judgments,” in order to refute the Kantian notion of the a priori. All there is, is synthesis originating in subjective experience that relays judgments.

In an attempt to do away with the schemes of judgment, Deleuze replaces Kant’s a priori ground with chaos and rhythms. In Kant’s Critical Philosophy Deleuze does not directly criticize Kant but finds an opening to seed his proposition in the concept of aesthetic comprehension. Kant offers the synthesis of imagination in perception as predicated on subjective measurement. This synthesis predicates a subjective unit of measure that, due to its bodily idiosyncrasies, is in constant variation. In Deleuze’s thought, subjective measurement becomes a rhythmic refrain that expresses becoming in indeterminacy, and is, therefore, in contrast with metrical dogmatism.241

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240 Deleuze, Kant’s Critical Philosophy, 5.
Deleuze’s thought repeats, countering rational, striated, metric, and tree-like
topographical hierarchies with smooth, nomadic, and rhizomatic spatial connective-tissues. This line of flight marks his move to the production of sense by discarding a priori conditions in favor of producing machines, bodies, organs. Deleuze further challenges the concept of machines that bare nothing but the repetition of the same by stressing production as interruption. “A machine,” writes Deleuze, “may be defined as a system of interruptions or breaks… every machine, in the first place, is related to a continual material flow (hylē) that it cuts into.”242 But the cut does not only slash flows, machines create continuities via cuts, they collapse the pyramid into labyrinths to become single lines.243 These are deserted lines; intermezzos devoid of topographies and telos. Erwin Strauss called these lines sensory landscapes. In The Primary World of the Senses, Strauss opposed Kant’s a priori ground by claiming that perception is a secondary rational organization of a primary non-rational organization of sensation. Establishing chaos as the substratum of his thought, Strauss offered two systems that will echo in Deleuze: geography and landscape. The first is recorded in maps, and like symbolic synthesis, it summons knowledge in perception. The second is a sensory production of space with the body.244

Discarding the concept of ground, the first account of Nancy’s Being Singular Plural, his inspired muses, look back at Nietzsche’s exhausted ground: “Lead, as I do, the

243 Deleuze, Kant’s Critical Philosophy, vii.
flown-away virtue back to earth—yes, back to body and life; that it may give the earth its meaning! …Man and man’s earth are still exhausted and undiscovered.”\footnote{Friedrich Nietzsche, \textit{Thus Spake Zarathustra}, quoted by Jean-Luc Nancy, \textit{Being Singular Plural}, ix.} Nancy repeats Nietzsche’s call decisively asking: “Are we going to learn this lesson? Are we perhaps finally able to hear it? Can we think an earth and a human such that they would be only what they are—nothing but earth and human—and such that they would be none of the various often harbored under these names, none of the ‘\textit{perspectives}’ or ‘\textit{views}’ in view of which we have disfigured humans [\textit{les hommes}] and driven them to despair?”\footnote{Nancy, \textit{Being Singular Plural}, xi-xii.} Nancy infers that Nietzsche’s “exhausted ground” is a despaired ground, a ground brought into desolation by imposing perspectives. This move recalls the thinking in my opening chapter about Nauman’s subversion of Art by inter-media’s neighboring apparatuses alongside Nancy’s texts. However, it should be noted that Nancy’s echotechnical bodies incorporate a critique of Heidegger’s technological \textit{Gestell}—the gathering together, i.e., \textit{enframing}, for the purpose of revealing. For Heidegger, \textit{Gestell} is the essence of technology; it is a mode of human existence conveyed in synthetic nature that summons order in the purpose of revealing presence. “\textit{Enframing},” writes Heidegger, “\textit{means the gathering together of that setting-upon which sets upon man, i.e., challenges him forth, to reveal the real, in the mode of ordering, as standing-reserve. Enframing means that way of revealing which holds sway in the essence of modern technology and which is itself nothing technological.”\footnote{Martin Heidegger, \textit{The Question Concerning Technology and Other Essays}, translated by William Lovitt (New York: Harper and Row Publishers), 20.} Nancy departs into his own ontology of technology from Heidegger’s attempt to free technology from its synthetic (and
subjugating) perspective, its standing reserve. For Nancy, there is nothing to reveal, for he insists on keeping technology as a material figuration of sense, the ground as such. There is no instrumentalization at work; there is nothing beyond, behind, in concealment of ground. There is only dispersed echotechnicity, and, as we shall soon see, the echotechnical in Nauman’s proposition is a dysfunctional technicity that insistently interrupts all attempts of summoning, all attempts of synthesis, in order to maintain an aggregated ground. It is a ground that keeps nothing but the ground, constituted by the technicity of organs lacking hierarchical fixity. And it is interrupted by new habitats, reverbs, syncopation, and rhythms.²⁴⁸

In his stomping, our stomping, the division of breath, heartbeats and so forth, Nauman suggest delineating sonic milieus amid visual blockage. Nauman is offering being as becoming rhythm, as becoming pulsation. This proposition, I argue, withdraws from metric topographies and gives way to smooth spaces, where one occupies by taking a-part, that is, by detachment and proximity. Nauman makes these trains of thought clear

²⁴⁸ This sonorous mannerism exchanges the line that traverses in between Michel Foucault’s apparatuses, those power webs that make the dispositif. In What is an Apparatus? Georgio Agamben traces Foucault’s imperative term to an interview dated to July 1977: “What I’m trying to single out with this term is, firstly, a thoroughly heterogenous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral, and philanthropic propositions—in short, the said as much as the unsaid. The apparatus itself is the network that can be established between the elements. The apparatus itself is the system of relations that can be established between these elements. Secondly, what I am trying to identify in this apparatus is precisely the nature of the connection that can exist between these heterogeneous elements,” see Michel Foucault, “The Confession of the Flesh,” in Power/Knowledge: Selected Interviews and Other Writings, 1972-1977, edited by C. Gordon (New York: Pantheon Books, 1980), 194-195. For Foucault the connections that exist in-between heterogeneous elements are power webs producing subjectifications predicated on signification while for Nancy the in-betweeness marks the place of withdrawal, of spacing, thus securing proximity at distance (later developed into touch; touching only at a distance). Avoiding knowledge, Nancy asserts a system that makes sense via sensing and thus overcomes signification.
when he proposes “Withdrawal as an Art Form” in the final paragraph of the “Notes and Projects” article (which commenced by posing the problem of distortion via optical nerve stimuli). At this final stage, Nauman poses sensory manipulation, which he will use in his sound pieces:

**Withdrawal as an Art Form**
- activities
- phenomena

Sensory Manipulation
- amplification
- deprivation

Nauman submits to Art’s withdrawal from itself by way of sense perception. Being in withdrawal is offered by Nauman as withdrawal from pregiven divisions, limits, hierarchies, and topographies.

For the *Art in Process* exhibition catalogue accompanying the *Enatiomorphic Chambers*, Smithson submitted a “Paragraph From a Fictive Artist’s Journal,” exhibiting the yet to be published book of one late Casper Clamp. Smithson imaginary anticipation states the book’s rarity, its heavy pages, and its title: *The Exhaustion of Sight or How to Go Blind and Yet See*. Smithson’s anticipation for this book to be is reflected in his exhausted sight, yet also in his seeing. Reminiscent of Cage’s withdrawal from intentionality and consistency, Smithson and Nauman offer an indeterminate system, devoid of pregiven measure. For them, withdrawal and interruption allow the making of

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sense without symbolization. It allows what Deleuze will later call “occupying without counting.”

Deleuze’s concepts of in-occupancy, in the explicit form of “occupying without counting,” are derived from his friend composer Pierre Boulez’ proposition of striated and smooth time spaces. Boulez proposes a formal time system predicated on two categories, and nothing but two categories: smooth and striated. The composer’s striving for more abstract and more extensive elements yielded his dialectical notation system, which he called neumatic and proportional. The first marked a regression from symbolic notation (and therefore less precise), the second, the proportional, represented a stricter system. The neumatic embodies smooth [lisse] or amorphous time, while the proportional represents pulsating, or striated time. However, the two systems interact in symbiosis: “I regard these two categories—smooth and striated—as capable of reciprocal interaction,” said Boulez. In *A Thousand Plateaus* and *The Fold*, Deleuze refers to Boulez’ ideas, and develops them into his own concepts of smooth and striated spaces. In *The Fold* Deleuze returns to Boulez’ proposition to explain the rise of harmony in the Baroque, and then the degeneracy of tonality in the neo-Baroque, from harmonic closure (striated) to an opening onto polytonality, “polyphony of polyphonies,” a smooth system offering multiplicity as such. In the closing chapter of *ATP*, entitled “1440: The Smooth and the Striated,” Deleuze and Guattari, return to the French composer, to dedicate an

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251 Boulez developed these ideas into a lecture given in 1960 at Darmstadt, see Pierre Boulez, “Time, Notation, and Coding,” *Orientations: Collected Writings*, translated by Martin Cooper (Cambridge, MA: Harvard University Press), 84, 86-7.

252 Deleuze, *The Fold*, 82.
interpretation to his musical model. Smooth space-time allows occupying without counting, whereas in striated space-time one counts in order to occupy. Metric multiplicities, directional spaces and musical productions correspond to sonorous, non-metric dimensional spaces.\textsuperscript{253} The nature of this correspondence and the supremacy of the non-metric is key to my argument regarding interruption and proximity. Interruption carries a more than one function: it allows the heterogeneous system to keep its discrete, and therefore multiple nature; it functions in blocking pre-given streams of “normal” instruments/organs; and finally, it dictates new polyphonies by the nature and contingency of blockage.

Deleuze asserts the connection between instruments and interruption. He synonymously uses terms such as interruption, breaks and blockage.\textsuperscript{254} And yet, “far from being the opposite of continuity, the break or interruption condition this continuity.”\textsuperscript{255} Such continuity withdraws from set and linear concatenations to dispersion. In Boulez’ work, in between the correspondence of his two systems, Deleuze sees cuts and frequencies. Deleuze observes that in Boulez the cut is not the opposite of continuity, but the continuous is defined by the cut, “one can say that the same gesture constructs the continuity of the… musical text, and makes the cuts pass between

\textsuperscript{253} Deleuze and Guattari, \textit{A Thousand Plateaus}, 477.
\textsuperscript{254} In Deleuze and Guattari the bodily organs are the interrupting machines: “It functions like a ham-slicing machine, removing portions from the associative flow: the anus and the flow of shit it cuts off, for instance; the mouth that cuts off not only the flow of milk but also the flow of air and sound; the penis that interrupts not only the flow of urine but also the flow of sperm. Each associative flow must be seen as an ideal thing, an endless flux… the term \textit{hylé} in fact designates the pure continuity that any one sort of matter ideally possesses.” In \textit{Anti-Oedipus: Capitalism and Schizophrenia}, 36.
\textsuperscript{255} ““Connecticut, Connect-I-Cut!” cries little Joey,” ibid., 36-37.
them.\textsuperscript{256} Boulez’ striated and smooth time-spaces are susceptible to two kinds of breaks, the standard, or module, and the irregular, or the undetermined.\textsuperscript{257} Thus, it is the cut, the interrupting machine that makes sense. The problem of perception is posed as follows: “how can one perceive… without the obligation to comprehend?”\textsuperscript{258} Or, to put it differently, how can one occupy without counting?

Deleuze follows Boulez’ enthusiasm for smooth time. For although Boulez clearly declares the two systems, he seeks new formations in between the neumatic and the structural. Boulez offers the diagonal, or what he terms as the sound-figure; an in between formation predicated on the contingent relations between the smooth and the striated.\textsuperscript{259} Deleuze stresses this point:

This great distinction, the striated and the smooth, is less valuable as a separation than it is as a perceptual communication: there is an alternation and superposition of the two space-times, an exchange between the two functions of temporalization, if only in the sense that homogenous distribution [répartition] in a striated time gives the impression of a smooth time, while a very unequal distribution in smooth time introduces directions which evoke a striated time by the densification or accumulation of proximities.\textsuperscript{260}

Deleuze then asks how to operate between the two systems, what is the diagonal? According to Boulez, he asserts, it is a third milieu, a third space-time adjacent to those of the smooth and the striated. And here, he adds an additional layer, when asking:

\textsuperscript{256} Deleuze, “boulez, proust and time: “occupying without counting”, 70.
\textsuperscript{257} Deleuze and Guattari, \textit{A Thousand Plateaus}, 477.
\textsuperscript{258} Deleuze, “boulez, proust and time: “occupying without counting”, 72.
\textsuperscript{259} Boulez, “Possibly…,” 117; Boulez, “Time, Notation, and Coding,” 87-88; it is worth noting that in his essay dedicated to “Form” (1960), Boulez makes an interesting connection between Mallarmé’s active operator and raw material/smooth space/non-fixed syntax, see Boulez, “Form,” \textit{Orientations: Collected Writings}, translated by Martin Cooper (Cambridge, MA: Harvard University Press), 90-92.
\textsuperscript{260} Deleuze, “boulez, proust and time: “occupying without counting”, 71.
“Could these imperceptible elements, these holes in perception be filled up by writing, and the ear be layered by a reading eye functioning as “memory”? This is the problem of the imperceptible positioned within perception. It is a gesture leveling out the formal structure, or the overturning of Cartesian a priori reason, or Kant’s space-time. It pertains in the equality of parts to the correspondence between the smooth and the striated, such that the striated has no primacy. To return to the crowded expanse of Nancy’s partes extra partes, Deleuze writes, it is “an envelope isolating group of elements. The relations of envelopes among themselves creates a richness in perception.”

Within the Deleuzian imperative, these two systems turn a priori forms into chaos and rhythm. The two systems expose multiple topographies of symbolization in the making of sensual spatio-temporalities. They distinguish the problem of painting from the problem of hearing by asserting two plan(e)s of becoming: the first is “always about deterritorialization of faces and landscapes,” while the second deterritorializes the refrain… preventing music, warding it off, or forgetting it.” When considering the similarities of these operative effacing, the striated punctual system demands eradication, while the smooth multilinear system has no a priori face. The striated, that is, the punctual system follows a Cartesian coordinate system, which specifies each unique point on a plane; it is comprised of two base lines, horizontal and vertical (x,y), that serve as coordinates in assigning points. This perpendicular topography assigns singular points

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261 Ibid., 72.
262 Ibid.
263 Deleuze and Guattari, A Thousand Plateaus, 300-301.
that make autonomous structures.\textsuperscript{264} The smooth, that is, the multilinear system, on the other hand, is not predicated on the horizontal and vertical topography but is a system of pure becoming, an intermezzo (milieu), and a block of sound that passes amid (\textit{au milieu des}) sounds and propels itself by its own non-localizable middle. It operates as cut and interruption, preventing, yet predating, and permeating organization.\textsuperscript{265} The multilinear system offers smooth space, a pure becoming, that turns \textit{a priori} formations into chaos from which milieus and rhythms are born. “There is rhythm,” writes Deleuze, “whenever there is a transcoded passage from one milieu to another, a communications of milieus, coordination between heterogeneous space-times.” Thus rhythm may be considered as transgression, as effacements, and as chaotic formation. And then again, it marks the breach from \textit{a priori} visual forms and the evolution of sonorous formations.

In 1968, for his \textit{First Poem Piece}, Nauman laid a heavy steel slab on the floor incised by the words \textit{YOU. MAY. NOT. WANT. TO. BE. HERE} or \textit{[HEAR]}, (figs. 83, 84). To remind us of the Greek aesthetic proportions, the seven words were engraved and repeated at the intersections of eighteen horizontal and eight vertical lines of a grid. Some of the words were emphasized while others rubbed out leaving only traces of themselves,

\textsuperscript{264} Ibid., 295.
\textsuperscript{265} Ibid., 297. Deleuze repeats the idea of interference as a generating device: “It is true that the cut [\textit{coupure}] is not the opposite of continuity, if the continuous is defined by the cut, one could say that the same gesture constructs the continuity of the literary text and the musical text, and makes the cuts run between them,” in Deleuze, “Boulez/proust and time,” 70. The two systems show a relationship to Edmund Husserl’s phenomenological critique of the pregiven ‘pure idealities’ of science—adequate to pure geometry, pure mathematics and spatiotemporal shapes—and the practical application of sense-experience. “So familiar to us is the shift between \textit{a-priori} theory and empirical enquiry in everyday life,” writes Husserl, “that we usually tend not to separate the space and the spatial shapes of experienced actuality, as if they were one and the same.” In Edmund Husserl, \textit{The Crisis of European Sciences and Transcendental Phenomenology}, translated by David Carr (Evanston: Northwestern University Press, 1970), 24.
creating variations: You May Not Want to Be Here/ You Want to Be/ You May Not 
Want to Be/ You May Not Want to Hear, etc. In his 1969 Second Poem Piece, Nauman 
laid a second steel slab on the floor. Again with the words engraved in a similar grid 
layout marking the punctual topography read: YOU. MAY. NOT. WANT. TO. SCREW. 
HERE. or [HEAR], (fig. 85).

What is remarkable about these two pieces is the interplay of words between 
“here” and “hear.” Nauman was marking the move from a priori space—here—to making 
space as making sonorous active—hearing. The word “hear” replaces “here” at the lower 
portion of the compositions. Being here, being in the world, in the multiplicity of 
subjective perception requires the transformation of attention, from the mute and ocular 
diagrams of the gallery space to the sonorous body. Multiplicity is predicated on sonic 
hearing, on the multiple pulsations of the repeated rows, on the distribution of pulse 
touching the subjective voice reading in silence, skipping, and connecting rhythmic 
patterns with the eyes. The assembling eyes choosing routes on the repetitive plane 
(repeating words, repeating the grid’s squares), surfing across language, unhinge the grip 
of the underlying grid. Johanna Drucker described these pieces as a software program 
running through procedures of selection or omission. The mechanical typeface of the 
words reinforces a sense of automation, she argues, prefaced by the instructive 
procedures of the Dadaists, in particular Tristan Tzara’s How to Make a Poem. These

266 Bruce Nauman, 1994, 222.
267 Bruce Nauma, 1994, 236.
268 Johanna Drucker, “Procedures Performed and Executed,” Bruce Nauman: Make Me 
Think Me (Tate Liverpool, 2006), exhibition catalogue, 36-37.
trains of thought heed chance operations, however, they are tuned in to muteness, to eyesight alone, they forget hearing—can you hear the movement?⁶⁶⁹

The nominal here, marking space, marking place, is replaced by active hearing. “Here” appears three times in the first three rows, then is syncopated for seven, and reappears as “hear” eight times, providing a visual representation of the transformation taking place within the geometric division. This is no mere chance, or is it? It’s a mode of operation rooted in the musical matrices of Arnold Schonberg, Cage, and Boulez. In 1908 Schoenberg commenced developing atonal music. By 1923 he had fully developed the twelve-tone system of pitch organization, in which all unique pitches are arranged in ordered rows, very similar to Nauman’s sentences. When considered visually, the twelve-tone rows are placed one after another on gridded surfaces, providing the ground for particular inversion, retrogrades, and transpositions.⁷⁰ The matrices also determined whether the set inverts itself, that is, folds back to the exact same pitches of the original set, thus creating difference in repetition. Nauman does not hold to the twelve-tone chart, however, he does adapt the gridded system as well as Schoenberg’s atonal composition methods. Within Schoenberg’s techniques of transposition and retrograde, the move from “here” to “hear” becomes clear. Robert Morgan references Nauman’s particular interest in Schoenberg’s atonal technique during undergraduate studies at the University of Wisconsin. Hence, the specificities of this move were very familiar to Nauman.⁷¹

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⁷¹ Morgan, 2. I find it irresistible to outline Nauman’s word game in relation to Schoenberg’s techniques: If we were to divide the word *here* into its two syllable: *he* and
As a mathematician and a music theory student, Nauman’s disciplinary practice became an interplay with formal systems that lends to the slippage of different topographies into one another. In this case, we see the inversion of macro- and microscopic movement of words, letter, keys, and notation. And yet, Schoenberg’s influence on Nauman took another route, involving John Cage use of matrices and chance. Cage studied with Schoenberg in the thirties, and while searching for different systems of sound, was not satisfied with the rigid closed system proposed by the Viennese composer. In *Music of Changes* and *Imaginary Landscape No. IV*, Cage uses gridded hexagrams as platforms for chance operations (fig. 86, 1951). He applied Chinese Taoist text into his compositional processes using *I Ching* hexagrams as templates for carefully controlled chance operations. The tension between control and randomness exhibited in these scores heralds Nauman’s hexagram as a pre-composed organizing surface giving way to chance formations within controlled forms. In “Composition as Process,” Cage writes of this tension:

Charts were used in the *Music of Changes*, but in contrast to the method which involved chance operations, these charts were subjected to rational control… Whether the charts were mobile or immobile, all twelve tones were present… whether a line of the chart was read horizontally or vertically. Once this dodecaphonic requirement was satisfied, noises and repetitions of tones were used with freedom. One may conclude from this that in *Music of Changes* the effect of the chance operations on the structure (making very apparent its anachronistic character) was balanced by a control of the materials.²⁷²


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re, then, retrograde re into er, the first result is heer. The next step is to invert e into a, either by following Schoenberg’s strict technique, or by making sense of the singular vocal sound.
Nauman’s move from nominal to verb is akin to the *I Ching* charts since the trigrams are not presentations of things as such but of their tendencies in movement.\(^{273}\) When David Bernstein reconstructs Cage’s use of the *I Ching* in composition, he argues that Cage’s charts are not static hexagrams but maintain the tension of the *I Ching*’s dynamism. The changing hexagram substitutes existing edifices with new sounds. Nauman follows a similar route not merely in the multilayered topographies of language and grid, but in the inversion of here/hear.

The hexagrams imbue the punctual system with random expression that although occurring within the structure prevent prediction of any particular motion, and thus keep space and time unpredicted. “Formerly, however,” wrote Cage thinking of the innovation brought in his hexagrams, “these lengths were time-length, whereas in the recent work the lengths exist only in space, the speed of travel through this space being unpredictable.”\(^{274}\) They strain between ideal forms and chaotic forces, thus allowing for the dynamic emergence of new diagrams—embodied in Nauman’s *Poem Pieces* as hearing diagrams. The solitary words making and marking the intersections of the grid are as single as the sounds in the hexagrams, directly related, as Cage reminds us, to the string topographies of the prepared piano, “the sounds themselves are single, aggregates (cf. … obtained on the prepared piano..), or complex situations (constellations) in time.”\(^{275}\)

In the genealogy of Schoenberg’s systematically arranged atonal matrices, Cage’s hexagrams, asserts Marc Jensen, are associated with serialism as much with Chinese

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\(^{274}\) Nattiez, *The Boulez-Cage Correspondence*, 105.
\(^{275}\) Ibid., d106.
philosophy. They attest to the tension between pregiven topographies and chance operations, which Cage will bring to extremity when abandoning control in total. Seriality, as means of producing and employing repetition in compositions, will feature, as will be addressed in the next chapter, a central movement in Nauman’s sonorous topographies, nonetheless, they too, emerge from notational charts. In tandem with Schoenberg’s and Cage’s techniques, the third strand I propose here is rooted in Boulez’ structures. For Boulez, Schoenberg’s matrices played templates for material seriality, which brought into play rhythms detached from the horizontal and vertical planes. It is worth noting that Boulez wrote about his theory of total serialism in 1951, concurrent to Cage’s *Music of Changes*. At this time the two composers were engaged in an intriguing correspondence that reveals Boulez’ initial admiration of the chance operated charts; it later developed into a stone of dispute and breach between the two men.²⁷⁶ Boulez’ opposition to absolute chance marks the difference between his approach based on undetermined grounds birthing rhythms (forbearing Deleuze), and Cage’s chance operation predicated within strict structures.

In “Possibley…” Boulez distinguished his use of sound charts from Cage’s: “Let me hasten to explain in more detail, for the benefit of those dullards who continue to proclaim the series as the purely arbitrary and artificial creation of a schoolmaster in

²⁷⁶ On October 1, 1952, Boulez wrote to Cage: “Thank you for the music of changes. Which I liked a lot, and which I was so pleased to get… and I am with you all the way.” By 1957, after the great breach, Boulez’ changes his tone: “At present, contemporary composers seem constantly preoccupied, not to say obsessed, by chance… The most elementary form of chance transformation goes along with a philosophy tinged with orientalism, which covers up a basic weakness of compositional technique… This experimenting with chance I term carelessness.” See Nattiez, 133, 18.
search of a rule-book [alluding to Cage’s use of the I Ching, the chance-book].”

Serial technique, explains Boulez, is rooted in Schoenberg Op. 23, where intervals of a theme become absolute intervals, i.e., detached, released from rhythm, “able to pass from the horizontal succession to the vertical aggregate.”

While Webern, according to Boulez, abolished the horizontal-vertical opposition, the second Viennese School in general did not relate rhythm to serial technique. They mark a “destructive” generation, which brought tonality and regular meter to an end. It was Stravinsky who developed rhythm on the entirely new structural elements of dissymmetry, independence, and development of rhythmic cells, but remained trapped in the law of equilibrium, thus staying within a dialectical system. Boulez’ task was “to link rhythmic structures through common organization… and then to expand this morphology… into serial encoding.”

For this aim, Boulez used Schoenberg’s matrices, which he now termed structures, as networks of possibilities (fig. 87). The underlying horizontality of these permutation tables generates irrational rhythms that, in turn, introduce untempered sound spaces. Boulez explains that the tables represent transpositions as replacements, and they generate multiple series within a given frequency. The innovative move marked by Boulez makes seriality an in-between movement. It is the play of mobile and immobile topographies in which repetition expressed in series is contingent on interference. At this crucial junction, Boulez exposes a modus operandi which will arise later in Nauman, as the French composer wrote:

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278 Ibid.
279 Ibid., 115.
280 Ibid., 117.
There are many kinds of interference to be set up between the series itself and the register, on the basis that either of these two elements can be mobile or immobile in relation to the other. One has only to imagine the instability arising out of the relation between an unchanging series and a continuously changing register, or between changing series and a completely fixed register: the extreme points in the play of ambiguities of pitch, which may equally combine with ambiguities of rhythm or dynamics.  

Importing “the instability arising out of the relation between an unchanging series and a continuously changing register, or between changing series and a completely fixed register,” Nauman’s turn to the sonorous, to the sounding body permeating confined structures, marks a vital move into the minimalist foundations at summit by the mid 1960s. If the geometrical surface pattern haunting optical unconscious, and even the modern unconscious, is epitomized in the concrete geometrical underpinning of Carl Andre, Sol Lewitt, Dan Flavin, Eva Hesse and others, Nauman fosters presentness by introducing the sonorous body into the geometrical surface. Nauman’s movements above the patterned surfaces and in the topographies governed by optical illusion have a direct relation to musical composition innovations rooted in Schoenberg’s atonal matrices fathering Cage and Boulez scores. Cage’s chance operations executed on the I-Ching hexagrams as well as Boulez’ serial compositions derived from diagonal movement performed within the grid.

When considering these relations, I must pose the question once more: did the exposure of the grid, did the nakedness of the optical, and the temporal topography the geometrical surface yields, not adhere to the nature of the grid as instrument? And if this kind of cartography is not merely instrumental, and is but instrument, does it not relate to the eye, the seeing mechanism, as an instrument counterpart to the hearing ear? If we

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281 Ibid., 119-120.
may consider the map, the grid, and the eye as discrete instruments, may we finally move
towards detaching extensions from the body, the ground, and propose an aggregated
expanse? Within such a discrete proposition, with a totaled eye that does not hold sway
over the other senses, an eye that can only see within eye-level, we must pay attention to
Nauman’s turn to the ear, to his early instrumentalization of his own body, and to the
physical production of sonorous topographies.
Wee have also sound-houses, where we practice and demonstrate all Sounds, and their generation. Wee have Harmonies which you have not, of Quarter-Sounds, and lesser Slides of Sounds. Diverse Instruments of Musick likewise to your unknown, some sweeter than any you have; Together with Bells and Rings that are dainty and sweet. Wee represent Small Sounds as Great and Deepe; Likewise Great Sounds, Extenuate and Sharp; Wee make diverse Tremblings and Warblings of Sounds, which in their Original are Entire. Wee represent and imitate all Articulate Sounds and Letters, and the Voices and Notes of Beasts and Birds. Wee have certiane Helps, which sett to the Eare doe further the Hearing greatly. Wee have also diverse Strange and Artificial Eccho’s, Reflecting the Voice many times, and as it were Tossing it; And some that give back the Voice Lowder then it came, some Shriller, and some Deeper; Yea some rendering the Voice, Differing in the Letters or Articulate Sound, from that they receive. Wee have also meanes to convey Sounds in Trunks and Pipes, in strange Lines, and Distances.

Sir Francis Bacon, *New Atlantis*, 1624
Chapter Three

Topologies of the Interval; Touching Sound

Bruce Nauman: When the corridors had to do with sound damping, the wall relied on soundproofing material which altered the sound in the corridor and also caused pressure on your ears, which is what I was really interested in: pressure changes that occurred while you were passing by the material ... as you walk in ... the pressure increases quite a bit, it’s very claustrophobic...

Willoughby Sharp: Pressure is also felt on the spectator’s own body. Does that come from your ears?

BN: It has a lot to do with just your ears

WS: So space is felt with one’s ears?

BN: Yeah, that’s right.  

Does pressure make sense? Can pressure create space and time? If we assume that the forceful compression Nauman imposes on our ears is the primary sensation touching both eardrums at once, how can pressure be described in relation to sense, to the mind, and to the senses? Will pressure be only an outcome, a form of contingency set by pregiven grounds? Or, perhaps, pressure touches itself in the oscillating movement pushing against sense, and pushing against the senses, nothing but an interval among intervals touching and pressing others.

Pressure predicates hearing and balance upon physical conditions. Our audible capacities are susceptible to variations in air pressure, sound frequency, distance, range, pitch, the difference between high and low vectors, and compressed and rarefied patches of air. Pressure is the effect of a force applied to a surface. When touched by pressure, the external oscillating waves penetrate the auditory canal through the pinna and produce

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vibrations in the tympanic membrane. The tympanum is the vibrating portal of the inner ear. It hammers against the ossicles in the middle ear, which in turn move the cochlea fluid to activate neuron response. Contingent on different pressures, sound transduction occurs between the outside pinna and the inner cochlea, then moves to the nervous system and the brain.\(^\text{283}\)

If this concatenation seems causal, I must ask: How may we think of pressure in this causality? If pressure touches upon the sensory-motor, activating one thing after another by moving through the materiality of sense, is pressure contingent on the relations set amidst existing bodies? Instruments? Or, perhaps, pressure may be considered as a motivator, such that without its tense interval there would be no physical relations, there would be no differentiation within bodies, contours would not be set, endogenous and exogenous interactions, limits, would have no gravity, no weight. And if we stretch this idea and say that pressure, compression, touch hold some primacy, how may this tangible dynamic stretch thought? Set between bodies, how would the relations between bodies circumscribe space and time? How would pressure be thought in the mechanics of sense? Can we think of sense production, of making sense, and here, of sound production and sound perception as a production that is but the production of sense sensing itself sense, predicated on the intervals of pressure? And what might be the nature of such an interval? Does it mark the proximity of the senses, their discrete nature?

Thus, if sense making is predicated on the proximities of sense touching sense, of

\(^{283}\) Rick Altman includes pressure in the three elements of the production of sound. Vibration, medium and changes of pressure transmitting medium constitute the ear’s ability to observe minute differences of recognizing bodies which in turn constitutes its own relation to them. See Altman, “The Material Heterogeneity of Recorded Sound” in *Sound Theory Sound Practice*, edited by Rick Altman (London and New York: Routledge, 1992), 17, 20-23.
instruments touching instruments, may we assume some equivalence between method (among which we may think of language) and organ, and therefore treat these methods and organs as equal instruments? May we assume that sense-making marks the limits it touches upon and thus marks its own limit by this very touch?

Pressure marks the problems of the interval. Whether a break between acts, a noisy intermission, the pauses between pitches, the ratio of wavelengths or frequencies, the duration between events, or the distance between points, the interval concretizes the relations between senses and media, all considered bodies. It may be understood as measured module, for example, the octave in a pentatonic scale, or a 4\(^{th}\) in 12-tone music; and it may be thought of without ground, as an irrational interval that runs in between the senses. These two opposing propositions have occupied a tense discourse since the Greek rivalry between philosophy and myth and right through to modern empiricism and rationalism—the senses and reason. This discourse continues in Deleuze’s concept of an irrational intermezzo—a time-image between a visual-image and a sound-image—and Nancy’s proposition of sensuous creation set against making sense.

Nauman was already sculpting the problems of pressure and concrete intervals by 1966. In 1968 he exhibited three works at the Leo Castelli Gallery in New York: the first, Platform Made up of the Space Between Two Rectilinear Boxes on the Floor (fig. 4, 1966), is a floor sculpture, an iron cast actualizing an imaginary, virtual, in-between space of two absent boxes. Their presence is suggested by the common outline they share with the geometrical contour of the iron mold. The second, A Cubic Foot Steel Pressed Between My Palms (fig. 88, 1968) sculpts the imaginary compression of a cube of steel into a square slab. Namuan refers to this work as a “mental pressure” piece, where one
imagines forming a geometrical cube with bare hands. The third, *Westerman’s Ear* (fig. 5, 1967) concretizes the imprints the movement of pressure in sonic formation. Hung on a wall, *Westerman’s Ear* is composed of a loosely looped rope hanging on a hook and holding a wax ear. With its knotted route the rope transforms into an ear. *Large Knot Becoming an Ear* (fig. 6, 1966), an earlier sketch of this work, suggests the ear is a morphed locale. A mediating organ, a physical portal to sound penetration that assumes its face, its shape, by its unique folding—the knotted rope is transformed into an ear. For Aristotle, the sense organ recreates the condition of the medium. The ear consists of resonant air, and therefore the sense-organ of hearing is, as *De Anima* ii.8 420a5 puts it, “in air”. The ear is in fact composed so as to recreate the conditions under which the air will resonate. The ear is a *poros*, according to Aristotle, a connecting organ, a passageway, a place for preservation of the changes of resonance and mediation.²⁸⁴ Thus the ear is at once a conduit, a medium, a perceiving organic passageway, and an autonomous instrument. It marks the tension of the interval: simultaneously a perceiving and producing instrument. It suggests thinking of sense in passivity and action. The ear, as medium and interval, makes sense of pressure through vibrations that imprint sine waves that signal the differences in pressure between the external ear and the inner cochlea; it is an independent machine, an instrument placed in between external forces and the mind. Yet, to which does it adhere? And how would the nature of its activity play on perception? Are ears suppressed by some set sense, or can ears make sense?

This chapter shows how Nauman creates sonic spaces through the practice of touch and pressure. He uses the body to inhabit the place of pressure; the body occupies

the unique interval posed between sense and the sensuous senses. Without adhering to
sense as ground, fragmented perception is proposed as the sensuous domains are
discretely distinguished by their technical capacities, by their inadequate approach to
“good” perception and proper orientation. We are called to experience the interval
between the senses, touched at once by impeded sight and dispersed sound.

Touching sound, or, sound touching, is how I propose to read Nauman’s sonic
installations. I will consider the artist’s sculptures, films and performance pieces to show
Nauman’s innovative use of the temporal interval and the musical interval. Set against the
notion of the interval as module, Nauman proposes an incommensurable in-between
predicated on the distance of the proximity of bodies—a distance that may be thought of
as interference, as a diagonal, corporeal wedge. Nauman’s discrete, monadological
approach discerns the proximities of the senses in spatial experimentation. Such
separation of the senses works as an ongoing vector resisting the hold of unified sense. I
explore this tension between the sense and the senses as it underlines the early modern
conundrum of rationalism and empiricism.

My argument will unfold along two main trajectories: the first considers how an
interval can be concretized; the second traces Nauman’s topologies of folded intervals,
making elastic intervals that mark endogenous time-folds, immanent temporal pleats. By
concretizing the interval, my trajectory follows Nauman’s transformation of negative
space—delineating form in schematic thought—into tangible space that depends on the
sonorous. While schematic form serves as a unifying support for the production of
events, Nauman overthrows the hold of form to a gradual sensual production working
within a crowded expanse that adheres to no ground.
In the previous chapter we saw how Nauman undermined the reign of the visual within the plastic art traditions and their institutions. He made sense, he made space, and, as we shall see, he made time, from sound, from rhythm, and from hearing. Replacing sight with hearing does not merely undermine the good order of the senses, but proposes new connections between the senses. While impeding sight, the sonic installations are intimately bound up with tangible experience expressed by the reverberating experience of bodies. I therefore propose touching sound and sound-touching—and the interval in between—as propositions for understanding Nauman’s sonic work.

**Of Organs and Machines: Touching Upon Aristotle**

The blinding mechanisms exhibited in the corridor pieces stage the historical problem of how to gain knowledge from the senses. Nauman’s sight deprivation addresses the problems of perception awakened by the seventeenth-century empiricists. This trajectory reveals much about the historical route as it comprises as part of a larger Enlightenment fascination with the relations between the senses and cognition. Here, the body is predicated as both the object of research and the instrument of experience.

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285 In reviewing the exhibition *For Children/For Beginners* at Sperone Westwater in 2011 David Ebony poses the following question: “Is sound a substance? A simple, yet provocative question that Bruce Nauman convincingly answers in the affirmative in his work. He has used sound as a sculptural material over the years to fill galleries and unconventional spaces,” see David Ebony, “Bruce Nauman, Sperone Westwater,” *Art in America*, 99:4 (April 2011), 124-125.


As Nauman exposes the failure of sight by impeding the seeing apparatuses, he also engages the quandary of the Cartesian enlightened blind man who knows the world through the touch of his fingers, and the empiricists’ (predominantly Locke’s) assertion that the senses imprint their perceptions on the mind.

To the predicaments of sight and touch Nauman adds the problem of the sonorous. We saw how he presents the sonorous as segregated from unified perception. In the corridor pieces, what may be now called the metaphor of “clear vision” collapses into the instrumentality of the senses. And yet, the discourse of the segregated senses touches upon the Aristotelian medial account of the sense organs. Nauman maintains the tension of this segregation, for since Aristotle, through Descartes, and currently in the work of Jean-Luc Nancy, it marks both the dichotomy between mind and body, sense and the senses, as well as the segregation of the five senses themselves.

Between 1969 and 1970 Nauman composed three installations that directly pose the segregation of the senses. By separating them, Nauman was able to touch upon the interval set between the senses. In particular, he was discerning sight from sound while setting the visitor’s body as interval between them. Working between sense and the senses, between coordinated rational topographies and organic sense-mechanisms, Nauman marked their intervallic capacities as spacing. In 1969 Nauman placed the visitor between hearing and seeing in an installation entitled *Audio Video Piece for London, Ontario* (fig. 89). He divided the gallery into two spaces. One was a sealed room containing a closed-circuit camera recording its own enclosed space and a soundtrack of Nauman clapping his hands on his thighs in patterned sequence (“palms twice, back of hands twice, etc.”). The second space, accessible to the visitor, included a monitor set on
the floor featuring the footage of the vacant sealed room. Moving around the open space, the visitor could slightly hear the clapping from the closed chamber. One needed to move in tune with a liminal aperture that allowed both hearing the soundscapes emanating from the sealed room and seeing the static image on the monitor simultaneously. The segregation of seeing and hearing posed mobility in the perceiver’s body, a tangible sway that vibrated between the senses. The separation of the senses wedged the body in tangible flux.

In placing the body between seeing and hearing, Nauman was echoing Samuel Beckett’s novel *The Unnamable* to reveal a constitutive difference and to concretize the interval in our hearing. Set in between confined hearing and extended visuality, wedged perception becomes possible in aggregated sensation: not unity, not common sense, but a difference that turns both ways at once, inside and outside. Beckett writes: “An outside and an inside and me in the middle, perhaps that’s what I am, the thing that divides the world in two, on the one side the outside, on the other the inside, that can be as thin as foil,” vibrating. “I am neither one side nor the other, I’m in the middle, in the partition.”

The proximity of sight and sound in Nauman’s work adheres to the quandaries of division—in, and out. Such division is exhibited in each sense: the dividing forces of the retina (and the conundrum of reflection addressed in the previous chapter); and the tympanum which Nauman will set up in a theatrical arena to imitate the mechanics of the ear.

The ear is a cut that runs across the body and the soul, a hole instead of common sense, an organ filled with air. Nauman created an installation that staged an ear, and we,

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like Beckett, are the tympanum, the very difference that is neither inside nor outside but is a partition that belongs to both. To create a partition by becoming a tympanum, that is, to become an interval, a mediator, closely connected to Derrida’s topological “Tympan.”

To philosophize, or, to use the Derridean analogy, to tympanize, is to break down the dialectical grounds constituting the inside and the outside. It is to position oneself on both sides at once, to have more than one face. To occupy such interspace is to acknowledge that one never transcends one’s own limits and yet one circumscribes the unthought.  

Demarcating the unthought through the mechanistic accounts of aurality means leaning toward irrational separation, Derrida asks “How to unbalance the pressures that correspond to each other on either side of the membrane?”

Let us return to Beckett: “I’ve two surfaces and no thickness, perhaps that’s what I feel, myself vibrating, I’m the tympanum, on the one hand the mind, on the other the world, I don’t belong to either.” Beckett’s double negation, e.g., the self that does not belong either to the mind or to the world, manifest in Nauman’s self as a producing sonorous interval. However, Nauman requires a larger gap, “minimum 40 feet,” he writes, to maintain sense separation. By 1969 we are inside the ear, performing the forces of pressure upon the tympanum. Touch and Sound Walls (fig. 90, 1969) was an

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289 “To luxate, to tympanize philosophical autism,” writes Derrida, “is never an operation within the concept and without some carnage of language. Thus it breaks open the roof, the closed spiral unity of the palate. It proliferates outside to the point of no longer being understood. It is no longer a tongue.” In Jacques Derrida, “Tympan,” Margins of Philosophy, translated by Alan Bass (Chicago: The University of Chicago Press, 1982), xv.  
290 Ibid., xv-xvi.  
291 In a different work, Nauman pushes his hands, his feet; he commands two performers, Elke and Tony, to push their bodies to the ground, forcefully (Elke Allowing the Floor to Rise Up, and Tony Sinking into the Floor, 1973). Organs pushing organs. Organs pressed by organs. Wedges. Tympanums.
installation opposing two sensual frontiers by spacing. The work positioned the visitor in between sound and touch. It consists of two walls, approximately forty feet apart. At the bottom of the sketched proposal Nauman wrote: “touch left wall, sounds on right wall, need 40 feet to separate sound from touch.” Behind the left wall, Nauman installed microphones; behind the right wall he installed speakers. When the visitor touched the first wall sound emanated from the other. To this separation, Nauman added, “The walls had to be far enough apart so that there would be a time lag, but not so far apart that you can’t hear.”

Here, touching substitutes for proper distanced seeing, and time was predicated on the relation between the subject’s operating body and the spatial distance between walls. It triggers a physical impression that generates dispersed sound. The installation performs like an event-score replacing musical notation with architectonic space. Taking off on the musical experimentation of George Brecht, Nauman’s walls correspond to the sensual engagement of Brecht’s score for *Six Exhibits* (1961).

Brecht’s score articulates:

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Six Exhibits

• ceiling
• first wall
• second wall
• third wall
• fourth wall
• floor

Summer, 1961
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292 *Bruce Nauman*, edited by Joan Simon, 237.
293 George Brecht’s *Six Exhibits* is brought here as a specific case engaged in constructing the relations between architecture and sound. The rich connections to Fluxus may be addressed in relation to event-scores, and the Cagean mediating affect, which at many times was exhibited in violent gestures against musical instruments.
Touch and Sound Walls performs Six Exhibits in pressure, and in touch. Brecht wanted the score to be considered as a kind of music; “if we perform it right now,” he wrote, “we can look at the ceiling, the walls, and the floor and at the same time we’ll hear sounds: our voices, the birds outside, and so forth. All of that belong to a same whole, and that’s the event.” Brecht’s score sets a space for hearing its own echo (Greek ἐἴς, room, chamber). Housed by the architectonic limits of language, the score calls our attention to inhabit an unconfined soundscape. Nauman’s installation reconfigures the relations between the planes of language and chamber with the vibrations of sounds emanating from the walls through the performance of touch and hearing. Devoid of direction or set results—as with traditional musical notations—vocal utterances become concrete spatial boundaries and the performer becomes a gesture. The movement of sculpting now belongs to the performer rather than the artist.

Concretizing sound, Robert Morris began to construct sound objects as soon as he moved to New York City. His Box With a Sound of its Own Making (fig. 91, 1961) is an enclosed cube alluding to Marcel Duchamp and Arnold Arensberg’s collaborative exercise With Hidden Noise (fig. 92, 1916). Yet, unlike the latter, where Duchamp instructed Arensberg to hide an object inside a ball of twine and not inform anyone what it was, Morris’s box announces its procedural making. The noises of carpentry produced by hammer and saw were recorded on tape and emanate from a small speaker placed inside the box. The soundtrack speaks of its own making as it acoustically reenacts its technical cubic construction. Sound replaces language as the process of making is revealed in the soundscape of the box. When Cage visited Morris’s studio, he listened to

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the box for the whole three-hour duration of its manufacture. Treating it like a private concert, Cage followed the acoustics of the gradual process. In 1968 Nauman cast a tape recorder in a masonry cement block. Entitled *Concrete Tape Recorder Piece* (fig. 93), the work alludes to the materiality of sound confined within geometrical square limits. Within the 650-pound (240 kg) concrete block he hid a tape-loop of a scream. Sonic space became substantially physical when considered as sculptural material. Sound was considered as gravitas. *Touch and Sound Walls* augments this move by replacing the small box with a room and the hidden recording instruments with the performing visitor now invited to touch upon sound in order to make concrete space. The physical vibrations of sound touching our ears are now considered in the auto-effective touch the visitor triggers by simultaneously touching the left wall while being touched by the sound waves emanating from the right wall.

In 1961 George Maciunas called the visitor to perform *Music for Everyman* by touching sound. The score lays out a gridded topography of sounds the visitor may create—such as blowing up a balloon with an air pump or spilling liquids—that call attention to the opposition between rational and determinate methods of composition and automatic indeterminate ones. Following Cage’s events, Maciunas called for an open-ended performance, emphasizing the corporeal materials for his composition:

1. direct automatic human making: with hand, foot, or other part of the body
2. animal making: footmarks of quadrupeds, insects, birds, etc.
3. throwing, spraying, dripping: sand, pebbles, scraps, ink, paint and other solids or liquids
4. superimposing: over any past or present score, printed matter, drawing etc.

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5. number-letter sequences determined by dice, cards, roulette, telephone books, math tables, etc. \(^{296}\)

Nauman, as we shall see, refers to Maciunas’s methods. By referring to the primacy of the senses, Nauman’s *Touch and Sound Walls* takes into account an acephalous automatism that enlists the hand in the forgetting of the mind. Another work that grounds the tangible interaction of touch and sound in creation of space is *Random Access* (1963, fig. 94) by Korean-born musician and artist Nam June Paik. The installation is like an abstract painting composed of strips of audiotape mounted on a wall that could be “heard” when rubbed by the head of a magnetic tape player. \(^{297}\) The rational composing “head” is replaced by a technological extension reading the recorded signals from the strip, now placed within the visitor’s hand. As on a map, the visitor was free to move the head of the tape player and touch the magnetic strips to create her own musical position and temporal order. \(^{298}\) Paik acknowledged the physicality of sound through the tangible activation of tape strips.

In *Sound Breaking Wall* (fig. 95, 1969), Nauman made an additional exchange, replacing walls with sounding bodies. Two audiotapes are heard playing: one has Nauman exhaling, while in the other he pounds and laughs. The speakers are designed to be installed in existing walls. However, in most installations Nauman created a false wall to contain the speakers in two adjacent walls. The visitor once again occupies the space between the walls, but in this sonic space the surrounding sounds lose origin and rule. Distinctive levels of order are set apart: the orderly breath of Nauman’s respiration

\(^{296}\) Roling et al., *See This Sound*, 112.  
\(^{298}\) Roling et al., *See This Sound*, 119.
bounces off his pounding and laughing; the order of the senses is subverted under the sway of the sonic; and the rule of summoning sight oriented within the geometrical architecture of the room is replaced by dispersed touch.

In these installations sensation works in two directions: it predicates representation, and the segregation of the senses is continuously interrupted. This complex deportment necessitates some consideration. Let us begin with my first assumption: sensation as the predicate of representation. In *De Anima*, Aristotle maintains perception within the five senses. For him, reason is not born, but comes to exist from particulars (not separated from universals), from matter. Although sensual, perception for Aristotle is understood as a model of hylomorphic (the two principals: matter and form, the first potential and the second an object actualized) change, it is the senses that allow perception to “come about with [an organ’s] being changed and affected… for it seems to be a kind of alteration.”  

Thus sensory perception occurs between objects capable of acting and capacities being affected. The affected “thing,” which may be considered as a sensing machine, and in our quest, and ear, hold the property of “becoming like” the acting agent. Sense perception and the sensory organs accrue to changes and alterations. “The perceptive faculty is in potentiality such as the object of perception already is in actuality,” it becomes in affect “like it and is such as that thing is.”

This process of becoming is connected in *De Anima* to the relation between the rational faculty and the sensory organs. For Aristotle the rational faculty of the soul comes to exist through the process of induction predicated on sense experience.

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300 *De Anima II*, 418a3-6, 424a17-21.

301 *De Anima II*, 5, 418a3-6.
Thus he begins his reasoning account with the biological gathering of sense through the particular mechanistic working of the senses. The primary stage of sense perception—devoid of reason—serves an interesting proposition for thinking aggregated senses organs and their mediation properties within the auspice of becoming. And yet, even within this radical split from reason I allow here, we will see how the privilege Aristotle denotes to sight returns to a cultural habit connecting clarity, knowing and understanding, to particularity of sense organs—here, the eye. Nonetheless, when considering the sensory mechanisms in biological terms, in their strict physicality, sight is removed from its all seeing podium and replaced by touch. This tension between sight and touch marks the tension between moving to Aristotle’s reasoning faculty or maintaining within his physical account. For Aristotle, aesthesis (sensation) rests on the hierarchy of the senses and is ruled by the gathering mechanism of touch. Although De Anima places sight as the highest among the five senses, touch plays the indeterminate protagonist that holds the unique role of gathering sense impressions. Sensation validates our access to the essence of extra-mental things, and it does so by functioning teleologically, in accordance with the structure of the cosmos and its underlying perfection (teleios).  

For Aristotle, cosmic topology, sensation, and natural teleology are concretely indistinguishable. Touch does not only ground existence (touch is linked to fundamental biological processes such as sleeping, aging, and dying but also cognitive imagination (De Anima 3.13, 433b31–434a10); it underlies and unifies the different sensual qualities perceived in segregation. Although touch gathers the sensual incarnation of teleios, commentators argue that it is

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unclear whether touch is for Aristotle a single sense or a group of senses.\textsuperscript{303} Making sense for Aristotle is thus predicated on the weak unity of tangible common sense.\textsuperscript{304} The sensitive soul, what Aristotle calls psyche, is the ordering principle (arche) of the order of sensation. To the sensual soul Aristotle adds the rational soul, a higher psychic form that presupposes the full plentitude of sensation. Touch is thought of as the cognitive threshold making us epistemological subjects, and the abundance of tangible qualities inaugurate aesthetic distance and theory.\textsuperscript{305} In this perspective, not much has changed from Aristotle to Descartes as the connections between sight (predicating theory) and tangible perception are analogous to the Cartesian blind man’s fingertips, or to sticks. The hands, as well as their prosthetic extensions, perceive the world in mediation of the

\textsuperscript{303} De Anima II, 418\textsuperscript{a}1–422\textsuperscript{a}1. Chapter 8 of De Anima, as we shall see later, is dedicated to hearing. See also, Johansen, Aristotle on the Sense Organs; Pavel Gregoric, Aristotle on the Common Sense (Oxford and New York: Oxford University Press, 2007).


\textsuperscript{305} Aristotle, De Anima II, in The Complete Works of Aristotle, 670, 421\textsuperscript{a}25; Sense and Sensibilia, in The Complete Works of Aristotle, 693-694, 436\textsuperscript{b}13–437\textsuperscript{a}3. Heidegger reading Parmenides reminds us of the connection between theory, theater, and the act of looking. For Heidegger’s Parmenides the word 'looking' holds a key concept in the understanding truths. The word Look derives from the Greek concept of thea which refers to the sense of sight in which something shows itself and presents itself. Thus, 'looking' holds at least two directional paths: the looking and the looked. Heidegger brings forth this etymology in his essay on Parmenides, where he sets his task to explore and reveal the bottom of things, thus to the beginning of meaning. Here he deciphers the role of the Greek goddess Alathea as designating un-concealedness, i.e., truth. After defining his quest, Heidegger tells us that the reason that truth does not show itself is because we are only acquainted with concealment. He continues and explains the reason that our darkened view is embedded in the idea that "things themselves and their connections hide themselves from us and for us, or because we ourselves bring about concealment." Thus, "the essence of truth… un-concealedness, is involved with concealness in a 'conflict'." He continues to situate truth in the realm of concealment while proving that un-concealing of truth is conflictual in its essence. Thus, according to Heidegger, truth is to be found in the realm of oppositions. This realm of oppositions is the place where revealing of truth will occur. See Martin Heidegger, Parmenides, translated by Andre Schuwer and Richard Rojcewicz (Indiana: Indiana University Press, 1992), 15-26.
distance between the sensing organ and external objects. And yet, this distance, this spacing that has preoccupied philosophy in physical mediation and negative transcendence, Aristotle claims as immaterial materiality. He continues to claim that through our sensual instruments we are led to truth and receive the “sensible forms of things without their matter,” the way wax receives impressions from an exogenous object, without the materiality of the impressing object.\textsuperscript{306}

Imprints are not restricted to sensuous perception, but are also pertinent to Aristotle’s process of thinking. \textit{De Anima} accounts for this trajectory in the analogy between thought (\textit{noēsis}) and touch (\textit{aesthēsis}).\textsuperscript{307} Both hold unity that is already expressed by the form (\textit{eidos}); form allows the potentiality of matter to actualize in \textit{logos}.\textsuperscript{308} The move from potentiality to actuality as a result of grasping form is directly analogous to the way in which \textit{psyche} grasps the thing through sensation. The \textit{logos} of thinking results from the grasping of a body’s \textit{eidos} in material, like an impression as in an imprint on wax.\textsuperscript{309} This analogy extends to the shape of the sense organs, which for Aristotle echo the object sensed, and I will risk saying that it also operates in the same manner in the production of bodies. Thus, there is a formal resonance between form (\textit{eidos}) and individual bodies, while the former has primacy. In other words, actuality as \textit{eidos} precedes potentiality of matter, and there would appear to be relations between

\begin{itemize}
\item \textsuperscript{306} Aristotle, \textit{De Anima II}, in \textit{The Complete Works of Aristotle}, 1:424\textsuperscript{a}16-24.
\item \textsuperscript{307} Aristotle main purpose was to refute Plato’s contention that \textit{psychē} cannot grasp itself. He did share the concept of \textit{eidos} with Plato, but provided a different account to its underlying order. For Aristotle, \textit{eidos} was not unreachable, but was form as well as matter. See \textit{Metaphysics}, in \textit{The Complete Works of Aristotle}, 2:1034\textsuperscript{a}33.
\item \textsuperscript{308} Aristotle, \textit{De Anima II}, in \textit{The Complete Works of Aristotle}, 661, 415\textsuperscript{b}14.
\end{itemize}
sense, sensed, and psyche.310 “It follows,” writes Aristotle in De Anima, “that the mind is analogous to the hand.”311

A radical assumption: if the hand is analogous to the mind, then seeing may be discarded since it is considered secondary in relation to the forces of pressure. Here, touch marks the spacing that impression cannot do without, and the mimetic imprints reflect the artist’s touch. Such pressing impressions are key to the understanding of Nauman’s use of ears and hands. In Finger Trick with Mirror (fig. 96, 1967) Nauman photographed his hands pressing upon a horizontal mirror. The result was a double image of two pairs of hands pressing against each other. Imprinted on a silver halide layer of a black and white gelatin photographic paper, the double image of the artist’s hands expose their progmata against their a priori precedence; it is the result of impression. A self-touching renders the mirror effect as an illusion of sense touching sense, with the physical mirror becoming the gap that allows for the doubling of the image. These are the conditions of self-touching-self in illusionary praxis. The mimetic spacing presents the tactful problem of representation. The gesture maintains the formal properties of language contingent on touching hands as outlined by their fingertips. This problem of gesture is further stressed in Hand to Mouth (fig. 97, 1967), a wax-cast wall piece from the same year, which reverses the progmata of language topologies.312 “It was just

supposed to be a visual pun,” Nauman recalled, “or a picture of a visual pun.” And yet, this syntactical knot reveals much more than the financial state of the young (and quite poor) artist at the time. *From Hand to Mouth* declares a move, a direction: from tactility to speech, from the sensuous body to language, from one organ to another.

The linearity of this visual pun is derived from the historical understanding of logos. To follow the logic of gesture, and of language—from hand to mouth—is now considered as prosthetic supplement. In *Of Grammatology*, Jacques Derrida posits an adventurous reversal of relationships between mouth and hand. Derrida returns to the thought of André Leroi-Gourhan, who disturbed the familiar flow of knowledge by awakening meaning of the hand. For Leroi-Gourhan, the hand should be considered manual motoricity. It is by giving the hand a mechanistic account that the audio-phonic system of speech and the glance and the hand of writing are freed. Nauman’s pun forgets its linguistic memories and returns to the *techné* of bodies, here separating and re-connecting hand to mouth. The originary presence of language, stipulated in the mouth’s ability to articulate, is suspended within the primacy given to the hand. Leroi-Gourhan’s analyses give an understanding of how contents come to be linked with the hand as a technological extension. The hand-tool and the mouth/face-language are tightly linked: “as soon as there are prehistoric tools, there is a possibility of prehistoric language,” writes Leroi-Gourhan, “for tools and language are neurologically linked and cannot be

dissociated within the social structure of humankind.”315 Deleuze and Guattari develop this mechanistic deliberation of the hand as a “technological instrument” and stress the hand is more than an organ, for it is “a coding, a dynamic structuration, a dynamic formation (the manual form, or manual formal traits).”316 They explain the mechanics of the hand as limit and interruption: “not only is the hand a deterritorialized front paw; the hand thus freed (i.e., thought of here as freed from its Cartesian designation as res extensa, extending substance) is itself deterritorialized.”317 Whereas the formal traces encoded by the hand constitute a unity of composition, the substance of the hand, as organs and tools, “function as veritable strata and mark discontinuities, breakages.”318 Thus the hand delineates formal language through interruption, or, what Deleuze and Guattari would call in Anti-Oedipus the cutting machine. They emphasize that the hand passes through “retarded development” that imprints through extension, and yet, this retarded discontinuity is not restricted to the hand, for they take into account the interruptive interval of other organs as well. “The mouth,” for example, “as a deterritorialization of the snout (the whole “conflict between the mouth and the brain,” as Perrier called it); the lips as a deterritorialization of the mouth (only humans have lips, in other words, an outward curling of the interior mucous membranes…).”319 Thus organs are construed as interruptive intervals that do not work in proper accordance with some

315 André Leroi-Gourhan, Gesture and Speech, 114.
316 Deleuze and Guattari, A Thousand Plateaus, 60.
317 Ibid., 61.
318 Ibid.
consciousness but, in fact, cut and disjoint properly aligned mechanisms to produce new continuities. *From Hand to Mouth* exhibits the production of language through the corporeal mechanism of organs, and its fragmented nature emphasizes the instrumentality of language.

In “Breaking the Silence,” an interview with Joan Simon, Nauman recalled the mechanics of the hand and mouth and the significance of the tactile imprints produced in his choice of casting method, “I first made *From Hand to Mouth* as a drawing—actually there were two or three different drawings—just the idea of drawing “from hand to mouth.””\(^{320}\) Think of drawing a pun, creating an ideogram equivalent to the spoken proverb, while drawing the quality of tact; “But I couldn’t figure out exactly how to make the drawing.” Instead of outlining an additional scheme by drawing, Nauman cast the mechanics of the body:

My first idea was to have a hand in the mouth with some kind of connection—a bar, or some kind of mechanical connection. I finally realized that the most straightforward way to present the idea would be to cast that entire section of the body. Since I couldn’t cast myself, I used my wife as a model.\(^{321}\)

To further concretize the pun, he stressed the corporeal features of the skin, the locus of touch:

I worked with the most accurate casting material I could find, something called moulage. I found the stuff at some police shop. You know, they used it to cast tire prints and things like that [did this remind Nauman of Rauschenberg and Cage’s famous imprint?]. It’s actually a very delicate casting process: you could pick up finger prints in the dust with it. The moulage is a kind of gel you heat up. Because it’s warm when you apply it on the body, it opens up all the pores … Then I made the wax cast, which

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\(^{321}\) Ibid., 275.
became very super-realistic—hyper-realistic. You could see things you
don’t normally see—or think about—on people’s skin.  

The tactile precision of Nauman’s technique premeditates the relation between
hand and mouth in their palpable technicity. He returns to the touching hand preceding
speech. It is a mechanistic account laying the body, its organs, within equivalent relations
of sense and the senses; without hierarchy. The mouth, situated up high and yet just
below the brain, eyes, nose, the ears, marks the hierarchical significance of vertical
speech. I speak. Already we are in speech, always begun, always constitutive of
subjectivity. Or, are we? The corporeal passage—from hand to mouth—made up of cloth
and wax, defies the conceptual flow between the extension of the body and the extension
of thinking. Though concrete, the interval between hand and mouth is incommensurable.
It obscures punctual causality. There is no bridging tactility with articulation. The interval
creates a place that adheres to neither; it opens an unintelligible space that, although set in
motion by tactility, remains incommensurable.

\[\text{Ibid.}\]

Michel Foucault, in the text dedicated to Maurice Blanchot “Maurice Blanchot: The
Thought from the Outside” (1966), counters the contemporary fictitious “I speak” with
the Greek “I think.” The naked I speak overruns the interiority of metaphysics to the
exteriority of imminence. “I think,” Foucault writes, “led to the indubitable certainty of
the “I” and its existence” (thus claiming the certainty of the modern Cartesian subject), “;
“I speak,” on the other hand, distances, disperses, effaces that existence and lets only its
empty emplacement appear. Thought about thought, an entire tradition wider than
philosophy, has taught us that thought leads us to the deepest interiority. Speech about
speech leads us… to the outside in which the speaking subject disappears. No doubt that
is why Western thought took so long to think the being of language; as if it had a
premonition of the danger that the naked experience of language poses for the self-
evidence of “I think”. See Michel Foucault, “Maurice Blanchot: The Thought from the
Outside,” Foucault, Blanchot, translated by Jeffrey Mehlman and Brian Massumi (New
Streaming Doubles: Sound and Language

Losing measured speech is performed in *Lip Sync* (fig. 98), an audio-video tape from 1969 featuring Nauman’s mouth and neck turned upside down. Two streams, audio and video, are played out of sync as Nauman repeats the phrase “lip sync” over and over again in a loud whisper. Unsynchronized sight and sound are further disoriented by the upside-down view of the mechanics of speech seen in the working of the oral cavity: tongue touching the palate and the lingual frenulum. The work creates a phase shift between the improperly aligned audiovisual streams. The infinitesimal gap opens up a third space, continuously spacing between the two. Nauman witnessed such spacing within the work of minimalist composer Steve Reich, whose work he undoubtedly encountered by 1964, if not sooner. The composer and the artist took part in the San Francisco Bay area art scene of the early sixties.

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324 Bruce Nauman, edited by Joan Simon, 233.
325 Nauman moved to the Bay area in 1964. He intended to enroll in an art graduate program with his first stop being the San Francisco Art Institute, but the fall semester was already closed. He then drove to Davis, where the only person working at the department of art during the vacant summer months was Jeanie Bernauer, the secretary. She assured Nauman that “they would love to have him.” In a similar quest, Reich, a New Yorker by origin, arrived in San Francisco in 1961 in search of a graduate school of music. He had graduated in 1957 with a bachelor’s degree in philosophy from Cornell University, having dedicated his undergraduate thesis to the writing of Ludwig Wittgenstein (a background shared by Nauman in his undergraduate studies and at the root of his later interest in the Austrian-British philosopher’s language games). Reich then enrolled at Julliard to work with William Bergsma and Vincent Persichetti (1958–61). By 1962, after learning that Luciano Berio would be teaching at Mills College in Oakland, he enrolled in the graduate composition program. Reich shared classes with Phil Lesh, who by 1965 would found the legendary Grateful Dead, and Tom Constanten, who would join the band in 1968. Lesh recalls that Berio’s classes consisted of discussions related to the significance of gestures and phonology. As a significant example, Lesh draws upon the analysis of Igor Stravinsky’s *The Rite of Spring* (1913), an avant-garde piece novel in its use of bitonality (the use of two different keys simultaneously), irregular beat, and, following Alex Ross’s observation, seemingly piled up with layers of cubistic collages and montages. The work was considered prophetic in its return to the body rather than the
At the time, the San Francisco art scene included multiple experiments with music, sound, film, and choreography. The return to the body was not restricted to some philosophical or musical academic discourse, but was imbued with a west coast stance on international politics. From the civil-liberties activists to the Berkeley Free Speech Movement, changing the rules meant rejection of the long traditions of proper and rational dictums. Reich, and later Nauman, crossed paths with this anarchic anticipation. The desire to do away with the old ordering principles was expressed in the investigation of language, whether through linguistics (mute sign systems), through phonology (spoken sounds), through the body (choreography), etc.), or through and its dispersion. While working against sign systems, artists sought to release the body from its epistemological restraints. The question at hand was not how the discourse of the body is constituted but how the body constitutes discourse and the possibility of an ethical discourse. Trapped by the sign and by sense, the body reproduced by language was understood as destined to be an object of knowledge, rather than a singular unique alterity, which may be presented by being in the proximity of other bodies—that is, a tangible body being-with others, always exposed, affected, and touched. The return to the body through the investigation of language was to do away with the sign system, for, to follow Nancy’s tangible proposition, “when one puts the body on the program, whatever program, one has already mind; its “melodies would follow the patterns of speech; rhythms would match the energy of dance ... sonorities would have the hardness of life as it is really lived.” Stravinsky’s complicated use of speech and rhythm was to have a decisive influence on Reich’s exploration of rhythmic phasing. See, Lewallen, “A Rose Has No Teeth,” 9; Alex Ross, The Rest is Noise (London: Fourth Estate, 2008), 76, 90.

326 In Corpus, Nancy writes: “from the body-cave to the glorious body, signs have become inverted, just as they have been turned around and displaced over and over again, in hylemorphism, in the sinner-body, in the body-machine or in the “proper body” of phenomenology. But the philosophico-theological corpus of bodies is still supported by the spine of mimesis, or representation, and of the sign.” See Nancy, Corpus, 192.
to set it aside.” Prior to Nauman’s work, placing the body center stage was essential to the work of choreographer Anna Halprin, who founded the San Francisco Dancers’ Workshop in 1959 together with Simone Forti, Robert Morris, Trisha Brown, Yvonne Rainer, and John Cage. The Bay area’s counterculture scene, as it was later labeled, engaged in inter-media collaborations epitomized by the political satire of the San Francisco Mime Troupe, also founded in 1959 by R. G. Davis. Adding to this cultural expression of the body were the sonic spaces of the non-musical sound productions of Musique Concrète performed at the San Francisco Tape Music Center (SFTMC), established in 1962 by Morton Subotnik and Ramon Sender. The center also included Reich, Pauline Olivers, Terry Riley, William Maginnis, and Tony Martin.

The San Francisco Mime Troupe began by staging their performances in parks and streets. Their first indoor multi-media event was held at the SFTMC on Russian Hill. The Troupe experimented with the sixteenth-century form of Italian Commedia dell’Arte, emphasizing the stereotyped set of masked characters used to convey the social critique of the day, alongside productions of Samuel Beckett’s existential plays, such as Act

The SFTMC, as an anti-establishment experimental venue, provided “an ideal environment for a significant interaction between the counterculture and the West Coast avant-garde,” wrote David Bernstein. In 1963 the SFTMC moved to 321 Divisadero Street and shared performance spaces and studios with KPFA and Halprin’s Dancers’ Workshop.

Nauman, as well as Reich, gravitated towards the artists’ communities and began collaborating with artists in film, sound, and performance. While at Davis, Nauman visited the Tape Music Center frequently. Composer and dancer Meredith Monk recalls the dominant influence of the music community in the city. The evolution of sound on the west coast, from Schoenberg’s atonality to Cage’s indeterminate techniques, had a unique expression in the work of the minimalist composers. Nauman mentions the significance of the music produced within the triangular relationship among Mills College, Berkeley, and the SFTMC in his audiovisual approach. Nauman recalls “that what was important

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332 Cole, “‘Fun, Yes, but Music?’” 321.
333 With this in mind, Monk stresses the importance of inter-media collaboration: “There was a large music community in San Francisco... it seems like a lot of people were working together in a lot of different fields. There were poets who were doing dances, actors were making music. [A] very exciting period for a community of artists coming from different fields and in a way renewing their energies by considering other aspects that they haven’t thought of before. And I think it’s always interesting when someone is very developed in one medium, and have a sensibility that’s formed, when they try to work in another area.” Bruce Nauman, Meredith Monk, Kathy Hulbreich, and Neil
… was the number of musicians I knew… Phil Glass, and Steve Reich, and I knew La
Monte Young’s music although I’d never known him, but I used to spend time with him
in the studio.”

The vibrant cross-pollination between the visual arts and music encouraged Reich
and Nauman to get involved in performance and underground films. Reich began
collaborating with Robert Nelson, Robert Hudson, and William T. Wiley. The latter
became Nauman’s most important teacher and friend. Constance Lewallen sketches out
the fertile relationship between Nauman and Wiley: “only four years older than Nauman
(and most of his students), Wiley was inspiring, always open and receptive to unorthodox
ideas, and carried no preconceptions. His own work has always been a by-product of his
life (the synchronicity of art and life is shared by many artist in the region), and anything
and everything was potential content. He included puns and riddles in his paintings,
which… ‘illuminated the human condition and its fragilities.’”

Nauman recalls that “Wiley was the “strongest influence I had. It was in being rigorous, being honest with
yourself—trying to be clear—taking a moral position … it’s that [San Francisco] Art
Institute morality, that art is an ethic.”

These collaborations proved useful in creating new communities, providing a
place for political discourse, and allowing the artists involved to take part in decentralized

Benezra, Bruce Nauman: Panel Discussion, 4 October, 1994, tape recording, Walker Art
Center Archives.

Archives of American Art, Smithsonian Institution (see online transcript:
http://www.aaa.si.edu/collections/interviews/oral-history-interview-bruce-nauman-
12538).

335 Lewallen, “A Rose Has No Teeth,” 13. See also William T. Wiley (Tallahassee:
University Fine Arts Galleries, School of Visual Arts, Florida State University, 1981), 13.

336 Ibid.
settings. One of Reich’s and Wiley’s first associations happened while they were working with the Mime Troupe’s production of *Ubu King*, a play that adapted Alfred Jarry’s 1896 *Ubu Roi*. Wiley designed the set; Reich provided a score for clarinet, violin, and kazoo amplified through a Pacific Gas and Electric traffic cone. The playbill (fig. 99) declared that the production “was drawn from the immediate concern of artists in the community … a communal boat-rocking—and, hopefully, at times destroy some parts … Ideally, the S. F. Mime Troupe will establish a mutual dependency with its audience… for an audience that is not afraid of being excited, if not ‘disembrained.’” To enhance the neo-Dada farce, the music players mingled with the actors, coming and leaving the stage as they played. They played the score several times, then stopped and left. Davis considers this production the first to divide sound from image.

In Robert Nelson’s 1963 underground absurdist film *Plastic Haircut* (fig. 100), the separation of sound and image was even more radical. Wiley, together with Robert Hudson, set the abstract geometric visuals for the film, while Reich composed a three-minute soundtrack. Reich’s soundtrack was a fast-paced collage of sports commentaries and ambient crowd noise. “I got a hold of a record called *The Greatest Movements in Sport,*” Reich recalled, “and made a collage of it in the most primitive of ways.” Reich was interested in the blurred semantic remains of voices and the unique quality of their individual dialects. Unprocessed sounds “have some kind of emotional resonance … if you bring them into music, that brings in an emotional and theatrical meaning … [that

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338 Cole, “‘Fun, Yes, but Music?’,” 322-323.
340 Cole, “‘Fun, Yes, but Music?’,” 327.
permits one] to hear what the original sounds were.\textsuperscript{341} Cutting and pasting together the tape recording meant physically manipulating the magnetic tape, a strategy attributed to musique concrète, to which we will return later. The physicality of the tape, as well as the repeating utterance of original voices, was striking. Even more salient were the juxtapositions available within the recordings themselves. Reich now had the opportunity to work with doubles: voices and sounds could emanate beside each other, working in unison, and then gradually fade out in dispersion. Nelson recalls that this was Reich’s first tape work. While Nelson wanted the soundtrack to supplement the visual stream, the soundtrack ended up as an audio-intermission mounted on a black screen, cutting the film midway for an interval of three minutes. Due to technical limitations—Nelson simply did not know how to mount audio and video—the “empty” interval was salient. It opened up a space, unruled by the eye, giving priority to hearing, while serving as a tipping point, or a balance, for the mirror-film-sequences projected before and after its own spacing.\textsuperscript{342}

Reich’s tape collage concretized the vacant interval between two subsequent visual projections. This kind of noisy intermission was also staged in live performances. On the east coast, at the Judson’s basement, Phillip Corner performed \textit{Beforehand and Afterward}, a piece to be executed during intermission.\textsuperscript{343} Inspired by Erik Satie’s \textit{musique d’ameublement} (\textit{Furniture Music}, 1917), Corner demonstrated the significance


\textsuperscript{342} Nelson explained the technical problem of mounting audio and video: “at that point I didn’t know how to do a mix once the quarter-inch stuff was transferred. Not being smart enough to know how to seek the solution, I put the film together in a way that put Steve’s track over the black leader, not the image… I was a completely untrained filmmaker.” Scott McDonald. “We Were Bent on Having a Good Time: An Interview with Robert Nelson,” \textit{Afterimage}, 11:1-2 (Summer 1983), 39.

\textsuperscript{343} Philip Conner, \textit{Beforehand and Afterward}. Judson Memorial Church Archive: 1838-1995, MSS 094, Fales Library, NYU, series A.02, folder 46.
of the vacant interval in setting the stage for spoken performance. By stressing the work
of background noise in the dismantling, assembling, and tuning of instruments, Corner
not only moves the attention of the spectator to environmental sounds, a move recalling
John Cage’s 4’33”, but he creates a sound interval that touches upon the limits of the
visual performance. This sound interval follows no telos, and its collaged nature featured
banging hammers, and Max Neuhaus unpacking and packing instruments. “Afterward,

    started sharply after performance, a use on art—becoming revelation of the mechanics behind the illusion
    completely given way to focus on work-activity.

    ...

    —in that case: all the betweens (Between)
    all the other activities.
    “Betweentimes” ….. a whole concert — a whole life
    with the ultimate concept : “During”

This sound interval is an in-between state, no longer considered as secondary but
as physical and primary in founding time, i.e., the duration of the performance. In this
novel proposition, Corner also notes the role of sensation. In the event score he opposes
efficiency with intimacy, only to stress the intermission not as “efficiently completing a
task,” but as an “intimate mode,’ that, he writes, “would have you stretch your whole
action [and thus time]. Your sensual touching of things, almost caress, small sounds of
them, and very patient, loving, every opportunity of slowing down the end in favor of
sound, not an opportunity missed for rubbing on surfaces, the things with each other, and
you with them … where different performances would have you change the spatial
arrangement ….. then call it B e t w e e n T i m e s.”

344 Ibid.
Music critic Peter Yates found Corner’s scheme of instructions directly linked with minor actions. In theatrical performance, which pertains to “the fourth dimension of music, to state it very simply, an action takes the place of a note.” This observation becomes essential to the evolution of Nauman’s sounding bodies (in Lip Sync, and later in using his body as an instrument to produce sound). Replacing the note with action follows the indeterminate actions of Feldman and Cage replacing notes with graphics, allowing performers the freedom to interpret the new visual topographies in action. This move foresaw the rejection of traditional notation, which in its next evolutionary movement utterly discard sign systems in favor of sounds produced by the body through voice, clapping, banging, stomping, and so on. While this trajectory holds a primitivistic stance (returning to the body producing simple movements and sounds), it should be noted that contemporary performance, and what I would call sounding bodies, manifested itself as action opposing the tyrannical system of signification rather than wishful organic elaboration on primeval cultures. In this regard, John Cage’s assertion that the second half of the twentieth century saw “the emancipation of music from its notes” was realized in physical productions of music. Indeed, Yates’s observation that action took the place of a note is indispensable. Nonetheless, the physical production of music integrated the use of sound instruments (such as radios, tape recorders, etc.) and the use of the body as instrument. This double instrumentation of machines and human bodies amalgamated in Nauman’s work, in his own performing body and in the visitor’s body—I would call these sounding bodies, for they create sound with their physical organs, at the same time

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producing sound topographies. If we lend our attention, our ears, we may soundly hear their topologies.

Working against a delineated space, in 1967, Nauman began exploring activities performed in a studio using his body as an instrument. In the film *Dance or Exercise on the Perimeter of a Square* (fig. 34), Nauman made a square with masking tape on the studio floor, each side marked by its halfway point. To the sound of a metronome, and beginning at one corner, he moved around the limits of the square, sometimes facing into its interior, sometimes facing out. Each of his paces—conducted while trying to keep up with the metronome—corresponded to a half-length side of the square. Moving between the order of sound and the visual topography, his body expresses the inconsistencies of the corporeal interval. In *Bouncing in the Corner, No. 1* (fig. 101, 1968) Nauman made his body into a metronome, and in *Bouncing Two Balls between the Floor and Ceiling with Changing Rhythms* (fig. 102, 1967–68), he attempted to generate measured repetition when bouncing two balls in the center of the same square marked on his studio floor. He threw the balls as hard as he could, trying to maintain a specific pattern, but the balls bounced out of control as his moves became unpredictable. He then collaged the capricious variants of pressure into an out-of-sync film of sound and image. Nauman recalls that he “didn’t have the equipment and patience to coordinate them,” but he later deliberately used these lapses between sight and sound to express the irrational interval between them.\(^{347}\)

In other studio films, Nauman goes further and releases the physical interval to render it an autonomous self-generating instrument that delineates spatial topographies.

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\(^{346}\) *Bruce Nauman*, edited by Joan Simon, 221.  
\(^{347}\) Ibid., 219.
In *Slow Angle Walk (Beckett Walk)* (fig. 103, 1968), Nauman made his body a measured interval as he is filmed for nearly an hour repeating a strenuous sequence of body movements that recall Beckett’s repetitive and meaningless activities. Carving out the space like a compass, hands clasped behind his back, he kicks one leg up at a right angle to his body, hinges forty-five degrees, falls forward hard with a thumping noise, extends the rear leg again at a right angle behind him, and begins the sequence again. The work emphasizes the subjective creation of space when corresponding to the famous image of God the geometer in the Bible Moralisée (fig. 104, ca. 1220–30). Set in a rigid event-score, *Study for Slow Angle Walk* (fig. 105, 1968–69) shows the geometrical support Nauman extricates from his sounding movement. Each step he makes delineates a line in a topographic soundscape that is created by the calculated movement of the body. Nauman sketches an acoustic ground that results in geometrical symmetry.

That same year, in *Stamping in the Studio* (fig. 106, 1968) Nauman pounds out rhythms with his feet. As in *Slow Angle Walk*, he walks across the camera frame diagonally and in spirals in the studio. The footstep rhythms begin with a steady one-two beat and advance to a syncopated ten-beat phrase. The *Drawing Film With Sound: 1. Stamping, 2. Beckett Walk* (fig. 107, 1968–69) displays the right-angle geometrical sequence spawned from his measured movements. When notating the movements of *Rhythmic Stamping*, the repetitive results recall minimalist arithmetic sequels as seen in Donald Judd’s repetitive squared boxes and Carl Andre’s heavy matted grids. Flattened between painting and sculpture, the minimalist support is rejected in favor of the performing body, now becoming an instrument, a measuring device that produces its own

348 Ibid., 227.
subjective ground as it marks the gravitational mass of its passing stamps. For a close examination of the hour-long film I notated Nauman’s stamping to reveal that his calculated steps mark a geometrical topography (fig. 108). This annotation shows that Nauman moves from an intuitive replication that does not require counting to a complex set of measured tacets. Divided into five movements, the first follows a simple $2/8$ interval, then $3/8$, $7/8$, $3/8:2/8$, and finally $6/8:3/8:5/8:6/8$. It takes time for the body to “learn” each repetition, and it seems that Nauman changes the ordered sets whenever a repetitive movement becomes habitual. Disparities between parts are arbitrary and incoherent. Although Nauman’s process is embedded in musical thinking, it is important to note that these films are performative more than musical, for they adhere not to the idiosyncrasies of music or sound but to the bearing of the sounding body. The physical body predicates the soundscape, which in turn yields visual mapping.

**Misprounciation**

Prior to emancipating these somatic bodies from being the subject of knowledge, the experimentation with language as formal scheme and as raw material was challenged. Both Reich’s and Nauman’s return to the body resists signification while working within the limits of language as well as the mechanics of the body, its capacities, abilities, and its exhaustion. *Lip Sync* addresses this move while considering both ends. The work addresses both the instrumentality of vocal recording—uttering the singularity of Nauman’s voice—set against disjointed physical mimicry of pronunciation. Sounding the body, or perhaps sounding bodies, are equally aligned: mouth, amplifier, recording—the audio stream; neck, mouth, tongue, headphones—the video stream.
Considering the body an instrument complemented experiments with materiality of the voice, cut up, collaged, and overlaid in tape. The human voice, as well as other sounds, was made concrete in tangible tape music. The influence of the tape recorder on music was profound. The tape recorder was a composer’s medium. It allowed the composer to use the raw material of sound imprinted on the tape to create new structural formations. The fathers of electronic music—John Cage, Pierre Schaeffer, Pierre Henry, and Edgard Varèse—led the early experiments with magnetic tape. The medium made the creation of music tangible. Composers now worked with their hands; the magnetic tape was a physical recorded imprint to be spliced, delayed, and looped. Scoring and notating gave way to strategies of material collage. Space and time were no longer set onto a written score, delineated as a priori ground for the performer to occupy. Cage said, “It made one aware that there was an equivalence between space and time, because the tape you could see existed in space, whereas the sounds existed in time. That immediately changed the notation of music. We didn’t have to bother with counting one-two-three-four anymore. We could if we wanted to, but we didn’t have to. We could put a sound at any point in time.”

The appearance of the tape recorder changed the relations from orchestral instruments and concert halls to the body; “the head and the ears became the performing stage,” wrote Thom Holmes. Composers were pressed to become familiar with the operation of machines. Electrical sound, the sounding body, and the hearing body were now investigated. Such examinations and experimentations with sounding bodies were

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350 Ibid., 81.
central for Nauman, but as we shall see, they are rooted in the experimental empiricism of the seventeenth century. When considering the senses, the shift within music from hearing and seeing (mapping through notation) to composing by hearing and touching the actual reels is significant. Thus, technological investigation could consider the mechanics of electronic technologies and the human body, while focusing on hearing and the sounding body. Under these conditions traditional orchestras were replaced by oscillators, filter-blanks, and reel-to-reel tape recorders, and peripheral sound was incorporated as positive means for compositions. Beginning in the 1940s Pierre Schaeffer’s Musique Concrète utilized acousmatic sound, i.e., negative peripheral sound, noise, as a compositional resource. By the end of the 1950s Luciano Berio was investigating the elaboration of recorded voice by technological means. Such historical routes were central to Nauman’s use of sound. Whether evident through Reich’s tape compositions or influencing Nauman directly, these historiographical connections serve as the background condition for Nauman’s work, at times inspiring specific arrangements.

**Music as Sculpture**

When *Cinq Études de Bruits (Five Studies of Noises)* premiered on the radio on October 5, 1948 (fig. 109), Schaeffer discarded the abyss of differentiating music and sound, stating: “when I proposed the term ‘musique concrète,’ I intended … to point out an opposition with the way musical work usually goes. Instead of notating musical ideas on paper with the symbols of solfege and entrusting their realization to well-known instruments, the question was to collect concrete sounds, wherever they came from, and
to abstract the musical values they were potentially containing.” These were the first completed works of musique concrète. Pierre Henry referred to this process as “‘plastifying’ music, or rendering it plastic like sculpture.” The sculptural practice of musique concrète was opposed to the musical objects of tonal music, whose source was the abstract value of the mind. The Five Studies of Noises used instrumental, peripheral, and vocal sounds correspondingly:

1. *Études aux chemins de fer* is a montage of locomotive sounds recorded at a train depot.
2. *Étude aux tourniquets* is a piece for xylophone, bells, and whistling toy tops.
3. *Étude au piano I (violette)* and *II (noire)*, is a recording of piano material by Boulez for Schaeffer.
4. *Études aux casseroles (pathétique)* corresponds the sounds of spinning saucepan lids, boats, human voices, and other instruments.

By employing and developing recording mechanisms and tape-recording manipulations, Schaeffer, Pierre Henry, and sound engineer Jacques Poullin were able to use sound as raw material for their electroacoustic music. Their creative ground included multiple machines exposed in the final compositions. They used four turntables, a four-channel mixer, microphones, audio filters, a reverberation chamber, a portable recording unit, sound-effects records from the radio station library, newly recorded sounds, and cutting and gluing machines (as well as a disc-cutting lathe for making recordings of the final mixes). Historically, the *Études de Bruits* introduced the world to the abstract

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354 Ibid.
plasticism of sounds transferred to magnetic tape from musical and non-musical sources. Thus, musique concrète transformed not merely the sound lexis but also the very instruments producing and playing their compositions.

As early as 1913 Luigi Russolo performed with sound material rather than with a preconceived mental schema (exscribed as score). After publishing “The Art of Noise” Russolo performed his intonarumori at the first Futurist concert, conducted in 1917. The intonarumori were new instruments that generated unbearable noise. A decade later Arnold Schoenberg would go on to create a novel mathematical topography in atonal music; he changed the very ground of music by discarding tonal centers (or keys), discarding the hierarchy of pitches and releasing the notes of the chromatic scale so that they functioned independently from one another. By 1951, three years after Cage had performed his prepared piano at Suzanne Tézenas’s salon, musique concrète obtained official recognition. The Groupe de Recherches de Musique Concrète, Club d’Essai de la Radio diffusion–Télévision Française was established in Paris. It attracted many composers including Olivier Messiaen, Pierre Boulez, Karlheinz Stockhausen, Edgard Varèse, Iannis Xenakis, and many more.355 Among the innovative musical compositions produced during the 1950s, many composers explored the intersections of sound and image, hearing and seeing. In 1951 Boulez composed two concrète études, the first titled Étude sur un Seul Son (Study on a Single Sound), discarding the rules that link tones to each other, and therefore rejected the possibility of articulation.356 Boulez’s radical

356 See Claude Lévi-Strass critique of Pierre Boulez’ non-structural serialism: “musique concrète may be intoxicated with the illusion that it is saying something; in fact, it is floundering in non-significance… [since it does not allow ground] which consists
ungrounding of the tones meant more than stripping off signification; it meant working within radical multiplicity that provided nothing but itself. “The composer’s thought,” he wrote,

operating in accordance with a particular methodology creates the objects it needs and the form necessary for their organization, each time it has occasion to express itself. Classical tonal thought is based on a world defined by gravitation and attraction, serial thought on a world which is perpetually expanding.357

Stockhausen’s first concrète piece, *Konkrete Etüde* (1952), was a collage of sound recorded from a prepared piano. The piece was composed on a six-by-six number square, using each row in transposition onto successive members of the original row, its duration set at 216-cm tape-length units. However, neither the matrix nor the measured duration appeared to have a significant sway on the final results; they became components equivalent to the other mechanisms used in the composition.

Musique concrète developed sound montages used as musical resources in film. Sight and sound were investigated as composers worked in collaboration with experimental filmmakers. During the 1960s the group researched audiovisual communication, mass media, and audible phenomena, including non-Western music. In 1960 musique concrète changed its name to Musique Acousmatique, borrowing the term acousmatic from Pythagoras’s concept of sound, assuming that one can hear without seeing the source of sound.358 By abandoning traditional notational systems musique


358 Acousmatic described in Greek a sect of the disciples of Pythagoras who were said to listen to their teacher who spoke while hidden behind a screen, thus, allowing them to
acousmatique no longer adhered to the interpretation of a graphical, language-based resource and instead turned to the organization of sound in space and in tape as its sound-generating mechanism. Thus, the reference to Pythagoras’s un-sourced sound was a subversion of the Greek unified cosmology and a move to the recorded event. “The acousmatic situation,” explains Michel Chion, “changes the way we hear. By isolating the sound from the “audiovisual complex” to which it initially belonged, it creates favorable conditions for reduced listening which concentrates on the sound for its own sake, as sound object, independently of its causes to its meaning.” Acousmatic listening separated hearing from the ability of sight to identify the sources of sound. It further deepened the split between sight and sound by encouraging listening to sounds as such. The materiality of sound preceded structure, and it was materiality that predicated sound objects. Under these conditions, Schaeffer asserted, “the sound object [was considered] as a perception worthy of being listened to for itself.”

Detached from organizing ground, sound objects prioritized disjoint discords and devalued harmonies. Nauman was well aware of the activities taking place in Paris, and while attentive to the work of Cage and Cunningham, he was also cognizant of the work of Karlheinz Stockhausen. The electroacoustic music experimentations taking place at the SFTMC are inspired by these genealogies. Based in the attic of the San Francisco Conservatory of

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359 Chion, Guide to Sound Objects, 11-12.
Music, Pauline Oliveros, Terry Riley, and Ramon Sender founded the first electronic-music studio, Sonics, in 1961, and a year later the SFTMC was declared as a “nonprofit cultural and educational corporation, the aim of which was to present concerts and offer a place to learn about work within the tape music medium.”

**Importing Fonologia Musicale: Berio in America**

Before we turn to Nauman’s exposure to Steve Reich’s activities within the SFTMC, we must lend an ear to Luciano Berio’s innovation of using phonology in his compositions. During the 1950s Berio was working within the intersection of language and acousmatic listening. At the beginning of the 1960s he moved to California and began teaching at Mills College. Nauman may have known Berio in person or through Reich who was his student at Mills. Nauman’s experiments with recorded speech, beginning at the end of the 1960s and reappearing in the 1990s, draw specific strategies from the Italian composer. Musique concrète found its way into the U.S. through Berio’s influence as a teacher at Mills College, and it was through Reich that Nauman must have been familiarized with Italian composer’s work.

After the establishment of the studios of electronic music in Paris and Cologne, a third state-sponsored studio was founded in Milan in 1955. Radio Audizioni Italiane (RAI), the Italian public broadcasting network, opened Studio di Fonologia Musicale under the artistic direction of Berio and Bruno Maderna. Berio was interested in the transition between text and music, and decided that his “work should not be directed in a systematic way, either towards recording acoustic sounds (as did musique concrète) or

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toward a systematic serialism based on discrete pitches [as did Pierre Boulez].”

Instead, Berio collaborated with Umberto Eco and began exploring the use of speech and sound as raw material. The earliest piece to come out of Milan, *Thema-Omaggio a Joyce*, derives all its source material from a single spoken passage from the beginning of James Joyce’s *Ulysses*. The passage was recorded on tape in English, Italian, and French, then collaged and looped into gradual transformation of spoken language into abstract sound. Berio’s technique resonates in Nauman’s approach to recorded speech. Nauman returned to Berio’s early explorations with sight and sound, language and phonics materials, throughout his oeuvre. Language becomes modular text in Nauman’s reverberating neon signs, and the audiovisual effects become clear as early as *Lip Sync* and in later works such as *Thank You, Thank You* (1992), and *Think Think* (fig. 110, 1993).

The movement of the mouth in *Lip Sync* manipulates the rhythmic sounds of the recording. Closing up on the face, cutting off its full features, exposes the metrical cadence of the working mouth and neck attempting to articulate articulation. Berio’s final tape piece, *Parole* (i.e., Word, 1961), incorporates endless repetition of the uttered word “parole” in unintelligible vocalizations, laughing, crying, and electronic maneuvering. Speech and vocal patterns were used as sound material, and the body producing such vocalizations was, like the electronic recording, splicing, and looping devices, no more than a machine. Berio’s use of the materiality of language distanced the practice of

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362 Berio recorded his wife at the time, mezzo-soprano Cathy Berberian (1925-1938), see ibid., 70.
making music from thinking. Gradual processes of disjoint concatenation vacated all notion of enunciated thought.

In *Thank You, Thank You* and *Think Think*, repetition, syntactic disintegration, and reintegration are played out on two stacked monitors each featuring Nauman’s head in a double mirror image bouncing and touching at their tips. The lower head is oriented naturally and the higher is posed upside down. The two heads bounce up and down while Nauman voice repeats “thank you thank you thank you” in the first and “think think think” in the second. The forceful repetition disintegrates explicit syllabics transforming “thank you” to “fuck you” and “think” to “fink.” The materiality of language, distanced from articulated thought, fractures coherency. Language is turning and folding in the places where cracks merge. Sight and coherent topographies are disintegrated in the folds of acousmatic hearing. The move from thought to hearing is further stressed when Nauman adds a second soundtrack on *Thank You Thank You*, enunciating the locus of hearing inscribed in his 1967 *First Poem Piece*, “you may not want to be here/hear.” The steel slab is infused with sound as it passes through the material like a recording on a magnetic strip. The sculptural object becomes in its vocal application a recorded tape that creates a connection between a physical body and sound. While *First Poem Piece* does not have the potential to activate my ear, and in its objecthood exists as an idea regardless of its heavy materiality, *Thank You Thank You* not only has the potential to activate hearing but its existence is contingent on my perceiving ear. Thus, Nauman’s move from the visual to the sonorous marks an ontological change: the sonorous object does not exist without my sounding attention. Even if the recorded strip were empty, silence will exist as sonorous being.
This logical concatenation—predicating the existence of the tape recording upon hearing—bears witness to the primacy of sensual perception. Nauman was preoccupied with folding sense and the sensual. The sound track of *Think Think* relays a similar curve acknowledging the Italian connection by folding a second track into the background. The second layer announces in Italian “il vero artista aiuta il mondo rivelando verità mistiche.” The sentence translates the English written version in the spiral folds of Nauman’s 1967 neon piece *The True Artist Helps the World by Revealing Mystic Truths* (fig. 111). Berio’s description of his own composition process resonates in Nauman’s acousmatic continuities:

I was interested in constant and controlled transformation from discontinuous to continuous patterns, from periodic to non-periodic events, from sound to noise, from perceived words to perceived musical structures, and from syllabic to a phonetic view of the text.”

Schoenberg and Varèse influenced Berio’s study of the expressive qualities of voice and the acoustic dimensions of language. Berio developed Schoenberg’s expressionist *Sprechgesang* (spoken singing) into an allusive gesture. From Varèse he took the process of reducing a text to phonetic material. Linguistic phonemes provided Berio with new sonic materials that, when kept disjoint, were means of reaching “objective physical reality.” In this physical acoustics, language, instrumental sounds,

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363 Holems, 71.
364 Pierre Boulez outlines the problems arising from Schoenberg’s notational system of spoken voice. Between speaking and singing, “The question then arises whether it is actually possible to speak according to a notation devised for singing,” wrote Boulez in 1963. “This was the real problem…,” for, as he further explains, “the speaking voice does not remain on a note…” See Boulez, “Speaking, Playing, Singing,” *Orientations: Collected Writings*, translated by Martin Cooper (Cambridge, MA: Harvard University Press), 332-333.
sounds of daily life, and sounds emanating from the body dispersed in proximity.

Nauman’s *Thank You Thank You* and *Think Think* follow in the footsteps of Berio’s *Omaggio a Joyce* and *Visage* as the chosen phonemes are grouped on the basis of their acoustic affinity. Their recorded sequence evolves gradually from the vowels organized in progression from A to U: *Thank You*. The sibilant TH is organized so that its exerted repetition opens up a spectrum submitting to slippages overlaying and folding TH into F. The result of such slippage transforms Nauman’s *Thank You* to *Fuck You*; from a flow of acceptance to the crude rejection of interruptive cursing. Berio made the voice a “polyphonic” instrument and used it “to multiply and increase the transformations of vocal colors coming from one voice, to break down words and to reorder the resulting vocal material using different criteria.”

During the 1980s and 1990s Nauman developed these synthetic results into the multi-channeled theatrical audiosonic spectra of *Clown Torture* (fig. 112, 1987), featuring multiple audiovisual streams of the performer Walter Stevens playing an inept character caught in humiliating positions from which he cannot escape. The sound tracks for the piece rotate among various loops: No No No No, *Pete and Repeat*, reiterating “Pete and Repeat were sitting on a fence. Pete fell off. Who was left? Pete and Repeat were…”; *Dark and Stormy Night*: “It was a dark and stormy night. Three men were sitting around a campfire. One of them said, ‘Tell us a story, Jack.’ And Jack said. ‘It was a dark and stormy night…’”); *Anthro/Socio* (fig. 113, 1990, performing opera singer Rinde Eckhart’s rotating head screaming “Help Me/Hurt Me/Sociology … Feed Me/Eat

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Me/Anthropology); and World Piece (fig. 114, 1996, streaming a five-audiovisual montage of fast rhythm tracks pronouncing authoritatively “I’ll Talk/ You’ll listen/
You’ll talk/ I’ll listen/ I’ll talk/ They’ll listen/ They’ll talk/ I’ll listen/ You’ll talk/ They’ll listen/ They’ll talk/ You’ll listen,” etc.). 368

Additional pieces recounting compositional procedures by Berio date to 1990 and include OK OK OK OK; Work Work, Raw Material—M M M M; No No No No—New Museum/Walter. The sound pieces were all included in Nauman’s Unilever installation at the Tate in 2005, entitled Raw Material. The title hints at Schaeffer’s recorded sounds, but the evolution toward discontinuity of a regular sequence of consonantal impulses is rooted in Berio. Accelerating a signal and sending it into a loop at regular intervals of time was a compositional procedure investigated by Berio and Maderna. Phonological loops for female voice deconstructed through electronic manipulation were composed for Circles (1960). Berio set segments of three poems by e. e. cummings in repetition, resulting in each sequence creating a cycle. The soprano Catherine Berberian, who was married to Berio at the time and to whom the composition was dedicated, goes in and out of synchrony with the bongos and tablas. 369 Berio fuses her voice in electronic manipulation as she blends into the instrumental expression. She blurs the difference

369 Ramazzotti writes: “In the transformational phase from periodic to aperiodic sound, Berberian’s voice is replaced by the voices of the percussionist who, while playing two note chords on marimba and xylophone, synchronously vocalize aperiodic impulses on open syllables. The resulting spectra evolve from periodic towards aperiodic sound against a constant, regular background of pppp harp tremolo, which has the same function as the R roulé of Visage – that is, to prepare the transition, in this case, from periodic to discontinuous sound,” in “Luciano Berio Sequenza III,” 90-91.
between the human voice and the musical instruments (she performs on finger cymbals, claves, and various chimes). This move is further stressed as she recedes into the ensemble in the course of the performance. Her voice and theatrical appearance withdraw from their distinguished articulation and blend into the background. The performance ends with a background, occupied by myriad instruments echoing each other.

**In-Between Reels: Reich’s Phase Shift**

Composers working in electronic-music studios experimented with instrumental interchanges that became audiovisual strategies for Nauman. Contingent on the intersection of the composers’ work with concrete sound, the magnetic tape recordings, and the advent of sound objects, I follow Jacques Poullin’s tangible proposition, arguing that these processes are sculptural. It is in the formation of these intersections that Nauman’s work carves out a history in the evolution of sound art. In the 1960s San Francisco milieu, a route evolved in the genealogy of electronic music and its unique intersections with the visual arts. Nauman’s contribution to the evolution of sound art marks the cross-pollination of electronic music and installations. Interestingly, the expansion of sculpture into spatial installations transpires in tandem with the advancements made in the recording of music. These passages not only merged corporeal performance, instrumental music, and electronics, but also changed sensual perception and the role of the senses in making new spatial and temporal propositions. Sense set as pregiven topographies gave way to making sensuous topologies in the praxis. Set topographies oscillated between a forgetting of ground and anticipation and the blinded expansion of gradual processes enabled other, “lower” senses to play a central role in
perception and production. In the realm of the sonorous, the production of new sonic spaces was contingent on active hearing.

Concretizing sound completely transformed the way art considers its objects. What was an object? What may have been included under objecthood? And how were the answers to these questions to affect the relations between the body and the object? As we have already seen, the changes were quite radical, as the tape recordings replaced actual objects and were considered tangible and concrete. However, their concreteness, that is, sound’s concreteness, unlike traditional sculpture, was contingent on the hearing subject for its existence. This ontological evolution was to change the perception and production of art.

In *Listen: A History of Our Ears*, Peter Szendy brings into consideration the transformation of bodies within musical experience. Music, according to Szendy, composes a body midway between the organic body and the instrument. I would like to suggest that the body is becoming-sound, becoming midway between its finite limitations, its form, morphe, and the amorphous, ever-expanding resounding ground. Becoming-sound requires a transformation of instruments. The existence of the sounding object is predicated on the hearing body. Whether the sounding body is expressed in the physical human body, its voice, its breath, its pounding, in the physical soundings of musical instruments, or in the physical traces imprinted in electronic instruments, there are crossovers between the various sounding instruments. They affect one another in proximity and penetration. They create other bodies in segmentation. Such instrumental-bodies were dominating the artists of the Fluxus scene who were working within a post-Cagean stance. An example is seen in the art of Nam June Paik, who, together with the cellist Charlotte Moorman, made a living
sculpture involving audiovisual technologies with the body. In *TV Bra for Living Sculpture* (fig. 115, 1969), Moorman plays the cello naked with two mini-monitors connecting the cello to her breast.

In tape music, as we saw in Nauman’s audiovisual pieces, the voice is imprinted in the magnetic strip. Cutting, amalgamating, stretching, and repeating segments of utterances are analogized to the strategies of collage. Such trajectories were taking place during the 1910s, in Hugo Ball’s *Karawana* (fig. 116, 1916) and in Russolo’s noise operations (1913). However, the physical imprints in the magnetic tape mark a shift from the segmentation of language and enhances the tangible body. Works written on paper that engaged sound, such as Filippo Marinetti’s *Zang Tumb Tumb* (fig. 117, 1914), or Francesco Cangiulio’s *CAAANZOOOOONI* (fig. 118, 1916), mimicked the distribution of sound in space. The paper became the acoustic template for the performance of uttered sounds, its acoustic setting. Nevertheless, the segmentation and phonological letter compositions engaged the performing voice with ideal language. Gesture, the meeting place of uttered sign and hand, of sound and touch, was less dominant.370

Indeed it was musique concrète that transformed the imprints of music and language into concrete relations. But in this trajectory I find the work of Steve Reich

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370 Rooting the Nauman’s bodily recordings as objects and instruments, I return to the empiricists’ primacy of sensory experience and the treatment of the body as object of inquiry. Francis Bacon, in his 1605 work *The Proficience and Advancement of Learning* concerns the possibilities of formal language and of language as instrument, the first is ideal language, while the second is rooted in gesture: “Notes of cogitations are two sortes: The one when the Note hath some Similitude, or Congruitie with the Notion; The other Ad Placitum, hauing force only by Contract or Acception. Of the former sort are Hierogliphickes… [the latter] Gestures, they are Transitorie Hierogliphickes, and are to Hierogliphickes, as Words spoken are to Wordes written, in that they abide not.” See Francis Bacon, “The Advancement of Learning,” *The Oxford Francis Bacon*, edited by Michael Kiernan, IV (Oxford: Oxford University Press, 2000), 120.
directly influencing Nauman’s compositions. Reich’s seminal phase shift delineated new relations between electronic instruments and voice, as it opened infinite resonances in between recordings. Phase-shifting was used by Nauman to achieve disorientation and distance while opening a third space between two given phases. The process ingeniously involves temporal and spatial gappings, similar to what physicists call envelope function, where a varying signal is a smooth curve outlining its extremes in amplitude. Reich’s work with tape recordings proves influential in establishing tangible relations between instruments. Reich was influenced by his teacher, Berio, and had played with different voice recordings since the mid-1960s. Interested in the quality of the spoken voice and the nature of its rhythmical material, he was also influenced by the work of Czech composer Leoš Janáček, who walked the street of Prague in 1916 recording voices for his compositional procedures. Janáček was one of the first to merge acousmatic sound with musical compositions. Reich was interested in how Janáček searched for speech melody: “he used to walk around Prague with a music notebook, writing down what people said—not what people sang—and then taking those speech melodies and putting them in his operas.\footnote{Steve Reich: influences, techniques and politics [HD] IntoThe Music, ABC Radio National (an interview with Cathy Peters, August 2, 2012), http://www.youtube.com/watch?v=blfzB1MfM8c&feature=relmfu}

Tape recording allowed Reich to abandon traditional notation processes and play with sounds alone. These investigations yielded new relations between sounds, in particular, relations of doubles, bouncing off each other in new spatio-temporal configurations. During 1964 Reich explored different ways in which a rhythmic figure can move out of phase with itself. The first type of gradual process that Reich explored
developed from recording the voice of an African-American preacher, Brother Walter, preaching about the flood in Union Square. By 1965 he began collaging loops of the preacher’s voice. Then he selected one short phrase and ran two tape loops of it on supposedly identical tape machines. Because of the delicate differences between the two machines, the phrase was heard marginally out of synchronization with itself. He then began to control this discrepancy by delaying one spool with his thumb, though to such infinitesimal degrees that the pitch was not affected. Out of these experiments came two tape pieces: *It's Gonna Rain* and *Come Out* (1965–66).\(^{372}\)

> “Black Pentecostal preaching hovers between speaking and singing,” wrote Reich; “The phasing process intensifies this—taking one little phrase, the vowel pitches, and the consonantal noises that go within them … As you listen to the results, you seem to hear … a lot of psychoacoustic fragments… paradoxically… through a very rigid process, and the impersonality of that process that invites this very engaged psychological reaction.”\(^{373}\) The repetitious vocalization bounces off the listener and itself. Dismantlement does not occur in a set order, but within its own self-touching. In the second part of *It’s Gonna Rain*, Brother Walter was recorded saying “but it was sealed by the hand of God.” In spite of the repetition, the phase shift never comes together and the sentence does not reconstruct; “it goes further and further out of phase until it is reduced to noise,” writes Reich.\(^{374}\)

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\(^{374}\) Ibid.
Nauman’s *Lyp Sinc*, like the later sound tracks from *Raw Material*, follows this modus operandi. The loop’s trajectory going out of sync also resonates in the spiral movement of *The True Artist Helps the World by Revealing Mystic Truths*, and its multiples in *Peat and Repeat, Anthro/Socio*, and so forth. The latter enhances the multiple spirals by ceaselessly rotating opera singer Rinde Eckert’s head projected through a polyphony of audiovisual tracks. The multiple audiovisual tracks stretch apart the disjoints created in between the collaged streams. *Musical Chair Suspended as Foucault Pendulum* (fig. 119, 1981) highlights a physical phase shift in the exchange of the tape strip with the musical chair. Throughout his career Nauman instrumentalizes the body, substituting chairs, pendulums, metronomes, and even compasses for the human figure. Here, Nauman integrated Reich’s music system with Foucault’s pendulum. Named after the French physicist Leon Foucault, the pendulum demonstrates the rotation of the earth. The plane of oscillation of the pendulum rotates relative to the earth. The angular speed of the pendulum is measured clockwise with relation to the earth’s rotation. In *Musical Chair*, the chair created the physical phase shift. Nauman’s pendulum connects duration and new time modes with uncanny spatial demarcations as seen in the chair/pendulum moving counter to physical laws and situated inside the space.

Reich’s gravitation toward performance stemmed from his connections with artists as well as his interest in concretizing the sonorous object. While in New York, he spent time with Sol LeWitt, Richard Serra, and Michael Snow. LeWitt became a good friend, and the two “spent a lot of time together” between 1967 and 1970.\textsuperscript{375} Snow and Reich met after the composer watched Snow’s film *Wavelength*, and they continued to meet regularly until

\begin{footnotes}
\textsuperscript{375} Potter, *Four Musical Minimalists*, 171.
\end{footnotes}
Michael Snow and Joyce Wieland moved back to Toronto in 1972. Reich wrote a spontaneous reaction to the movie, arguing that Snow’s achievements in film owe much to a “musical intelligence at work in organizing time.” Snow’s film, wrote Reich, is about the drastic time-length in the sense in which [his own] *Four Organs* is about drastic time-length. In one sense, *Wavelength* is a zoom in a room for an hour, but it’s also a lot more than that. And what I learned from Snow, that I think probably later surfaced in *Music for Eighteen Musicians*, is the playing back between the regular and the irregular, if you like; the purely process oriented and various human imperfections that interrupt such process. While Serra stressed the mechanics of his work and the formal problems to be solved, Snow saw all the space in between.376

Reich’s observation about Snow seeing all the space in between may have stemmed from his musical interest in duration, but it also involves the problems of time and space introduced by film and minimalist sculpture. The correlation with LeWitt’s *Paragraphs on Conceptual Art* cannot be avoided. Snow’s room presents space played on the regular, gridded pattern of the window: a kind of ground. This space is indeed a zoom, a perspective, but it is also an interval concretized between my eye and against the geometric body of the windows. After all, “Space … is the interval between things that can be measured,” as LeWitt wrote in *Paragraphs*. The physical interval set between measured bodies was essential in Nauman’s work at this time, a topic to which we will return later.

Reich spent the summer of 1986 in New Mexico, writing and composing. Influenced by his ongoing conversations with Sol Lewitt, he wrote “Music as a Gradual Process.” The text was published in the exhibition catalogue *Anti-Illusion: Procedures/Materials* (Whitney, 1969), in which Nauman, with his wife Judy, and Meredith

Monk also performed *Bouncing in a Corner*. “Music as a Gradual Process” begins with differentiating the process of music composition from “pieces of music that are, literally, processes.” Their distinction lies in that they give primacy to perception, to listening, to the ear: “I want to be able to hear the process throughout the sounding music. To facilitate closely detailed listening,” wrote Reich. Making music, he proposed, is contingent on perceiving and performing gradually, like “pulling back a swing, realizing it, and observing it gradually come to rest.”

The text considers musical material and musical processes as equally prevalent. Form and matter, in Reich’s scheme, are interchangeable; “Material may suggest what sort of process it should be run through … and process may suggest what sort of material should be run through them.” Running musical composition through the material resonates in a work exhibited by Nauman in tandem with Reich’s text. On the floor at Castelli, Nauman staged *Steel Channel Piece* (fig. 120, 1968). A speaker connected to a nearby tape recorder mounts a heavy steel trough. The slab, like the corridors, worked as a channeled wedge, but Nauman’s slab also hinted at the work of Anthony Caro, *Midday* (fig. 121, 1960). In Michael Fried’s “objective” critique of Caro’s work, the artist’s colored slabs set center stage were now unhinged from their self-contained independence. In Nauman’s work, the addition of sound, of oral gibberish reiteration, and the riding sound apparatus—a speaker—on the rusted steel slab was a critique of the minimalist theoretical stance emphasized by the physical weight of the construction beam. No longer a module in an architectonic construction or a module for a minimalist composition, the beam was turned into a sensational conduit of sound operation. As such, the steel slab

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378 Ibid., 34.
calls up Reich’s schematic of process suggesting what sort of process might run through a material. Though posed by Reich as a musical challenge, channelling sound through a block is considered a fundamental and ubiquitous quantum process. It measures time.

Nauman was a physics student at Wisconsin, and he may well have been acquainted with conundrums of time and matter. The tunneling of a particle through a barrier may generate a broad range of phenomena, from pulses to holographic drawings.³⁷⁹

The tape recorder in _Steel Channel Piece_ played Nauman’s voice in a loop reciting anagrams derived from the phrase “lighted steel channel.” The work proposed channeling sound through the heavy materiality of the steel slab. The phrase “lighted steel channel” is a dumb, muted, sentence emphasizing the inability of light to move through the opaque channel. Nauman, as we have seen in his corridor works of the same period, uses channels, the very conduits of communication, as blind mechanisms. Language reaches similar ends when Nauman’s reiterated anagrams make the pun lose its sense. It becomes nonsense as the sentence is repeated over and over again to re-sound as “leen lech Dante’l delight llight leen snatches/ light leen lech Dante’l delight leen laches,” and so forth. Thus it seems that Nauman’s attempted move through the material calls for failure at the outset: failure to see movement; failure to move while seeing; failing intentionality. The work eradicates light, the predicate of the visual, as well as clear and coherent language; these are castrated within materiality and replaced by sound. What is interesting about this piece is Nauman’s choice to set theatricality in the physicality of matter, and through sound. This is Nauman’s direct critique of Fried’s clear syntax, Greenberg’s opticality, and the Juddian literary critique, which consists of

mounting cool descriptive words on paper. This move is also seen in Nauman’s
performance pieces and, I will argue, it marks a distinct route not merely in overcoming
significance but in predicing sense-making by way of making sound. The work was
installed at Castelli, along with Eye Level Piece, which, as discussed in Chapter 2, turns
Renaissance perspective into a blinding mechanism.

While sculpting his ideas about the materiality of the gradual musical process in
New Mexico, Reich met with Wiley (who was teaching a summer course at the University
of Colorado, Boulder). This encounter yielded the multimedia happening Over Evident
Falls (fig. 122). Nauman had also stopped at Boulder, and “while the two of them were in a
room and I was sort of feeling Western,” says Reich, “I had [a] microphone and was …
dangling it like a lasso.” When the microphone passed the loudspeaker a feedback was
produced. This unintentional encounter led to the creation of Pendulum Music, which was
incorporated in Over Evident Falls.

Pendulum Music was performed at the Anti-Illusion exhibition. Nauman, Snow,
Serra, Tenney, and Reich all appear in a photograph accompanying the score (fig. 123).
The score outlines the unmanipulated rhythmic gradual movement of the pendulums:
“Three, four, or more microphones are suspended from the ceiling or from microphone
boom stands by their cables so that they all hang in the same distance from the floor and
are all free to swing with pendular motion.” With the volume turned up, loudspeakers
were set under each microphone. Whenever the oscillation of the microphones touched
upon the precise distance from the loudspeakers a pulse response was heard. The series of
pulsations produced in touching upon a distance between each pair of volume plane and

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380 Reich, Writings on Music, 32. See also, Potter, Four Musical Minimalists, 174.
microphone oscillation went in and out of phase with its neighboring sways. As the score continues, the performers sit to watch and listen to this process along with the rest of the audience, and “The piece is ended sometime after all mikes have come to rest and are feeding back a continuous tone by performers pulling out the power cords of the amplifiers.”

*Bouncing in a Corner*, in which three human bodies rhythmically bounce off three different corners at the Whitney Museum, and *Musical Chair as Foucault’s Pendulum* reveal Reich’s pendulum phase shifts as a source of influence to which Nauman adds the exchange of the body with machine-like time-movement of physical instruments. Unlike the oscillation of the microphones, whose movement is set up by the participants, the bouncing bodies introduced continuous irregularities that not only complicate rhythmic durations but also allows indeterminacy contingent on the subjective physical limitations of the performers. Since such corporeal idiosyncratic movements can never be repeated in perfect regularities, they move out of sync with their neighbors and with themselves. These shifts secure a systematic unpredictability that leads not to one ground but to multiple grounds entrenched in the subjective limits of each body, which touch upon other bodies at the same time.

Reich developed the ideas of phase shifting, investigating, as indicated above, the ways in which a rhythmic figure can move out of phase with itself. However, Reich, and later Nauman, noticed additional potentials. When a phase shift takes place, multiple durations are expressed. From this observation Reich developed spatial compositions of simultaneous multiple given durations such as *Piano Phase* (for two players, 1966–67, fig.

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381 Reich, *Writings on Music*, 32.
124) that evolved into *Music for 18 Pianos* (1965) and *Music for Eighteen Musicians* (1976) and inspired Nauman’s early tape *Bouncing in a Corner No. 1 and No. 2* (1968–69), later performed at the Whitney as elaborated in *Anthro/Socio*.

The idea that simultaneous multiple given durations give birth to new spatial-temporalities is experimented with relation to set durations is transposed in Reich and in Nauman to multiple recordings. Any two or more sets may yield new spatial-temporalities. Thus, bouncing off language (spoken or written), breath, heartbeats, the body, etc., may be used in spacing new relations. In 1967 Reich composed *Piano Phase*—a model for two pianos commencing the same rhythmic pattern in unison while gradually moving out of phase, or rather synchronicity, with each other. Initially it was created by manipulating a quarter note, generating secondary rhythms by the way in which the off-parallel rhythms intermesh. Reich created a third mode, a third space. It appears that Nauman followed the same pattern. Although the compositional method is highly mathematical, the outward impression is one of randomness.

Further, in Reich's “phasing” one hears a constantly changing polyphony of out-of-sync elements. Another example is Reich's 1967 piece *Violin Phase*, in which one basic pattern is played simultaneously by several violinists in a variety of different phases. *Playing a Note on the Violin While I Walk Around my Studio* and *Violin Tuned D.E.A.D* (figs. 125, 126, 1967–68) are among Nauman’s earliest works that examine rhythmic movement as initiating different time and space modes. Similar to general

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relativity theory, predicting time is not a global background parameter but flows at
different rates depending on space-time geometry; here, simultaneous multiple given
instrument he was not familiar with only to repeatedly pull its four strings that were tuned
D-E-A-D. A new substrate was created among the repeated patterns, yet further
examination of the work now suggests an element of fear and violence both in the title
and in the unnerving combination of sound and image.\footnote{Neal Benezra, “Surveying Nauman,” 26.} \textit{Violin Violence, Silence}, a
neon piece dated 1981, and \textit{Violin/Violence}, a drawing from 1985, express the violent
substrata of music embodied in Western traditional instruments (figs. 127, 128).
Harmonious structures played out in adequate accordance with properly tuned violins are
The musical instrument echoes the harmonious relations between man and cosmos. This
Platonic approach is best described by the sixth-century philosopher Anicius Manlius
Severinus Boethius, whose writing about the musical instrumentality of the world
resonate throughout Western history up to the modern subject. Boethius’s understanding
of the unified cosmos as musical demonstrates a tripartite division of \textit{Musica
Instrumentalis} (actual vocal and instrumental music), \textit{Musica Humana} (the physical,
emotional and spiritual harmony of human beings), and \textit{Musica Mundana} (the harmony
of spheres). Such instrumentality resonates with the Pythagorean proportions of the
cosmos. Nauman’s violent transformation of violins overturns traditional harmonious
topographies that dictate the production and movements of physical and sonic bodies, spaces. Instead of considering physical forms and activities as mere sensual echoes of the more significant music of mathematics and philosophy, Nauman changes the nature of instruments. Later we will see how he exchanges metric topographies with dispersed rhythms. Nauman works against common units of measure and the a priori instrumentality of ground; he proposes spatio-temporalities that are but the production of contingent rhythms emanating from the recorded stamping, breathing, and speech. Returning to the body’s singular voice was one solution to the problem of unified fixed measure. The voice was changed for the musical instrument and was copied and multiplied.

**The Mechanics of Language**

While different composers engaged speech, music, and sound for different ends, Reich was interested in speech’s potential to avoid the exogenous rhythms of fixed meter (which, according to him, destroys the speech’s quality). The actual recording was a solution for making vocal music.³⁸⁶ For Reich, the technological mimesis found in recordings presented speech-melody as it naturally occurs. Furthermore, it also posed the instrumentality of the human voice, as well as an instrumentalization of the body, seen in the mechanics of voice production featured in *Lip Sync*.

If the voice imprints on the tape strip like a self-portrait, it also serves as a mediator set in a lingual closed circuit put into the mouth and projected out. The speech apparatus mirrors “meaningful” language, in turn imprinting on the magnetic tape. The

mouth’s architecture cuts and shapes the flow of air at the beginning, at the first place of sonorous and visual articulation. Thus articulation is machinic. It works in habitual mimesis as a closed-circuit apparatus.

Concurrent with Nauman’s *Lip Sync* and with the corridor pieces, Valie Export was working in Germany on closely related matters. In her piece titled *Tonfilm* (fig. 129, 1969), Export considers the issues of visibility, articulated speech, and sound while exhibiting her feminist critique of social and political hidden mechanisms. Export implanted the recording mechanism within the mechanic operation of the mouth. The mouth of the producer of gendered voice was implanted with a taping device that marks degrees of appearance. The work describes the following communication apparatuses:

- a photoelectric resistor is built/surgically into the glottis and connected with a light sensitive resistor, which is attached to the outer skin below the ear. the photoelectric amplifier controls the volume. when there is a lot of light, lots of electricity is directed towards the amplifier, the volume is high. with low light it is the reverse.  

Export explained the inversion of the speech apparatus as “The voice is the beginning …—it starts somewhere and forms itself into spoken words—it turns into language with different parts, instruments or apparatus.” This project, which Export calls expanded cinema and communication action, emphasizes the arbitrary relations between habitual control and speech. Her intervention in the body allows us to see voice and to let volume dictate the appearance of light. It also diminishes the difference between technological and endogenous media.

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Nauman does not intervene with the body, but inverts its appearance. *Lip Sync* dissolves all notion of self-unity through machinic repetition. In fact, he uses his head, neck, mouth, and ears as mechanical instruments. For Reich, the phase-shifting process was contingent on the use of machines. Live performance, using actual human voices was not easily executed, and it took Reich a few years to move from electroacoustic experiments to playing live instruments. Reich makes this condition clear in his recorded thoughts about *Piano Phase* (1967): “unfortunately, it seemed to me at the time impossible for two human beings to perform that gradual phase shifting process, since the process was discovered with, and was indigenous to, machines.” By 1966 Reich found his technique of phasing had its limitations: “I began to feel like a mad scientist trapped in a lab,” he said. “Aching to do something instrumental,” Reich began investigating the possibilities of applying the mechanical phasing procedure in live practice. Soon after, he experimented with playing against the machine as well as playing with his musician friend, Arthur Murphy, on two pianos. Between 1968 and 1968, Nauman was experimenting with the same questions as he followed the rhythms of a fixed metronome with his body in *Dance or Exercise on the Perimeter of a Square Dance (Square Dance)* and when he used his body as a pendulum to hit the permanent corners of the spaces in the Whitney gallery. Reich’s influence on Nauman was vital, and we shall soon see how Nauman will adapt his musical notation to palpable sculpture.

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389 Reich, “Piano Phase [1967],” 22.
**Interruptive Tangibility**

*Lip Sync* mimics the movement of the tongue; cutting the flow of air, the tongue touches upon the limits of the mouth, its internal space and the lips. It does so to make a tongue, to articulate its own being linguistically, and it does so by touching upon the mouth’s limits, without articulation. In recalling the displacement of the out-of-phase audio-video, touch can be considered interruptive tangibility that sets in motion the intervallic space between bodily organs and between sight and sound. For if articulation is inverted, the accordance of thought and language is misplaced twice: first, in its own unsynchronicity, a persistent interruption that does not allow purely reflexive discourse, and second, an interruption that keeps reflective utterance from any inner confirmation. This misplacement repeatedly disputes itself and thus remains outside thought, outside consciousness.

Michel Foucault stipulates the conversion of reflexive language to a language that continuously contests itself: “When language arrives at its own edge, what it finds is not positivity that contradicts it, but the void that will efface it. Into that void it must go, contesting to come undone in the rumbling….”

Nauman’s voice looping in and out of synchronization creates spiral movement in desynchronized movement. Thus, the spiral touches upon the outside each time it folds out of proper repetition. It is these phase shifts that pull in what is most distant. As it hinders proper listening, *Lip Sync* proposes hearing as a form of withdrawal. Of the artist’s linguistic operation, Nauman wrote:

I am really interested in the different ways that language functions… which also raises questions about how the brain and the mind work.

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Language is a very powerful tool … It’s difficult to see what the functioning edges of language are. The place where it communicates best and most easily is also the place where language is the least interesting and emotionally involving—such as the functional ways we understand the word “sing”… I think the point where language breaks down as a useful tool of communication is the edge where poetry and art occurs.\textsuperscript{392}

The mouth, a tool of communication, an edge of first articulation, inverts the roles of the epistemic body. Cutting the flow of air, the mouth is an irrational machine. In its repetitive motion it adheres to nothing but itself. The irrational cut, as Deleuze and Guattari suggest, always repeats itself. It runs through coordinate mimesis and phasing. Its spiral movement connects “an outside where the speech act rises, and an inside where the event is buried in the ground: a complementarity of the sound image, the speech act…, and the visual image, stratigraphic or archeological burying,” to borrow Deleuze’s trajectory.\textsuperscript{393} The edge of non-totalized relation follows a visceral touch of representation, a tangible opening between set schemes that are but a product of machinic repetition. Set schemes collude to coordinate language, however, and Nauman stresses schematism as a strategic tool. Here, schematism is not one a priori ground, but a machinic outline set amidst a plurality of machinic grounds. Thought of as tools, or machines, Nauman’s grounds adhere to the sensual machines as well. Thus we may deduce the intimate ties between ground, machine, and sense. In these interchangeable relations sense produces sense. Here, Deleuze’s production of sense in a sensual aggregate between sight and sound may prove useful. “Speech, he writes, “reaches its own limit which separates it from the visual; but the visual reaches its own limit which


separates it from sound. So each one reaching its own limit which separates it from the other thus discovers the common limit which connects them to each other in the incommensurable relation of an irrational cut, recto and verso, the outside and the inside.\textsuperscript{394}

In the spacing between the senses (both sense and sensual), Nauman makes the body incommensurable with itself in his performances. The body cannot measure itself by knowledge and therefore becomes a sensual interval. Using his own body, and later the spectator’s, touching both ends at once, the outside and the inside, sight and sound, we will see how the body will begin making sense. Nauman’s sounding bodies—speaking bodies, stomping bodies, bouncing bodies—delineate sensual topographies. They organize space and time though perception and performance. However, whenever a clear topography emerges, Nauman reminds us of the false powers of fabulation, of memory, of mimesis and the mythical properties gripping the appearance of an image.\textsuperscript{395}

We should not forget the spiral movement of \textit{The True Artist Helps the World by Revealing Mystic Truths}.

\textbf{Compendium of Hands: Signing Blindly/Singing Deafly}

In 1996 Nauman exhibited sight and sound in a bronze-cast series entitled \textit{Fifteen Pairs of Hands} (fig. 130). The series was exhibited again at the 53\textsuperscript{rd} Venice Biennale (fig. 131, 2009). Each pair of hands doubles a pose and is always self-touching, either at fingertips or in a caress. Each pair, and their repetitive alignment, follows the logic of

\textsuperscript{394} Deleuze, \textit{Cinema 2}, 279.
\textsuperscript{395} D. N. Rodowick, \textit{Gilles Deleuze’s Time Machine} (Durham, NC: Duke University Press, 1997), 149.
some formal system as though Nauman were composing an encyclopedic set of
signifiers. But what do they signify? The bronze casts bring us back to *Finger Trick with
Two Mirrors* from 1967. They allude to hearing by posing as playing musical chords; and
they allude to a sightless site—to blindness—by falsely posing as sign language.

In 1967, before Nauman’s gestures, Valie Export performed sign language as an
elision of word sentences in *Visual Text: Finger Poem* (fig. 132). Nauman sets aside
linguistic communication in his cast series by making his hands connect with music as
they follow piano chord positions. The influence of Reich looms again as Nauman’s
*Hands* are suspended in various canonical chords. Dated February 1964, the score for
Reich’s *Music for Two or More Pianos* reveals a similar arrangement (fig. 133). It
consists of a sequence of nine five-, six-, and seven-note chords. These chords, as the
score instructs, are to “be repeated as many times as performers feel appropriate.”
Nonetheless, the score allows the players to “remain with any chord for as long as
desired, but as soon as any performer moves from one chord to the next, all performers
should move similarly, as soon as possible.” The result is a sort of static phasing of the
chord sequence. ³⁹⁶ Each sustained phase marks a set topography that Nauman’s tangible
setting seems to perform sculpturally.

The general arrangement adheres to ordered signifiers. And yet, the encyclopedic
arrangement that echoes the rule of sight, does not disclose what we encounter. Or,
perhaps this is the point, defacing ordered sense by bringing into action a different sense
that obstructs the aesthetic balance ingrained in clear vision. The ordered set draws back

³⁹⁶ *Potter, Four Musical Minimalists*, 162.
in favor of touch and sound, the two senses that in modern philosophy, since Descartes
and through the empiricists to contemporary French thinkers, are considered in blindness.

In an interview with Joan Simon, Nauman explained the connection of the
bronze-cast series to the deprivation of hearing, Francisco Goya’s deafness, and his turn
to sign language:

There was a picture in one of these art magazines we have in the house of
a Goya drawing of hands that somebody had. A bunch of hands in odd
positions is what they thought they had. Somebody else finally saw it and
said, Oh, signing. And so the drawing has become historically interesting
because it was signing in whatever way Spanish was spoken at the time
Goya lived. Goya was deaf, or became deaf, and it was of some urgency
that he learn to sign. So he made these drawings. And so, I don’t know if I
can find this picture for you, some of them have these different positions.
But when I looked at it, it was perfectly obvious what it was. It’s hard to
believe somebody wouldn’t have thought of that until now.397

Indeed, Goya’s familiarity with sign language is seen in his systematic copying of
gestures signifying the alphabet from instructional books (fig. 134, 1812), one by the
sixteenth-century monk Pedro Ponce de Leon and the other by Goya’s contemporary
Lorenzo Hervás y Panduro (fig. 135).398 For Goya, the fall into blindness also meant
losing coherent thought. His engraving The Sleep of Reason (fig. 136, c. 1797),
commentators remind us, is directly linked to his deteriorating physical and mental
condition. Goya’s clinical symptoms were complex, as he probably suffered from vertigo
episodes, tinnitus, and hearing loss. He experienced hallucinations and delirium, lost a
great deal of weight, and fell into depression. On January 17, 1793, he wrote to Don

397 Joan Simon, “Bruce Nauman: The Matter in Hand,” quoted from an exhibition
catalogue published by Tate, Tate (1 June, 1998) and published on the Sperone-
Westwater Gallery website: http://www.speronewestwater.com/cgi-
bin/iowa/articles/record.html?record=628
398 Barbara Kornmeier, “‘Ydima universal’: Goyas Taubstummenalphabet im Kontext
Francisco Zapatar about his illness, to which the latter replied alluding to his “lack of common sense.” A few months later, Goya moved to the house of his friend Sebastián Fernández in Cadiz, where he made a slow recovery. Fernández wrote to Zapatar about Goya’s mental recuperation in direct relation to his good sight: “The noise in his head and the deafness have not abated at all, but his vision is much improved and he no longer suffers from the confusion that made him lose his balance....” With his strength regained, Goya returned to Madrid, where he learned signing. Goya’s mental confusion—his mind hearing noises and his balance disoriented, embodied in *The Sleep of Reason*—is overcome by language. Good health is illustrated in the signing hands. Nauman’s reference to Goya’s signing drawings invokes the tension between the sensible apparatus and the schematic apparatus, e.g., hearing and touching verses language and representation. This tension roots his work in the fundamental debate between the empiricists and the rationalists on perception and the formation of the modernist subject, and necessitates a historical detour, an outline of the contest of the segregated senses and the advent of systematic representation within sense deprivation.

**The Battle of Language with the Senses**

Dating to the fifth century BCE, sign language appears in Plato’s treatise on language, *Cratylus*, where Socrates speculates on the language of the deaf as a viable alternative to speech: “If we hadn’t a voice or a tongue, and wanted to express things to

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one another, wouldn’t we try to make signs by moving our hands, head, and the rest of our body, just as dumb people do at present?” And indeed, almost two millennia later, with the published work of Juan Pablo Bonet, *Reducción de las letras y arte para enseñar a hablar a los mudos* (Reduction of letters and art for teaching mute people to speak) (fig. 137, 1620), that a systematic language of performing hands for mutes was created.

Methodical signing was further advanced by Charles-Michel de l’Epée who weaved the work of Bonet with his own experiences as an educator for the deaf to publish his manual alphabet in 1766. L’Epée founded the first Paris Institution for the Deaf-Mutes in 1760, which gained legislative recognition and has survived since 1794 at its home on Rue Saint-Jacques. Although it is a fascinating project, my interest in l’Epée’s endeavor lies in his systematization of sign language and the rise in philosophical interest in the problems of deprived sense. During l’Epée’s time and for decades after his death, the deaf-mutes ignited French intellectual thought with regard to linguistic, cognitive, and social issues.

The loss of hearing was bridged by formal hand gestures early on, thus posing Nauman’s connection between sign language and his touching-sounding hands as hardly

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402 In 1680 George Dalgarno, a Scot who ran a grammar school in Oxford, published *Deaf and Dumb’s Man Tutor*. Unaware of Bonnet’s work, Dalgarno devised his system close to the eye and the written word. Deaf should be taught “to speak by the eye,” he claimed, and the educator should “keep… close to the practice of writing.” He later making language visible by extending reading signs to reading lips. Dactylogy was the fluent spelling of words in space. George Dalgarno, “Didascalocophus, or the Deaf and Dumb Man’s Tutor” (1680), *George Dalgarno On Universal Language*, edited by in David Cram and Jaap Maat (Oxford: Oxford University Press, 2001), 308, 316. See also Jonathan Rée, *I See Voice: A Philosophical History of Language, Deafness and the Senses* (London: Harper Collins Publishers, 1999), 104-105.
unexpected. However, a panoramic view of his works shows his constant battle against the clear rational mechanism. Within modern history, this encounter begins here—with an empiricist stance posing sensual perception against the Cartesian subject.

L’Epée’s project appealed to the analytical sensationism of Étienne Bonnot de Condillac. At the crux of Condillac’s work was the tension between the placement of sensationism on experience as the only source of knowledge and the a priori mind. In the eighteenth century philosophical milieu, the question of the origin of language was extensively debated. Condillac’s *Essay on the Origin of Human Knowledge* (1746) generated and encouraged the debate throughout Europe. In France, deliberations on the subject were undertaken by Jean-Jacques Rousseau (*Discourse on the Origin and Foundations of Inequality Among Men*, 1755) and Diderot (*Letter on the Deaf and Mute, for the Use of those Who Hear and Who Speak*, 1751). Pierre Louis Maupertuis introduced Condillac’s *Essay* to the Prussian Royal Academy of Sciences in 1746, and the British Thomas Nugent translated the work into English as a supplement to John Locke’s *Essay on the Human Understanding* (1690).

Language was deemed central to the acquisition of knowledge and reasoning. The study of mental mechanisms was believed to generate understanding of reason and the brain. In this mechanistic discourse, the empiricist sought to separate man’s abilities from artificial achievement, and so set out to investigate the proto-linguistic state of nature and the potential of the sensual organs. Locke and Condillac proposed the primacy of sensations in the formation of ideas. They argued that the primacy of sensuous experience

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was bonded in material mechanisms. Knowledge, it was argued, arose from physical
sensation. Sensual perceptions accounted for ideas and, further, for the development of
the reasoning faculties.\footnote{Aarsleff, \textit{From Lock to Saussure}, 153-5.}

For Locke and Condillac, the deaf mutes served as objects of investigation
because in their display of sense deprivation they were thought to be close to the proto-
linguistic state of nature. Nauman’s mute lingual signing and, as we have seen, his
interest in blindness, is rooted in the empiricist discourse conveying the mind as a \textit{tabula
rasa} imprinted upon by sensation. Nauman’s exploration of the sonorous undermining
proper thought is a contemporary update in the history of empirical thought.

In empirical psychology the senses were investigated as part of a general
deoportment of perception—without thought. Christian Wolff and Wilhelm Wundt worked
out a scientific investigation of hearing under the auspices of psychology. The anatomy
of mental states proved to be interconnected with sense perception. Wolff systemized a
psychological approach combining perception with mathematical formalism. Influenced
by Gottfried Wilhelm Leibnitz, he asserted that music was the area in which sensation
correlated with numerical exactitude. Wundt, though, may be considered as one of the
firsts to release sonorous perception from a priori topographies.\footnote{Sven Hroar Klempe, “The Role of Tone Sensation and Musical Stimuli in Early Experimental Psychology,” \textit{Journal of the History of the Behavioral Sciences}, 42:2 (Spring 2011), 187. Jonathan Sterne points to the German physicist and musician Ernst Florens Friedrich Chladni (at the turn of the nineteenth century to be considered the founding moment of modern acoustics, see Sterne, \textit{The Audible Past}, 43. Eighteenth century Austrian physician Leopold Auenbrugger, considered as the founder of modern medicine is known for his invention of percussion as a diagnostic technique. He invented the method of producing sounds by striking on the walls of the thorax in order to observe the state of the cavity, see Harry Bloch, “The Fathers of Percussion,” \textit{Journal of Family Practice}, 36:2 (February 1993), 232.}
The floor plan of Wundt’s 1896 laboratory exhibits the division of the senses into experimental spaces (fig. 138). Rooms were dedicated to the study of tactile sensation (room 7), the spatial sense of sight (room 6), the sense of smell (room 1), the sense of taste (room 4), and so on. General sensual attributes were also subjects of analysis, with spaces designated for the study of intensity (room 14), light (separated, interestingly, from sight, room 16), time (room 15), aesthetics (room 3), and others. The architectural layout shows the equal distribution of the senses. Sight does not lead perception and touch does not unify the senses. In fact, Wundt’s laboratory seems to stipulate that additional space be given to the aural: “The greatest variety of intensive ideas…” he wrote, “is presented in the sense of hearing.”

Music was a key factor in experimental psychology. Wundt concentrated on studies of tone, noise, and otology, as central to the understanding of perception. Between physics and anatomy, Wundt’s study may be regarded as a pioneer in expanding the definition of music. He did not distinguish between music and noise, arguing that they appear “qualitatively alike.” Non-linguistic sound, he argued, has a special role as “our consciousness is rhythmically disposed.” In Outline of Psychology (1902), Wundt discusses pure sensation through the physical aspects of music and the physiological construction of the ear. The sensationalistic point of view asserted that music (in its wider sense) is fundamental for humans even in regard to language. In the connection of sensation and thinking, he argued that language yields successive thinking while sound allows simultaneous associations. This radical concept, allowing coinciding associations

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408 Ibid., 191.
409 Quoted in Klempe, “The Role of Tone Sensation and Musical Stimuli in Early Experimental Psychology,” 188.
without linear development, was the root of giving primacy to the ear over the projecting mind. Dispersed associations were predicated on sense perception and, when considering the perceiving ear, it seems that Wundt was realizing the hold of mimetic resonance between a priori schematization and the corresponding cognate. Releasing the ear, a mere passageway between the outside and the inside, and according it an autonomous status—such that it does not adhere to reason—rejected the idea of a priori schemes.

This move was a direct answer to Descartes’s harmonious correspondence between the pineal gland and the world. Descartes’s first treatise, *Compendium Musicae* (1618), was dedicated to musical perception, and while the text is imbued with geometrical topographies observing the dialectics of good harmonious structures versus uneasy discord, the philosopher intentionally disregards the ear. It was almost as if he knew that where the mechanics of subjective hearing were concerned, the idea of a harmonious world would not be attained. Descartes formulates a theory of sound based on essentially visual principles that demystify the power of music by outlining it in geometry. Here Descartes applied a purely quantitative system of measuring to a qualitative domain. This superimposition considers the object separate from its perception on the basis of its measurable mathematical and physical properties. It further reduces the function of sensory perception to purely quantitative value. Unlike his later writings on vision where the rationalist elaborates the mechanism of the perceiving visual organ, *Compendium Musicae* maps the musical harmonious structure as a ground onto which agreeable perception is reflected. With this reflection, Descartes maps an aesthetic of sound predicated on the mathematical proportions of intervals. He opens his text with the assertion that “The basis of music is sound; its aim is to please and arouse various
emotions in us.” Consonance tables underlying the combinations of notes that create pleasing harmony in music underpin the sonic environment and so remain within the perfection of the Platonic cosmology. This kind of mapping, operating as an exposed infrastructure, does not concern the sensing machine organ—it does not care about the ear. Descartes articulates a geometry that dictates the division of time and differentiating intervals:

The attributes of sound, are principally two: namely, its differences of duration and time, and its differences from high to low. The quality of tone itself (from what body and what means it emanates in the most pleasing manner) is the domain of the physicist.

Indeed the physiology of sound perception, of the hearing mechanism, does not receive attention in Descartes’s text, as he writes at the outset: “from what means and what body [tone] emanates is the domain of the physicist.” Wundt was such a psychological physicist. For him, the ear was a perceiving instrument participating

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411 Throughout the *Compendium musicae* Descartes draws geometrical charts to explicate the resonating sounds of consonant systems. His cartographies delineate a cosmological mechanism that regards physical perception secondary to universal laws of sound. And yet, in a brief passage from *Traité de l’homme* (1648) Descartes considers the ear in-between body and mind. A connecting mechanism that, although considered in passive accordance between the external geometries of divine harmonious sound proportions and the mind’s calculus, is, nevertheless, described in its autonomous liminal status. Here, Descartes writes: “As to the filaments [filets] that serve as a sense organ of hearing […] it suffices instead to suppose: [a] that they are so arranged at the back of the ear cavities that they can be easily moved, together and in the same manner, by the little blows [secousses] with which the outside air pushes a certain very thin membrane [the tympanum] stretched at the entrance to these cavities; and [b] that they [these filaments] cannot be touched by any other object than by the air that is under this membrane. For it will be these little blows which, passing to the brain through the intermediation of these nerves, will cause the soul to conceive the idea of sound.” See René Descartes, *Treatise of Man* (1648), translated by Thomas Steele Hall (Cambridge, MA: Harvard University Press, 1972), 45-46.

actively in perception. Wundt determined these anti-Cartesian ideas within his experiments, but he inherited the focus on the potential of the senses from his teacher, Hermann von Helmholtz.

Between 1863 and 1877 von Helmholtz published five written works on the senses, four on the ear and one on the eye. Deemed “Principal of the perception of Sound” by Lord Kelvin, *Die Lehre von den Tonempfindungen als physiologische Grundlage für die Theorie der Musik* (On the Sensation of Tone as a Physiological Basis for the Theory of Music) is a magnum opus invoking the physiological modification of knowledge in nineteenth-century German philosophy. Helmholtz turned to hearing and music to elaborate key aspects in his theory of knowledge, and yet in *Die Lehre von den Tonempfindungen* Veit Erlmann detects a turning point from an empiricist concept of scientific reasoning anchored in the dichotomy between subjective forms of perception and objective concepts to a gradual erosion of absolute certainty. Helmholtz exposed the tension between reason and resonance, as his understanding of hearing was based on what he deemed “sympathetic resonance” and its absenting in favor of the reflective mind, in particular the Cartesian mind, as distanced from the world and enclosed in the all-knowing pineal gland. Helmholtz made the hearing passageway his investigative focus, releasing it from its transparent mediating role by bringing it forth as an autonomous machine that does not adhere to the theory of harmonic overtones. In his 1957 Bonn Lecture entitled *The Physiological Causes of Harmony in Music*, the professor of anatomy and physiology explained how musical tones are perceived by the

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mechanics of the ear. Audible sounds, wave forms, and sympathetic vibrations are analyzed by the ear. Helmholtz establishes his research on the microscopic discoveries by Alfonso, Marchese Corti of small plates “arranged like key pianos.” Helmholtz describes them like “stiff hairs” that are set in vibration by the pressures of sound waves. Establishing the ear as a perceiving musical mechanism, Helmholtz makes a striking analogy between the stiff hairs and the piano’s string: “I am led to think it very probable that every such appendage is tuned to a certain tone like the strings of a piano.”

Through experimentations with plucked strings, vibrating piano strings, glass resonators, and vowel sounds produced by human voice, Helmholtz presents the uncharted topologies of acoustics. He expands audibility to the harmonic overtones while expanding the ear’s subjective measuring capacities.

**Signing Chords; Sounding the Tabula Rasa**

In 2010 Nauman exhibited three works exploring music as proto-language at the Sperone-Westwater Gallery in New York. The first was a colossal video sound projection entitled *For Beginners (All the Combinations of the Thumb and the Fingers)* (fig. 139). Two large stacked projections of the artist’s hands were set against black and white backdrops. Posed right-side up, or upside down, the hands were changing positions according to verbal instructions. The second was *For Children* (fig. 140), a looped sound

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track repeatedly emanating “for children, for children, etc.” The third was \textit{Studio Mix} (fig. 141), which combined all the video and sound tracks from the exhibition. Nauman projected changing hand combinations accompanied by three sound parts: his verbal instructions for all finger combinations; a piano playing in response to the artist’s verbal instructions; and Nauman speaking the words “for children, for children.”\textsuperscript{416}

Nauman’s musical \textit{Hands} poses different formations, in sound and mutely, all at the same time. Each chord is topographically linked to other tones, and the wholeness of simultaneous connections is, as in Wundt’s proposition, a sensational idea. For Condillac, sensual experience not only predicated “ideas” but is the very raw material of knowledge.\textsuperscript{417} In the \textit{Essay}, Condillac argued that the mind is unextended, so nothing passes through it from the outside world. Instead, sense impressions from external objects on the sense organs result in corporeal changes that by occasional cause produce sensations in the mind.\textsuperscript{418} Nauman’s \textit{Hands}, as well as \textit{Think Think}, exemplifies this tension. The 1968 \textit{Get Out of the Room, Get Out of My Mind}, is a sound piece pressing for the evacuation of the mind. In this installation the visitor’s body occupied the space between two speakers convulsing with the artist’s amalgamated voice, shouting, whispering, and commanding withdrawal. Similar to the corridor pieces, the sounds emanating from the speakers pressed upon the visitor’s ears. Sound exchanged walls as


\textsuperscript{417} Condillac correlates representation with ideas and images: “The sensations, considered as representing sensible objects are called ideas, a figurative expression, whose proper meaning is the same as images.” Etienne Bonnet de Condillac, \textit{The Logic of Condillac}, translated by Joseph Neef (Philadelphia: s.n., 1809), 18.

the two speakers delineated the pressure of language uttered in a confined space. “I have made a tape of sounds in the studio,” said Nauman, and the tape says over and over again, ‘Get out of the room, get out of my mind,’ I said it a lot of different ways: I changed my voice and distorted it, I yelled it and growled it and grunted it. Then, the piece was installed with the speakers built into the walls, so that when you went into this small room—10 feet square or something—you could hear the sound, but there was no one there. You could not see where the sound was coming from… it was a very powerful piece. It’s like a print I did that says, ‘Pay attention motherfuckers,’… it’s so angry it scares people.419

Could one pay attention in this stressful situation? And to what? The source of sound was obscured as the speakers were concealed in the walls; “you could not see where the sound was coming from,” said Nauman. The pressures of sound, to return to Beckett’s aural mode, folded the body inside and outside, a tympanum touching both sides at once. Executed in the same year as First Poem Piece, the grid demarcating painting, geometrical devices, and coherent language marked by words engraved in geometrical alignment oppose the sonic proposition of being that the artist articulated: “you may not/want to be here/hear.” Hence, Nauman makes equivalent the grid and language uttered from the parallel posed speakers, the geometrical space of the room, and the mind. This underlying geometrical scheme shared by the architectures of language, geometry, and the room’s confinement is broken down into multiple components that are instrumentalized in the advent of erratic sound.

Opposing the forces of the senses against rationalism exemplified in language and geometry releases the unified hold of “good” perception and is found in the early modern discourse of the senses. In 1613 Thomas Middleton staged a pageant, The Triumphs of

Truth, in which the five senses floated as islands upon water in opposition to the
grounded path of truth,

where stand ready the fiue Ilands, those dumb
Glories that I spake of before vpon the water, vpon
the heighth of these fiue Ilands sit fiue persons,
representing the fiue Sences. Visus, Auditus, Tactus,
Gustus, Olfactus....; at their feete their proper
Emblems, Aquila Cervus, Araneus, Simia, Canis,
an Eagle, a Hart, a Spider, an Ape, a Dogge.420

Sailing amidst the archipelago of the senses is a ship with neither pilot nor sailor;
it announces, “I am steer’d by truth.” On the ship are the King and Queen of the Moors.
A royal castle appears on the largest island occupied by the sense of touch. The islands
guide the ship’s way to an island subject to the fog and mist of Error. Truth now conquers
the island and the senses make way to the celebration of “mount triumphant,”
symbolically representing the city of London. The five senses grounded the victory of
truth; they stand ready to receive and protect it. Subjugated to truth, they actively
intervene to move the ship in affirmation of unity.421 The role of the senses is quite
peculiar, for although inferior to truth they have a direct effect on the ship’s route. Truth,
in fact, although ruling, is determined by the movement of the segregated senses.

In Sense and Sensibilia Aristotle asserts that deprivation of sense maims actual
intelligence.422 In the Outlines of Scepticism, the second-century physician and
philosopher Sextus Empiricus employs the figure of the blind and deaf man to argue that
if we rely on our senses for our knowledge, the world will simply appear to us with as

421 Ibid., 67.
many qualities as we have senses, and we had therefore better suspend our judgment.\textsuperscript{423}

Thus we see how sense deprivation touches upon the limits of sense to show how the limits of sense pose the quandary of how the body receives and processes knowledge. This quandary marks the difference between rationalism and empiricism.

Perhaps it is best to suspend judgment when describing the quandary of knowledge and the senses as, for example, in William Molyneux’s question to John Locke. In 1688 Molyneux, who like many other scientists and philosophers was interested in optics and the psychology of sight, composed a letter to Locke asking whether a man born blind who has learned to distinguish and name a globe and a cube by touch would be able to ascertain these objects if he regained sight. Molyneux’s question reflects contemporary musing on experiences of blindness and visual impairment.\textsuperscript{424} The question illuminates the significance of sense perception in an era where it was commonly believed that the senses were inferior to reason. Fractures opening in the competence of reason are seen in the empiricist endeavors of Francis Bacon’s idols of the mind, Thomas Hobbes’s materialistic mechanism, Pierre Gassendi’s atomistic sensation, Robert Boyle’s corpuscularianism, and many more. And yet, Molyneux’s decision to address his quandary to Locke highlights the specific hallmark of segregated sense perception and the imprints it leaves on the vacant mind, i.e., as in Locke’s famous \textit{Tabula Rasa}, the mind coming into the world as a blank slate with no innate knowledge.


\textsuperscript{424} But it also alluded to the personal burden of Molyneux’s wife losing her sight in the first year of their marriage.
In his *Essay Concerning Humane Understanding*, published in 1688 in the *Bibliothèque Universelle & Historique*, Locke wrote:

Let us then suppose the mind to be, as we say, white paper, void of all characters, without any ideas; how comes it to be furnished?... Whence has it all the materials of reason and knowledge? To this, I answer, in one word, from EXPERIENCE: in that all our knowledge is founded; and from that it ultimately derives itself.\(^{425}\)

Locke further positioned perception between mind and sensible objects, that is, between internal reasoning and external objects. “Our Observations,” he wrote,

employed either external sensible objects, or about the internal operations of our minds, perceived and reflected on by ourselves, is that which supplies our understanding with all the materials of thinking. These are the two fountains of knowledge, from whence all the ideas we have, or can naturally have, do spring.\(^{426}\)

Thus, the fountain of knowledge is located in between *sensation* of external objects and “*reflection*, which is the perception of the operations of our minds within us.”\(^{427}\) Locke’s assertion gives weight to sense perceptions; however, it does not seem to overcome the problems posed by the reflective mind. These two operations foster Locke’s classification of ideas into simple and complex. Simple ideas, he asserted, pertain to one uniform appearance or conception in the mind. Simple ideas may come from one or more senses; they are the isolated building blocks potentially composing complex ideas that adhere to the mind alone. Molyneux’s letter to Locke focused on the prospects of aggregated sensual experience and the differentiation the English philosopher made between ideas we acquire by means of one sense or many. Locke argued that by combining the senses

\(^{426}\) Ibid.
\(^{427}\) Ibid., §4, 51.
we acquire ideas about space, rest, motion, and figure. Molyneux’s problem targeted the latter, and although Locke never replied to the 1688 letter, on March 2, 1692, Molyneux wrote again:

Suppose a Man born blind, and now adult, and taught by his touch to distinguish between a Cube, and a Sphere of the same metal, and nighly of the same bigness, so as to tell, when he felt one and t’other; which is the Cube, which the Sphere. Suppose then the Cube and Sphere placed on a Table, and the Blind Man to be made to see. Qaere, Whether by his sight, before he touch’d them, he could now distinguish, and tell, which is the Globe, which the Cube.\(^\text{428}\)

To this letter Locke reacted with enthusiasm, and Molyneux’s problem was included in the second edition of the \textit{Essay}. Sight and touch were now considered as differentiated, and their assumed relations resulted in numerous accounts. I will not delve into the fascinating responses proposed by Berkeley, Leibnitz, Voltaire, and others, but will note briefly that the division between the rationalist and empiricist philosophers was decisive. The first considered the visual and the tactile as the same, while the latter marked the separation of the senses as proof of the primacy of learned experience.

Nauman’s palpable sculpture, blind installations, and discordant soundscapes evolved within trajectories stemming from the philosophical accounts of Condillac, Locke, and Diderot and the scientific investigations of Helmholtz and Wundt. The modern subject, forged in the empirical history of sensation, remains relevant to the problems of sense-perception and modern technologies substituting and amplifying the sensual mediating organs, and in this respect, as noted by Gabriel Josipovici, “we are all heirs of the seventeenth century.”\(^\text{429}\)

We are heirs, indeed, but we are not quite the same. From the works of the
seventeenth-century empiricists as well as their nineteenth- and twentieth-century
descendants we learn that while advocating for sensual experience, the reflective mind
remains involved in their philosophical discourse. From Nauman’s deprived sight,
 machinic repetitions, and violent reiterations we learn that any sort of coherency is to be battled. His topological grounds pay attention to a single trait: their acephalous
dispersion. The pieces discussed throughout this study show a move from set measure to
dispersed relations. These relations are concretized as sonic and physical intervals that do not adhere to common sense. In fact, common sense as exhibited in logics and traditional instruments is considered violent by Nauman. To the semantic relations between violin and violence he responded by impeding violins, exchanging metric topographies with dispersed rhythms, stressing the body’s internal frequencies—its breath, heartbeats, nervous system—and producing rhythmical topographies contingent on his own bodily measures, its length, width, height, and also its breath, stomps, heartbeats, and the like (Slow Angle Walk). Nauman works against common units of measure by constructing conceptual spaces while proposing spatio-temporalities that are but the production of contingent rhythms. The violence of set grounds and harmonious instruments find a resolution in Deleuze and Guattari’s chaos. For them, there is no set ground—there is only chaos, and appearances are but rhythmical percepts. These are spatio-temporal rhythms that take place prior to concepts. In fact, metrical ordinates mask and subordinate rhythmic appearances. Rhythms territorialize expressions (never functions); they occupy chaos in the in-between of milieus—rhythm-chaos or chaosmos.\textsuperscript{430} They are

\textsuperscript{430} Deleuze and Guattari, \textit{A Thousand Plateaus}, 313-315.
intervals of sonorous blocks, and they hold the ethical deportment of being without occupying, of being without thought, telos, or intentionality.
Imagine an eye unruled by man-made laws of perspective, an eye unprejudiced by compositional logic, an eye which does not respond to the name of everything but which must know each object encountered in life through an adventure in perception

Stan Brakhage, “Metaphors on Vision,” *Film Culture* 20 (Fall 1963), 21
Coda: Untying Sound Under Rule

In this final section I readdress several works by Nauman. My aim is to think of the political bearings of the concrete separation of the senses in relation to sensus communis. Releasing the senses from a shared ground exposes the technological account of being-in-dispersion. The artist’s palette includes speakers, tape recorders, monitors, screens, and acousmatic objects that concretize dispersed sound. Instruments beat rhythmical orders one upon the other, beneath, in front, at the back; they mimic and affect one another. Being in discreteness, vertically and horizontally, while also differentiating diagonal intervals, curved intervals that run between sound-images and visual-images.

Nauman’s sonorous objects and sonic spaces show how the quandaries of sense bring forth the interchangeability of sensuous orders and representational orders. Between the two lies the indeterminate interval. Between the Boulezian-Deleuzean smooth and striated time-space, we find the irrational interval, a concrete sonorous block that creates a spatial temporality preceding schematization. Boulez called such interval a diagonal, running between vertical harmony and horizontal melody. His goal was to free the diagonal, make it a variable of autonomous dimension within time. This is the Boulezian “‘block of duration’ a ceaselessly varying sonorous block … that is not pre-existent, and is drawn at the same time as the block varies,” explains Deleuze. He continues, “In each case the diagonal is like a vector-block of harmony and melody, a function of temporalization.” It is a “time bubble,” according to Boulez, and it not only

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432 Ibid.
marks the difference between the striated and the smooth but as interval becomes an independent block.

Such a block is the limit or interstice for Deleuze’s time-image. It is the irrational cut that passes between two framings—the visual image (let us imagine its vertical position, maintaining the visual hegemony of the senses) and the sound image (the horizontal movement that works against intentionality, decapitating the hierarchy of the senses)—to become an autonomous creator.⁴³³

But it seems that sound, in its rhythmic dispersion, is active in creating grounds. Sound’s dispersion and randomness delineates an in-between condition shared by the diversity of indeterminate chaos: “between rhythm-chaos or the chaemos,” as Deleuze writes; “In this in-between, chaos becomes rhythm … Chaos is not the opposite of rhythm,” the assortment of proper and improper rhythm formations.⁴³⁴ Rhythm occupies proper bodies as well as the transcoded passages from one milieu to another; it is an open passageway, a body, a corridor between heterogeneous orders.

As vibrating intermezzo, sonorous production and sonorous perception are vital to Deleuze’s concept of becoming-sound. Becoming-sound means giving in to the vibrations of pressure—to breaths, heartbeats, blood-circulations, clocks, the ossicle hammers, the tympanic movement, and so forth—to surrender in blindness and without ego to the rhythmic heterogeneity that periodically repeats the same melodic structure while insistently changing due to the irregularities of interruption and the other’s proximity. These effective differences pose the intimacy of sensuous effect, the problems of distance and coherency that are posed between seeing and hearing. Touching upon a

⁴³³ Deleuze, The Time-Image, 278-279.
⁴³⁴ Deleuze and Guattari, A Thousand Plateaus, 313.
reverb, this effective interval is only free in heterogeneous grounds that dislocate a new
distribution of the senses. The freedom that allows the interval its nomadic movement
is contingent on weakening the unifying forces of set sense. This contingency raises the
tension between the forceful binding of the senses into coherent and intelligible
representation, that is, common sense, and a sense shared in a heterogeneous open
system, where the multiplicity of senses determines their acephalous movement.
Under the sovereign manipulation of the eye and recorded sound, I make my final
comment in regard to the political consequences of the indeterminate-interval, the
hearing-interval, placed between audition and sight and their audio-visual technological
extensions. Untying vision, understood here as the untying of sense, is achieved by the
sonorous interval, which maintains the separation of the senses and therefore takes on an
ethical action as interruption of unequivocal rule. Thinking through Jacques Rancière,
this action, when considered in regard to unhinging sensus communis from
representational rule, allows a political untying of systems of divisions and boundaries
that demarcate the relations between visibility and audibility within an aesthetic-political
regime. Nauman’s *Audio Video Piece for London, Ontario* exhibits this aesthetic as it
dismantles sensus communis into the actual event. The work deliberates the concept of
sensus communis by playing out the diverse relations between actual sensuous sense and
the senseless. Here, Nauman pulls down reflecting thought and performs the distribution
of the senses without criteria. He poses, once again, the body as irrational interval
between the senses.

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435 Gabriel Rockhill, “Translator’s Introduction: Jacques Rancière’s Politics of
Audio Video Piece for London, Ontario illuminates an eventful intersection of artists and noisemakers that demand a bypath, a historical departure that will sustain the problems of political sense. The work was exhibited three times: in 1970 in London, Ontario, at the Venice Biennale in 2009, and re-installed in its original location in 2010 (figs. 143–145). The work is composed of a monitor set on the floor, a chair, and a sealed room from which emanate the rhythmical sounds of Nauman clapping his hands on his hips. The work begins with a correspondence, a murmur, with unconfined sound. It was in 1969, after four years of skillfully producing noise and finally obtaining international recognition for their chaotic harmonies, that Greg Curnoe and his Nihilist Spasm Band (NSB) invited Nauman to exhibit at their home venue, Gallery 20/20, in London, Ontario. Nauman was a natural candidate for the gallery, almost an extension and expansion of the NSB’s interdisciplinary transgressions of sound, performance, sculpture and installations.

The NSB fused instantly when in 1965 Greg Curnoe had first gathered the members of the nascent group—Bill Exley, John Boyle, Murray Favro, Hugh McIntyre, Archie Leitch, John Clement, and Art Pratten—to produce a soundtrack for a 16 mm movie he had filmed. As none of the ad hoc band members had any musical training, they improvised shouting, humming, and blowing 25-cent kazooos. By 1967 NSB had designed and modified their own instruments: electric guitars and bass, amplified kazooos and electric violins, a theremin, clarinet, cooking pots, and marbles. In 1969 NSB officially represented Canada at the Sixth Biennale des Jeunes in Paris calling themselves Canada’s Official Music Team. They later traveled to London, England, where their structureless sounds played in the halls of the Institute of Contemporary Arts dissolved both personal and architectural barriers.
At 1969, Gallery 20/20 was a happening place, a politically charged juncture for audio/video experimentations. The dynamic space resounded with Luigi Russolo’s 1913 constructions of noise-generating devices called *intonarumori*, initially performed at the *Gran Concerto Futuristico* in 1917, as well as the gibberish *Karawana* first performed by Hugo Ball at the *Cabaret Voltaire* in 1916. It was in this imaginative crucible that Nauman first exhibited *Audio Video Piece for London, Ontario*.

After considering the floor plans of the gallery, Nauman tactically installed a surveillance camera oscillating on its side and a loop sound recording in an empty sealed room. The video footage of the vacant room was relayed to a television monitor placed on the floor in a second room, accessible to the viewer, while the soundtrack emanating from its confining space was only slightly audible. The division of the rooms into inaccessible and shared spaces dictated a forceful sense of distribution that works against the binding sensus communis, or intelligible representation. The distant sources of the un-according sound loop and visual footage are assuring the exposition of the power-webs dictating our movement. Nauman offers a novel redistribution of the senses, where the idea and practice of sensus communis collapse in exposure. Like the clashing cacophonies of the 1920s cross-media happenings and the production of such unbearable yet engaging events by Karlheinz Stockhausen as *Originale* (1961), Nauman’s piece exposes complicated interrelations among the visual, the sonorous, technology, and the dissemination of power. No longer adhering to the trust of sensus communis in pre-teleological good, Nauman’s work marks experience as contingent on separation.

Nauman disrupts enforced consensus, seen here as a mere technological construction that subjugates passive spectatorship and generates controlled spaces.
Influenced by Marshall McLuhan’s writing he constructs an actual event; Nauman’s turn to the sonorous in the 1960s, at the same time as Marshall McLuhan’s call for the primacy of hearing and the production of sonic space predicated on tactile vibrations, is not accidental. In *The Medium is the Message, Gutenberg’s Galaxy, and War and Peace in the Global Village*, McLuhan called us to re-examine the limits of perception, the peripheral senses, subjugated to the violence of trained sensual experience. McLuhan makes a direct correlation between the reign of visibility and the problems raised within the question concerning technology. McLuhan critiqued the sway that the technological environment has on the human senses. For him, technology and media are considered extensions of the human organic senses; however, the forceful effects of technology result in determined sensory perception. Sensory effects result, in other words, from media’s ability to amplify some senses and attenuate others. In being thus extended and amplified, the senses are subjugated to the visual, and yet, produce still other effects; they are constitutive of rationality, intelligence, or even of consciousness itself. In making this point, McLuhan goes against the Cartesian as well as Kantian imperatives in which the senses are regularly subsumed well below the synthetic, interpretive, and juridical powers of the mind. Instead, he relies explicitly on the Thomistic and Aristotelian notions of ratio and sensus communis. From Aristotle, McLuhan draws the idea that our knowledge of our perceptions does not arise from the perceptions themselves, but from another perceptual faculty altogether, a different “sense.” This other sense, Aristotle implies, is *common sense*; that is, a combination or unifying of the senses and their technological
extensions. From Thomas Aquinas McLuhan draws ratio, reason, as the underlying
sensory proportion constituting agreeable perception, which adheres to sight.436

Thus ratio holds for McLuhan multiple meanings: it signifies both proportion
among the five senses proper to sensed objects, as well as a constitutive force of
rationality. What is important to our understanding is the shared nature of rationality and
technology especially in relation to the discrete senses. “It is the ratio among our senses,”
writes McLuhan, “which is violently disturbed by media technology. And any upset in
our sense-ratios alters the matrix of thought and concept and value.”437 To this matrix
McLuhan offers a performative response and change of ratio—his seminal turn to the
sonorous and the haptic. He proposes sonic spaces and vibrating tactility as primary to
perception; no longer distanced viewing, but the perceiving sensuous body set in
between—as we see in Nauman’s installation—the sonorous and the visual. In the
vibrations of their limits one is im-pressed tactically, in-between the senses. In this new
distribution we are performatively obliged to reconstitute sense. Redistributing the senses
transforms habitual connections between body, perception, and technology. Thus, sensus
communis itself is externalized to the environment that is responsible for organizing and

436 One significant passage from Aquinas begins with the assertion that “…beautiful
things are those which please when seen. Hence beauty consists in due proportion; for the
senses delight in things dully proportioned…” Thomas Aquinas, “Fifth Article: Whether
Man’s Happiness Consists in Any Bodily Good?” The “Summa Theologica” of St,
Thomas Aquinas, translated by Fathers of the English Dominican Province (London:
Galaxy, McLuhan continues quoting this same passage as follows: “The senses delight in
things dully proportioned as in something akin to them, for the sense, too, is a kind of
reason as is every cognitive power.” Marshal McLuhan, The Gutenberg Galaxy (Toronto,
University of Toronto Press, 1962), clxxxiv.

437 Marshal McLuhan, Report on Project in Understanding New Media, (Washington:
National Association of Educational Broadcasters, Office of Education, U. S. Department
balancing the senses.

*Audio Video Piece* experiments with the effect of the now externalized *sensus communis*. Nauman upends its very constitution by disrupting enforced consensus, seen here as a mere technological apparatus—an extension of the all-seeing eye—that subjugates passive spectatorship and generates controlled spaces. Together, the surveying camera, detached from the exhibition space, reveals blank evidence on a monitor placed on the floor, and the rhythmical reverb sounding the space in-between the concealed room and the shared space produce what Jacques Rancière calls an *anarchic* space: a space that undoes the hierarchies constructed by the correspondence between the articulate audible and the visible. Rancière writes:

> the representative topography … the visible is opposed to the paradoxical space engendered by the art of sound vibration, that is, of de-spatialised materiality. It is not merely the “visions” that music evokes for the imagination that are set into space. It is the contradictory union between … [the visual] stripped of sense-based form, and the art of sounds, stripped of its meaning.⁴³⁸

*Audio Video Piece* was not Nauman’s first work to transform the articulation of operatic technologies into aporetic processes. As seen in the previous chapter, recording the sound of his body rebounding concrete architectural limits in *Bouncing in the Corner Nos.1, 2*, where the artist’s body incessantly bounces in a corner of a room, or documenting his movement in space by tracking the sound traces of his steps in *Stamping in the Studio* (1968), Nauman’s activities are set to overturn and invalidate our coherent perception. These short videos generate incoherent spaces and temporalities where image and sound are disrupted by their disorienting partition. However, Nauman’s critical

approach to visuality is also seen in his early construction and use of the television monitor. In the 1967 *Light Center Piece* (fig. 146), a minute panoptic apparatus constructed of four light projectors lighting an empty center exposed the superiority of the visual regime as trap. In *Audio Video Piece*, the framing monitor offers the emptiness of an evacuated room. The projected images usually generated from the unknown source of the spectacle, disseminated universally but experienced intimately, are absent. Their removal, replaced by the banality of the next room, exposes the sophisticated surveying mechanism. Here Nauman exhibits the evolution of his earlier body recordings and confining constructions with the silent footage run through the monitor set on the floor, now distinctly separating the visual from the sonorous.

Video artist Nam June Paik executed a similar critique in his television environments, in particular his 1963 first solo exhibition *Exposition of Music. Electronic Television*, staged at the Galerie Parnass in a late nineteenth-century villa in Wuppertal, Germany. The title of Paik’s work is echoed in Nauman’s, but Paik’s influence on Nauman was far more pervasive. During the late autumn of 1961, Paik participated in Stockhausen’s *Originale* performed in Cologne. “After twelve performances of Karlheinz Stockhausen’s *Originale*, I started a new life from November 1961” Paik wrote. “By starting a new life I mean that I stocked my whole library except those on TV technique into storage and locked it up.”439 For the following two years he was dedicated to his legendary secret investigations and experimentations with TV monitors, which were

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eventually exhibited in *Exposition of Music. Electronic Television* (fig. 147). Paik’s grand installation elucidates Nauman’s use of innovative spatial partition and TV monitors.

In Wuppertal, Paik divided the sound installations between the basement and the separate rooms of the upper floors. In the “garden room” he displayed multiple television sets on their side, front, top, or bottom—all on the floor. However, unlike Nauman’s closed-circuit TV, Paik’s televisions were broadcasting live shows. These shows featured distorted images of politicians and other social authoritarians reiterating their dictums while demarcating the spectators’ role of passive restriction. By distorting and dislocating the screened images Paik not only mocked their iconic hollow administrations but also activated the viewers’ uncertainty and physical contingency. Influenced by John Cage’s ideas of process art subject to indeterminacy, Paik wrote: “As the next step toward more indeterminacy, I wanted to let the audience … act and play by itself.”

Paik’s TVs work against their primary function of disseminating knowledge; they aimed to activate the viewer’s physicality. In the *Afterlude to the Exposition of EXPERIMENTAL TELEVISION* he wrote:

> My experimental TV is the first ART (?), in which the perfect crime is possible…… I had put just a diode into opposite direction, and got a <waving# negative television. If my epigons do the same trick, the result will be completely the same… that is…
> My TV is NOT the expression of my personality, but merely a <PHYSICAL MUSIC>.

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441 Nam June Paik, “Afterlude to the Exposition of Experimental Television,” *V TREs Fluxus-newspaper* (1964); reprinted in *Theories and Documents of Contemporary Art*, 255
Working through indeterminacy contingent on the physical body is a well-known preoccupation of Nauman. In the intersections of performance and music exhibited in the early pieces, the artist’s physicality was later replaced by the spectator’s. Initially Nauman used his own body to demarcate his spatial movement and produce sound. However, *Audio Video Piece* is one of the earliest works in which he evacuates the scene while setting a theatrical score for the visitor to execute. The radical displacements and manifold directions of sound avert coherent perception while exposing the doubtful reign of vision. The theatrical division laid by Nauman reveals the simulacrum of the rule, which, as Rancière argues, produces consensus through exercising power, or what he calls the “police.”

For Rancière, the police are in charge of the social configuration of the *partage du sensible* (division of the sensible); its sway perpetuates inequality as dictated by the distribution of knowledge and power. Nauman challenges these power regimes forged by judgment and control mechanisms by delimiting the realms of sense in ways that move beyond *sensus communis*.

It is notable that in Rancière’s phrase *partage du sensible*, “partage” can convey two almost contradictory meanings: the first is “to share, to have in common,” but the second is “to divide, to share out.” The concept of sharing as both division and communality is well articulated by Nauman, who in an interview with Michele de Angelus in 1980 said:

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I guess one of the more important of a lot of the work had to do with the difference between private space and public space, and how it’s psychologically different to be in a room with a bunch of people by yourself... for instance if you’re in a space and then other people enter, then your apprehension of the space changes, or the way you function in the space and how you locate yourself in the space, where you don’t know the people... So that one of the main things that I had thought about was to deal with trying to find the edge, to enforce the tension between that sort of transformation, between your space and having to share it, socially or whatever.444

For Nauman, the body is both instrument and locale for the disruptive event; for Rancière it is (the body) politics. Through the gap created by the separation of the senses, Nauman transgresses sensus communis. This transgression is actualized when the configuration and distribution of rules are jammed by their very visual transparency, and reconfigured as de-sensualizing the exclusive attribution of sense in a self-violating movement. The transgressive potential of the sonorous body generates a movement that meanders in dispersion. The sonorous intervallic nature yields an endured exclusion that maintains the separation of the senses and leaves us with the ethical responsibility of untying proper rule.

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**Online Resources**


Daniel Birnbaum on ‘Making Worlds’ in http://www.youtube.com/watch?v=fAAmglUL00


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