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the ether swaddles me | you | us:
Becoming-Khora in Light, Sound, and Transmission Art

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An abstract of
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Abstract

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This dissertation develops theoretical grounding centered on Plato's *khora* for experiential, time-based art that uses light, sound, and the electromagnetic spectrum. It analyzes artworks by James Turrell, Pauline Oliveros, Joyce Hinterding, Tetsuo Kogawa, Anna Friz, and Sally Ann McIntyre using an assemblage of terms that I argue share affinities with *khora*. These terms are drawn from feminist science and technology studies, psychoanalysis, quantum physics, and philosophy, and include agential realism, *O*, semiotic chora, *Lichtung*, and ether. These analyses present new considerations of the experience of Being, reopening questions about epistemology, ontology, experience, knowledge, perception, and objectivity. It argues that the way these artworks ask us to tune into the world and ourselves is essential for developing a theory of grounded and embodied, yet transcendental and metaphysical, Being.

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And, to all the gods and goddesses, spirit, source, buddhas and bodhisattvas, angels, guides, and ancestors that have kept me alive and walk with me always, I owe this all to you.

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Preface: Making a Beginning

My Lord God, I have no idea where I am going. I do not see the road ahead of me. I cannot know for certain where it will end. Nor do I really know myself, and the fact that I think that I am following your will does not mean that I am actually doing so. But I believe that the desire to please you does in fact please you. And I hope I have that desire in all that I am doing. I hope that I will never do anything apart from that desire. And I know that if I do this you will lead me by the right road though I may know nothing about it. Therefore will I trust you always though I may seem to be lost and in the shadow of death. I will not fear, for you are ever with me, and you will never leave me to face my perils alone.

—Prayer of Thomas Merton

Who, can swim sea of love, that is shoreless?
The goal of love is reached by the acceptance
Of all one may naturally reject as worthless…
One has to see what is ugly as beautiful, and
have to eat putrid poison, as full of sweetness.
—Rabi'a Balkhi[1]

Living beings are numberless; I vow to help by rowing them to the other shore.
—Bodhisattva's Vow[2]

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[1] Rabi'a Balkhi, "Rubi'a," *Anthology of Women Mystical Poets of the Middle East & India*, trans. Paul Smith (Victoria, Australia: New Humanity Books, 2013), 67. An alternative translation found at http://journaleveille.blogspot.com/2016/09/rabia-balkhi.html:
"Love is an ocean with such a vast space
No wise man can swim it in any place.
A true lover should be faithful till the end
And face life's reprobated trend.
When you see things hideous, fancy them neat,
Eat poison, but taste sugar sweet."

[2] Thich Nhat Hahn, *Interbeing: Fourteen Precepts for Engaged Buddhism* (New Delhi: Full Circle, 2000), 28.

Figure 1. Meredith Kooi, research shot of the *ether swaddles me | you | us,* 2016. Photo by Galen Joseph-Hunter. Image courtesy the artist.

During August 2016, I was an artist-in-residence at Wave Farm, an artist residency in Acra, NY that is dedicated to supporting the research and production of transmission art. Situated on twenty-nine acres, Wave Farm sits amongst fields, forests, and a pond. The goal of the project I set out to do, titled *the ether swaddles me | you | us*, which is the title of this dissertation, was to make work that provided the opportunity for the listener to inhabit the landscape in which the work itself was situated. Throughout my time at Wave Farm, I spent my days traversing the landscape, mapping out my routes, and stopping to listen. I identified four specific locations on the grounds that would provide the bases for the works. Each of these places was different from the other; these places were in a pine forest, near the pond, in a field, and one in a higher elevation. Sitting down in each spot, I wrote

poems of my sonic, visual, and bodily experience of the place. Then, I recorded myself reciting these poems in their respective places. At times, the words spoken written in the past matched the current situation unfolding in the present; a joyful synchronicity. I then took these audio recordings and broadcast them using low-powered FM transmitters in these places. Placing FM receivers at these locations, the poems mingled with not only the aural environment, but also the electromagnetic one as well. Layers of the past merged with the present.

During the residency, I led a workshop for the then-current musicians-in-residence at Art Omi, a nearby artist residency. For the workshop, I led the participants on a walk throughout Wave Farm's grounds, making stops at each of the broadcast locations. The aim of this was to create a layered experience of the particular atmosphere of this place, bringing together the natural, technological, and electromagnetic elements together into a full, resonant experience.

I begin this dissertation, "*the ether swaddles me* | *you* | *us*: Becoming-Khora in Light, Sound, and Transmission Art" with this project because it displays some of the main themes that are in play throughout this project: place, site-specificity, electromagnetism, experience, the sonic, embodiment, and being-in-the-world. *the ether swaddles me* | *you* | *us* came after multiple years of exploring the boundaries and potential of the electromagnetic spectrum, as both a solo artist and also in collaboration with others. From 2011-2016, I was the editor and assistant director of the Chicago-based experimental radio broadcast platform Radius.[3] Founded and

[3] For more information on Radius and to access the works that it has hosted since 2011, visit Radius' website at www.theradius.us.

directed by sound and transmission artist Jeff Kolar,[4] Radius, which is still active, supports work that considers the electromagnetic spectrum as concept, material, and site of the work. Enlisting the Audio Relay Unit, a 4-watt FM transmitter which was built in 2002 by artist Brennan McGaffey of the Intermod Series[5] with the art collective Temporary Services,[6] we hosted the work of artists from around the world each month. Since part of Radius' goal is to present work that "engages the tonal and public spaces of the electromagnetic spectrum," we considered the EMS to be a specific site of presentation. For us, it is/was not just about playing something over the radio; it is/was about engaging radio as the place and environment in which the work emerges as the work.

My work with Kolar through Radius opened the door for me to the world of radio and transmission art, and thus I was beckoned to consider embodiment in new ways. Since the EMS is immaterial, interacting with it in material ways (i.e., manipulating various radio devices and moving them around with my body) to produce different sonic effects both strengthened and complicated my theoretical understandings about the body and its relationship with the world. Additionally, in practicing with the immaterial, the opportunity to tap into the spiritual nature of artistic practice and the world appeared for me. As you will read in the introduction, my work is driven by my own experiences of having a body, one that is marked with trauma. Because of these experiences, I have sought new understandings about

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[4] For Kolar's body of work, visit his website at www.jeffkolar.us.
[5] For more information about the Audio Relay Unit, visit the project page on the Intermod Series website at https://intermodseries.com/Audio-Relay.
[6] For more information on Temporary Services and its projects, visit its website at https://temporaryservices.org/.

what it means to be a body, be a whole person, in this world. So far, I have found inspiration in transmission art and in Plato's concept of *khora*.

My practices as an artist and a scholar work in tandem. The insights I have gleaned and continue to glean from one inform the other; it is a constant back-and-forth. Different forms of knowledge-production are operative here: *theoria*, *techne*, and tacit and intuitive knowledge. Intuition and creativity are particularly important to this dissertation; they lead the way, connecting disparate concepts together therefore producing perhaps unconventional applications, readings, and analyses of the texts and artworks I engage. My only request of the reader is to remain open to the possibilities being put before her.

Introduction: Becoming-Khora

In our case, we are about to make speeches about the universe—whether it has an origin or even if it does not—and so if we're not to go completely astray we have no choice but to call upon the gods and goddesses, and pray that they above all will approve of all we have to say, and that in consequence we will, too. Let this, then, be our appeal to the gods; to ourselves we must appeal to make sure that you learn as easily as possible, and that I instruct you in the subject matter before us in the way that best conveys my intent.

—Plato[7]

The body is a device to calculate
the astronomy of the spirit.
Look through that astrolabe
and become oceanic.

—Rumi[8]

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[7] Plato, *Timaeus*, trans. Donald J. Zeyl (Indianapolis and Cambridge: Hackett Publishing, 2000), 27d. The translations I provide of *Timaeus* are from this translation, but I reference the Loeb Classical Library edition for the Greek. Plato, *Timaeus*, trans. R.G. Bury, Loeb Classical Library (Cambridge, MA and London: Harvard University Press, 1929).

[8] Rumi, "The Fragile Vile," in *The Essential Rumi*, trans. Coleman Barks (New York: HarperOne, 2004), 14.

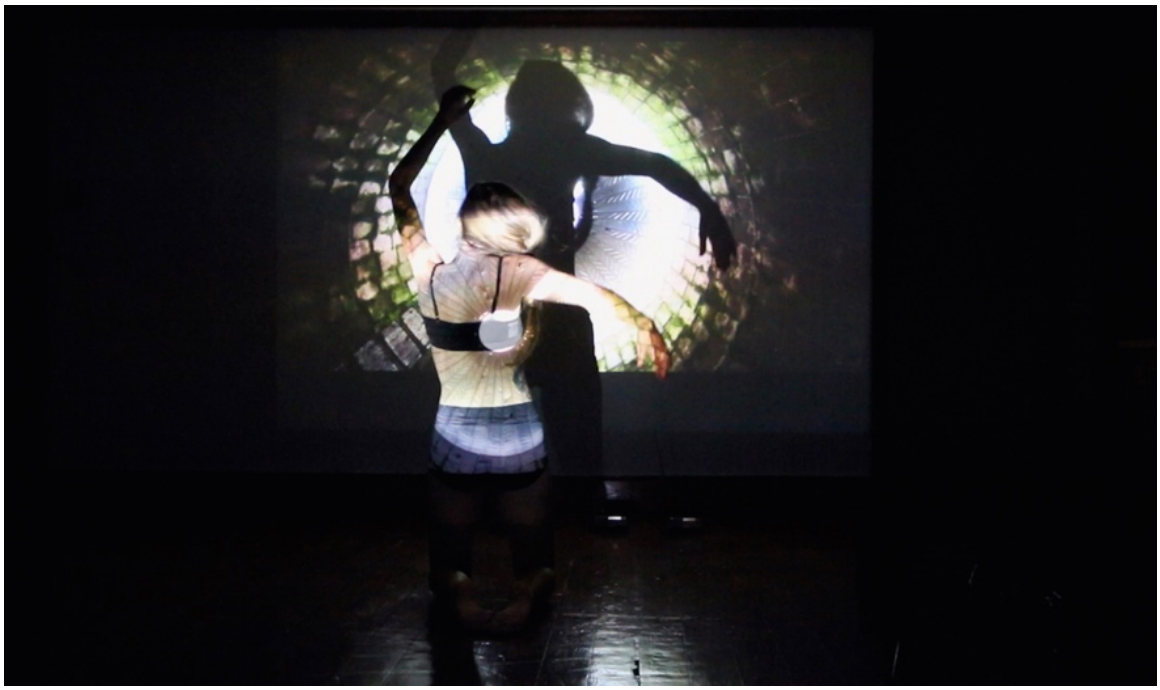

Figure 2. Meredith Kooi, *untitled (khora study #1)*, 2014. Image courtesy the artist.

We must begin at the beginning. There is nowhere else to start. In a way, this entire project is concerned with how there is something rather than nothing. For Heidegger, the question of the nothing—what and how is it?—runs contrary to thought itself because thinking is "always essentially thinking about something."[9] Since "the nothing is the complete negation of the totality of beings,"[10] and we are always "in the midst of beings that are revealed somehow as a whole,"[11] thinking the nothing seems to become an impossibility. We usually depend on logic and assume that "intellect is the means"[12] to answer our questions, but perhaps in the case of the nothing, we are out of our league, out of our element: "The idea of 'logic' itself

[9] Heidegger, "What Is Metaphysics?," *Basic Writings*, ed. David Farrell Krell (London: Harper, 2008), 97.
[10] Ibid., 98.
[11] Ibid., 99.
[12] Ibid.

disintegrates."[13] However, we can "feel" the nothing in anxiety; it is in anxiety that the nothing reveals itself. As Heidegger describes it, anxiety is indeterminate; it is different from fear which he says is always fearful of something. Rather, in anxiety, being slips away from us: "anxiety leaves us hanging because it induces the slipping away of beings as a whole. This implies that we ourselves—we humans who are in being—in the midst of beings slip away from ourselves. … In the altogether unsettling experience of this hovering where there is nothing to hold onto, pure Da-sein is all that is still there."[14] But, in the end, do we find nothing? Or do we find the all?

In a vivid passage in Virginia Woolf's *To the Lighthouse*, we encounter the emptiness of a house, a home:

> So with the house empty and the doors locked and the mattresses rolled round, those stray airs, advance guards of great armies, blustered in, brushed bare boards, nibbled and fanned, met nothing in bedroom or drawing-room that wholly resisted them but only hangings that flapped, wood that creaked, the bare legs of tables, saucepans and china already furred, tarnished, cracked. What people had shed and left—a pair of shoes, a shooting cap, some faded skirts and coats in wardrobes—those alone kept the human shape and in the emptiness indicated how once they were filled and animated…[15]

Here we see the nothing as an active entity, it seems to swirl about the place, showing us what it is.[16] Even in its emptiness, an energetic presence inhabits this uninhabited home. It is strangely calm; for Heidegger, anxiety is "a kind of

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[13] Ibid., 105.
[14] Ibid., 101. Da-sein is hyphenated in original.
[15] Virginia Woolf, *To the Lighthouse* (Orlando, FL: Harcourt, 1981), 129.
[16] I am indebted to Dr. Elissa Marder's reading of this passage as it pertains to the "character" of the nothing that I encountered during her course "Primal Scenes: Literature, Psychoanalysis, and the Limits of the Human" that took place Spring 2012 at Emory University.

bewildered calm."[17] However, is this calm only possible because of our inner knowing of the all? Further on, Heidegger writes that "[i]n the clear night of the nothing of anxiety the original openness of beings as such arises: that they are beings—and not nothing."[18] It is only through this anxiety that I can begin to have an experience with being. The "concealed strangeness"[19] emerges and I seem to perceive my most familiar world around me as if for the first time. Heidegger claims Dasein's primordial constitution is "being held out into the nothing," but also that this experience of anxiety is rather rare; we are not living in this constant state, but it is always potentially there—anxiety "is only sleeping."[20] This is because we "lose" ourselves in our world, among our projects and everyday concerns. Dasein does not appear to have any control whatsoever about the awakening of this experience: "We are so finite that we cannot even bring ourselves originally before the nothing through our own decision and will."[21] There is something greater than me that brings me to my knees in this radical anxiety, forcing me to consider two options: accept that everything in this world is connected and meaningful or that everything is isolated, alone, without meaning. In other words, I can either choose to believe that spirit is everything or else it is nothing. Perhaps we have entered the realm of theology that does not necessarily look much like the version Heidegger describes.

In his article comparing and correlating Heidegger's *Lichtung*, or clearing, with the Dao, David Chai describes how Heidegger's nothingness is at odds with the

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[17] Heidegger, "What Is Metaphysics?," 102.
[18] Ibid., 103.
[19] Ibid.
[20] Ibid., 103, 104, 106.
[21] Ibid., 106.

Dao. He writes that nothingness "is the very cosmological fabric of reality, the plenum in and through which Dao exists and is experienced."[22] Vietnamese Zen Buddhist monk Thich Nhat Hanh writes in his book *Living Buddha, Living Christ* that "'[s]uchness' is a Buddhist term pointing to the true nature of things, or ultimate reality. It is the substance or ground of being, just as water is the substance of waves. Like the Buddha, we too have come from suchness, remain in suchness, and will return to suchness. We have come from nowhere and have nowhere to go."[23] "Suchness" makes an appearance in Plato's *Timaeus*, the centering text of this project. The dialogue's titled interlocutor Timaeus uses "suchness" to describe the being of the "elementals" of water and fire. Since these are always changing, we cannot say that something is either "this" or "that" because even in our naming or describing it, it can and will change. Timaeus argues that we must "characterize it … each time as 'what is such.'"[24] There is a sense of a constant cycle of impermanence. The only ground that we have to rest on is the impermanent nature of our world. In an Eastern perspective, this impermanence is grounded in the Tao, the underlying principle that weaves together all. In the *Huainanzi*, a sacred Chinese text of teachings of the Tao that is thought to be authored by many under the patronage of Liu An, wisdom of self-cultivation and The Way are described. One passage states that the

> Tao is at the origin of things. It penetrates the sky and the earth and extends beyond the four directions. It lets things be and does not control or

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[22] David Chai, "Nothingness and the Clearing: Heidegger, Daoism, and the Quest for Primal Clarity," *The Review of* Metaphysics, vol. 67, no. 3 (Mar 2014), 587.
[23] Thich Nhat Hahn, *Living Buddha, Living Christ*. 20th Anniversary Edition. New York: Riverhead Books, 2007, 41-42.
[24] Plato, *Timaeus*, 49d.

> manipulate them. If we understand the workings of the Tao, we will not try to change the natural way of things. We will know that if things are left to themselves, they will be in harmony with the Tao. This is not because the Tao has made them so but because the Tao lets them run their course.[25]

I have not necessarily set out to prove the existence of the Tao in these pages, but what I have set out to do is provide a new perspective on the ground of experience that takes into account an ethereal dimension.

This project seeks this ground, and does so by way of art that uses sound and electromagnetism. To listen to sound, which is always in relationship to silence, each constituting the other, is to become aware of impermanence. The tone fades into silence. Each note slips into the other. In his popular book *The Power of Now*, contemporary spiritual teacher Eckhart Tolle writes on the relationship amongst being, sound, and silence, writing:

> Every sound is born out of silence, dies back into silence, and during its life span is surrounded by silence. Silence enables the sound to be. It is an intrinsic but unmanifested part of every sound, every musical note, every song, every word. The Unmanifested is present in this world as silence. This is why it has been said that nothing in this world is so like God as silence. All you have to do is pay attention to it. Even during a conversation, become conscious of the gaps between words, the brief silent intervals between sentences. As you do that, the dimension of stillness grows within you. You cannot pay attention to silence without simultaneously becoming still within. Silence without, stillness within. You have entered the Unmanifested.[26]

For Tolle, the Unmanifested is Being, Source, and the way to realize Being is to be present, in the Now. This has nothing to do with intellectual understanding—using the mind to comprehend the concept of Being. Rather, it has everything to do with

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[25] Eva Wong, ed. and trans., *Being Taoist: Wisdom for Living a Balanced Life* (Boulder, CO: Shambhala Press, 2015), 33.
[26] Eckhart Tolle, *The Power of Now: A Guide to Spiritual Enlightenment* (Novato, CA: Namaste Publishing and New World Library, 2004), 136.

experiencing Being in the present moment, Now. Earlier in the book he gives an example to show how we are immersed in Being and therefore it escapes our intellectual understanding stating:

> "Water? What do you mean by that? I don't understand it." This is what a fish would say if it had a human mind.
>
> Please stop trying to understand Being. You have already had significant glimpses of Being, but the mind will always try to squeeze it into a little box and then put a label on it. It cannot be done. It cannot become an object of knowledge. In Being, subject and the object merge into one.[27]

For the fish, water is its environment, always present, and because it is always present, it forever is escaping its grasp. This is how it is with our environment, too. We are always already in a world, brimming with Being.

"*the ether swaddles me | you | us*: Becoming-Khora in Light, Sound, and Transmission Art" dives into new possibilities of experiencing Being and argues that certain artworks and art practices afford us this experience through encouraging us to tune in, which is a process of attuning, detuning, retuning. It is a project that reopens questions about epistemology and ontology, experience and knowledge, perception and objectivity. It is about how we can even understand anything at all. It is about what happens when we open our eyes in the morning, awake from our slumber. It is about how we experience our dreams. It is about what it means to step out into the world, converse with someone else, perhaps a stranger, perhaps an intimate friend. Overall, "*the ether swaddles me | you | us*" is about who and what we are, who and what the world is. It doesn't take for granted the usual stories we have been told and tell about ourselves and our universe. Rather, "*the ether swaddles me |*

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[27] Ibid., 107.

you | us" re-inhabits them in order to re-negotiate these bedtime stories. And, as dreams do, making worlds coexist and transform, bringing distant objects into contact with each other, this project transgresses boundaries that circumscribe disciplines, leading them into a state of play and experimentation together.

Centering on *khora*, the quizzical third term that arrives in the middle of Plato's dialogue *Timaeus*, this dissertation sets out to develop theoretical grounding for experiential, time-based art that makes use of light, sound, and the electromagnetic spectrum. I argue that by enlisting *khora*, the primordial receptacle, as a way of analyzing and looking at art, we are provided with a new way of understanding what the artists discussed in this dissertation are providing their viewers and listeners. Furthermore, by way of *khora* and these artists' works, we can re-examine ontological questions of being. From *khora* radiates a multiplicity of terms and concepts that seek to approach this most puzzling "entity": philosopher Martin Heidegger's *Lichtung*, psychiatrist Sigmund Freud's the *Unconscious*, psychoanalyst Wilfred Bion's *O*, theorist Julia Kristeva's *semiotic chora,* and feminist physicist Karen Barad's *agential realism*, among others. This project sketches out a map of these concepts, which also includes the Quantum Field, ether, and the electromagnetic spectrum.

Part of the work of the dissertation is to bring *khora* to bear on our everyday experience of the electromagnetic spectrum. Operating outside of the dialectic of being and becoming, material and immaterial, *khora* resists simple definition.[28] This

[28] Jacques Derrida, "Khōra," trans. Ian McLeod in *On the Name*, ed. Thomas Dutoit, trans. David Wood, John P. Leavey, Jr., Ian McLeod (Stanford: Stanford University Press, 1995).

is similarly true for the electromagnetic spectrum. It is the linchpin of physics, and often exceeds its own explanation: is it material or immaterial? Does the ether exist or not? Is it both/and? To be in the liminal space of existing both materially and immaterially compels me and the artists I discuss in the dissertation. In these times of global communications, something that is only possible to do via the electromagnetic spectrum, we can simultaneously be there and not there, or rather, here and there. We are reaching farther into space and discovering more about our external and internal universes, but, what is important to me is how we approach those knowledge-making practices and what we do with them. Do we see ourselves as God-figures, reaching into nature, extracting her secrets? Or, do we understand ourselves as part of nature, part of the third term complexity, trudging our way with her?

"*the ether swaddles me | you | us*: Becoming-Khora in Light, Sound, and Transmission Art" does not create a hierarchy between the different types of thinkers or makers and the types of knowledges produced by them. The artists, philosophers, scientists, and others who make appearances in the chapters and the work discussed are treated equally. As Heidegger claims in "What Is Metaphysics?," "[n]o particular way of treating objects of inquiry dominates the others."[29] All we need to do in our work is "relate ourselves to beings themselves"[30] with a certain kind of rigor.

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[29] Martin Heidegger, "What Is Metaphysics?," trans. David Farrell Krell, in *Basic Writings*, ed. David Farrell Krell (London: Harper, 2008), 94.
[30] Ibid.

Positioning

Since the purpose of this project is to show how light-, sound-, and radio-based installation art provides us with new perspectives on being and experience, I will sketch out the various definitions and discourses of Being that I am working within and alongside. The artworks that I analyze are generally immersive, meaning that the audience member physically enters them or experiences them as specific space-time configurations. In Frances Dyson's study on new media art practices, she develops a language for talking about the way in which these art practices use and create space, both real and virtual, as environments. She designates "immersion" as the "process or condition whereby the viewer becomes totally enveloped within and transformed by the 'virtual environment'."[31] What is meant by the virtual in this dissertation, however, is not necessarily constrained to the virtual image. Rather, taking the virtual as a physical concept that is yet immaterial, rather, intangible, these artworks pose important questions about the nature of perception and material existence. In order to talk about the experience and existence of these works, I turn in part to phenomenology and trace a brief genealogy of phenomenology, starting from Descartes' *cogito* and radical doubt. Phenomenology, being a discourse on consciousness and experience, provides me with the language to examine the particular openings into being that I argue light, sound, and transmission art provide us.

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[31] Frances Dyson, *Sounding New Media: Immersion and Embodiment in the Arts and Culture* (Berkeley and Los Angeles: University of California Press, 2009), 1.

René Descartes' 1641 *Meditations on First Philosophy* serves as a starting point, though is in no way a definitive beginning in the history of philosophy's interrogation of mind and matter. Rather, it is a touchstone for a specific history of Western philosophy that I am drawing upon. In his *Meditations*, Descartes states that in order to arrive at some sort of Truth, he must "raze everything to the ground and begin again from the original foundations."[32] First, he establishes that up until this point, everything he had thought to be true was arrived at through perception, the senses. But, he states that "the senses are sometimes deceptive" and so they should not be trusted as bearers of truth.[33] However, he is quick to say that it seems to be almost absurd to claim that his perception of himself that he gathers from his senses—that he is "sitting here next to the fire, wearing [his] winter dressing gown—is somehow untrue: "But on what grounds could one deny that these hands and this entire body are mine?"[34] He concedes that he "extend[s] [his] hand consciously and deliberately, and [he] feel[s] it."[35] But, he could be dreaming … so, these hands he experiences, exist immaterially in a dream-state; they are only "painted images," which for him, are based on "true things."[36] This brings him to ultimate doubt; he doubts everything: "I am forced to admit that there is nothing among the things I once believed to be true which it is not permissible to doubt."[37]

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[32] René Descartes, "Meditations on First Philosophy," trans. Donald Cress, in *Philosophical Essays and Correspondence*, ed. Roger Ariew (Indianapolis and Cambridge: Hackett Publishing Company, 2000), 104.
[33] Ibid., 105.
[34] Ibid.
[35] Ibid.
[36] Ibid.
[37] Ibid., 106.

And, to boot, not only must he doubt these things, but he must also conclude that these things may be the products of an "evil genius" who has set out to deceive, leading him to pronounce that: "Therefore I suppose that everything I see is false. I believe that none of what my deceitful memory represents ever existed. I have no senses whatever. Body, shape, extension, movement, and place are all chimeras."[38]

The problem that persistently reoccurs, though, is that if Descartes doubts everything that exists, how can he say with any certainty that he exists? Here, Descartes privileges the mind and claims that his existence is that of "a thinking thing."[39] But, what is this thinking thing? It is: "A "thing that doubts, understands, affirms, denies, wills, refuses, and that also imagines and senses."[40] This I, as the thinking thing, is consistent throughout, and is impervious to changing material conditions. Using the example of a piece of wax that is subject to heat and begins to melt, Descartes argues that even though the wax changes perceptually, it remains wax for us because the intellect perceives and understands the changing wax as remaining consistently wax.[41]

Descartes' denial of sensory experience and perception reinforced and ushered in the modern concept of the division between mind and matter, soul and body.[42]

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[38] Ibid., 108.
[39] Ibid., 109.
[40] Ibid., 110.
[41] This example of the changing wax has similarities to the way that khora and the products of khora are discussed in relation to shifting shapes of gold in *Timaeus*. See 50a-b and also how the demiurge molded us like wax farther on, 74c.
[42] For an interesting re-investment and re-examination of Descartes' thought and its impact on the feminist project, see Veit Erlmann, "Descartes's Resonant Subject," *differences: A Journal of Feminist Cultural Studies*, vol. 22, nos. 2 & 3 (2011): 10-30.

About a century and a half later, Edmund Husserl developed the intentional structure of consciousness, which, as opposed to Descartes' Cogito, claims that consciousness is always conscious of something; it does not exist on its own. Instead of doubting everything, the problem Husserl sought to resolve was the actual being of objects outside the bounds of internal experience, of psychology.[43] How and what are the objects of which I have consciousness? Do they exist only in the mind? Or, do they have an existence in and of themselves? For Husserl, psychology, or the study of psychical consciousness, is not sufficient for discovering the actual objects of the world. But, Husserl does not merely return to material existence as we are "normally" aware of it, as we are in the natural attitude he proposes. Rather, his method, of going to pure phenomena, requires a new attitude to consciousness and experience, which he designates as the "phenomenological reduction" or the *epoché*. As opposed to Descartes' radical doubt, the phenomenological reduction brackets the world instead of negating it. Husserl is "*not doubting its factual being*."[44] Rather, his project is a displacement of the natural attitude's foundation of experience.

For Husserl, what is important is the intentional structure of consciousness: I am always conscious of something, which I "seize upon" and pick out from a "halo of *background-intuitions*"; this is done within the stream of lived experience, the *Erlebnis*.[45] However, he notes in §37 that the "*intentional* Object of a consciousness (taken in the matter in which the intentional Object is the full correlate of a

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[43] Edmund Husserl, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy. Book I*, trans. F. Kersten (The Hague: Martinus Nijhoff Publishers, 1983).
[44] Ibid., 61.
[45] Ibid., 70, emphasis in original.

consciousness), by no means signifies the same as Object *seized upon*."[46] Though this intentional object exists within a horizon that is oriented around me, the object becomes a transcendental one and therefore not fully within reach. This, essentially, leaves a gap between the thing that I experience and a quasi-Kantian thing-in-itself, which for Heidegger, is not sufficient.

As Heidegger points out at the beginning of his 1927 *Being and Time*, philosophy has neglected the question of being because "being" is simultaneously "the most universal and the emptiest concept."[47] Because of this, "it resists every attempt at definition," and had been cast aside by philosophy.[48] However, we continue to use the concept every day. Everyone "already understands what is meant by it" even if we can't necessarily define it explicitly.[49] We have an intuitive and tacit knowledge of what "being" is. Even though we all "know" what being is, it does not mean that we should not fully interrogate its definition, its ontology. Rather, because "being" is universally understood, it is one of the most fundamental questions we need to tackle. This question, however, is not an obvious one, and is, in fact, the "most obscure of all."

In order to get at the fundamental question of being, Heidegger produces the term Dasein. Dasein refers to a being "that in its being this being is concerned *about* its very being": "Dasein always understands itself in terms of its existence, in terms

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[46] Ibid, 76.
[47] Martin Heidegger, *Being and Time*, trans. Joan Stambaugh and Dennis J. Schmidt (Albany, NY: State University of New York Press, 2010), 1.
[48] Ibid.
[49] Ibid.

of its possibility to be itself or not to be itself."[50] Dasein is its own possibilities whether authentic or inauthentic,[51] and it is always already a being-in-the-world. Not being separate from the world, Dasein is constituted by world, "being in a world belongs essentially to Dasein."[52] Indeed as Michael Wheeler points out in commentary on the subject, it would be a grave mistake to assume that Being is "some kind of higher-order being waiting to be discovered."[53] Dasein, carrying its "there" with it, is always already in, or thrown, in a situation, a project: "It [Dasein] is not an unattached self-projection, but its character is determined by thrownness, as a fact of the being that it is, and thus determined, it has always already been delivered over to existence, and remains so constantly."[54] This fundamental structure of Dasein, "being-in-the-world" [In-der-Welt-sein], is "primordially and constantly whole" and is a "unified phenomenon."[55] Dasein's being-in-the-world as unity means that world and Dasein are not separate. The "in" here does not necessarily refer to the usual prepositional relationship or locative description of something inside something else. The locative nature of "in" is not the being-in-the-world that is Dasein's being. Rather, the "in" is characterized by a "being-with." Dasein is its world. Dasein is not merely located in the world. As Maurice Merleau-Ponty writes in his posthumously published essay "The Intertwining—This Chiasm,"

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[50] Ibid., 11.
[51] Ibid., 43.
[52] Ibid., 12.
[53] Michael Wheeler, "Martin Heidegger," *The Stanford Encyclopedia of Philosophy* (Fall 2017 Edition), ed. Edward N. Zalta, https://plato.stanford.edu/archives/fall2017/entries/heidegger (accessed February 7, 2021).
[54] Heidegger, *Being and Time*, 265.
[55] Ibid., 39, 53.

"[w]e have to reject the age-old assumptions that put the body in the world and the seer in the body, or, conversely, the world and the body in the seer as in a box."[56] This is because "the limit between the body and the world" is not clear; it is fuzzy because the world is flesh.[57]

For Merleau-Ponty, the body is central to perception and therefore meaning. He writes that the body is "the vehicle of being in the world"; it is "the pivot."[58] For feminist and queer theorist Sara Ahmed, our perception of an object is always "a way of facing something."[59] It is perhaps the moodedness or attunement of Heidegger baked into Husserl's intentional structure of consciousness. Ahmed stresses the importance of our orientation towards an object, and how in our apprehension of it, we always bring to the table our "certain take" on it.[60] In other words, our perception is not neutral; it is always shaded by our embodied history. This is what is meant by apperception: I am co-constituted by this perception of objects; it is not a one-way street: "I … take a position upon them, *which in turn gives me a position*."[61] My certain being toward things in the world, which is not necessarily "a conscious act of interpretation or judgment," not only affects the way

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[56] Maurice Merleau-Ponty, *The Visible and the Invisible*, ed. Claude Lefort, trans. Alphonso Lingis (Evanston, IL: Northwestern University Press, 1968), 139.
[57] Ibid.
[58] Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Donald A. Landes (London and New York: Routledge, 2012), 84.
[59] Sara Ahmed, *Queer Phenomenology: Orientations, Objects, Others* (Durham, NC: Duke University Press, 2006), 27.
[60] Ibid.
[61] Ibid., 27-28.

in which I perceive any one thing, but also carries me along a path, a desire line, that orients me in the world.[62]

Critiquing Husserl's bracketing of the world, Ahmed discusses how the ability to bracket "confirm[s] the fantasy of a subject who is transcendent."[63] We are never apart from the world we are perceiving, and the objects that come into my perception are not really objects at all, they are things that have uses and meaning. For philosopher Maxine Sheets-Johnstone, what is primary is the body's movement through the world. For her, "moving is a way of knowing and … thinking in movement is foundational to the lives of animate forms."[64]

But, phenomenology is not without its criticisms, both from within and without. These criticisms, or perhaps sometimes revisions, address the assumed sovereignty of the phenomenological subject. This assumption of selfsame sovereignty can be found in the following passage from the "Preface" to Merleau-Ponty's *Phenomenology of Perception*, for example: "I am the absolute source. My existence does not come from my antecedents, nor from my physical and social surroundings; it moves out toward them and sustains them. For I am the only one

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[62] Ibid., 28.
[63] Ibid., 33.
[64] Maxine Sheets-Johnstone, *The Primacy of Movement* (Amsterdam and Philadelphia: John Benjamins Publishing Company), xvii. This prioritizing of movement can be found in the engagement of dance and dance studies with phenomenology. See, for example, Maxine Sheets-Johnstone, *The Phenomenology of Dance* (University of Wisconsin Press, 1966); Anna Pakes, "Phenomenology and Dance: Husserlian Meditations," *Dance Research Journal*, vol. 43, no. 2 (2011), 33-49; Sondra Fraleigh, "A Vulnerable Glance: Seeing Dance through Phenomenology," *Dance Research Journal*, vol. 23, no. 1 (1991), pp. and her earlier book, *Dance and the Lived Body: A Descriptive Aesthetics* (Pittsburgh: University of Pittsburgh Press, 1987); and Meredith Kooi, "Watching "Touch": Exploring Dance as a Possibility of Bodily Permeation and Posture," *Jahrbuch Literatur und Medizin*, vol. 6 (2014), 185-200.

who brings into being for myself."[65] This self-sovereignty comes into collision with various ideological apparatuses, however, which shape our embodied experience.[66] Frantz Fanon's phenomenological account of the Black experience makes clear how Black subjecthood is interpellated by the white, colonial other, and Hortense Spillers describes the split subjecthood of the Black woman—she is both body and flesh.[67] Iris Marion Young and Judith Butler show this for gender as well; our particular gendered embodiment is constrained by socialized habits.[68] In Kay Toombs' work, we find a phenomenological account of the disabled body who necessarily is always in relation to others, including the physician.[69]

For Derrida, the problem of phenomenology is not necessarily about its way of either eliding or addressing issues of race, gender, and etc., but rather that phenomenology is based on presence. What Derrida consistently seeks to show in his work is the impossibility of self-presence. He locates this fundamental problem of privileging presence within the phenomenon of language and the voice that

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[65] Merleau-Ponty, *Phenomenology of Perception*, lxxii.
[66] Louis Althusser, "Ideology and Ideological State Apparatuses: Notes Towards an Investigation," in *Lenin and Philosophy and Other Essays*, 121-176, trans. Ben Brewster (New York: Monthly Review Press, 1971). I would also add in here Michel Foucault's body of work, which traces the corporealization of bodies through institutions. For the purposes of focus and brevity, I take this position as given.
[67] Frantz Fanon, *Black Skin, White Masks*, trans. Richard Philcox (New York: Grove Press, 2008) and Hortense J. Spillers, "Mama's Baby, Papa's Maybe: An American Grammar Book," *Diacritics*, vol. 17, no. 2 (Summer 1987), 64-81.
[68] See Iris Marion Young, *On Female Body Experience: "Throwing Like a Girl" and Other Essays* (New York: Oxford University Press, 2005) and Judith Butler, "Performative Acts and Gender Constitution: An Essay in Phenomenology and Feminist Theory," *Theatre Journal*, vol. 40, no. 4 (Dec 1988), 519-531.
[69] See Kay Toombs, *The Meaning of Illness: A Phenomenological Account of the Different Perspectives of Physician and Patient* (Boston: Kluwer Academic Publishers, 1992).

speaks, the breath of the living voice, "the spirituality of the breath as *phone*."[70] He argues that the "phenomenological voice would be this spiritual flesh which continues to speak and to be present to itself—*to hear itself*—in the absence of the world."[71] This voice is disturbed, however, by writing, or, more generally representation in the face of absence. It is from this ground of writing as trace that Derrida deconstructs the phenomenological subject's self-presence and self-consciousness:

> in order to assert an essential link between the *logos* and the *phonē*, since the privilege of consciousness (about which Husserl fundamentally never wondered *what consciousness is*, despite all the admirable, interminable, and in many regards revolutionary meditations that he devoted to it) is only the possibility of the living voice. Since self-consciousness appears only in its relation to an object whose presence it can keep watch over and repeat, self-consciousness is never perfectly foreign or prior to the possibility of language.[72]

In his examination of J.L. Austin's chapter "Performative Utterances" in his text *How To Do Things With Words*, a text that appears often in work on phenomenology and performance, Derrida's "Signature Event Context" deconstructs the very notion of communication. Driven by his positing of the "absence of the addressee," he secures the spoken as subsidiary to an originary writing.[73] In a brief section "The Exorbitant. Question of Method" in the chapter "… That Dangerous Supplement …" in his book *Of Grammatology*, Derrida shows that language has always already been writing: "there has never been anything but writing; there have

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[70] Jacques Derrida, *Voice and Phenomenon: Introduction to the Problem of the Sign in Husserl's Phenomenology*, trans. Leonard Lawlor (Evanston, IL: Northwestern University Press, 2011), 9.
[71] Ibid., 14.
[72] Ibid., 13.
[73] Jacques Derrida, "Signature Event Context," in *Margins of Philosophy*, trans. Alan Bass (Chicago: The University of Chicago Press, 1982).

never been anything but supplements, substitutive significations which could only come forth in a chain of differential references, the "real" supervening, and being added only while taking on meaning from a trace and from an invocation of the supplement."[74] In other words, what he is saying is that language itself has never been anything but a system of substitutes; when we look up a word in the dictionary, we encounter other words, never the actual thing as existing in the world. This formulation of language unseats the metaphysical/phenomenological phonē, installing an absence in both the speaking subject and within the world as we experience it. Absence constitutes presence.

But, this dissertation is not based on absence; rather, it is re-invests in presence to examine it anew. Derrida's formulation usefully helps us identify the complexity of our experience of the world and what we do to understand it, but it seems to keep us in a trap that pits us against the world. Part of what this project seeks to do is recover this very absence in the im/material presence of Being. Though spirit or ether or the electromagnetic spectrum may seem perceptibly absent, they are always near, *potentially perceptually present*. The trace of the spiritual is always, each time, shaping our present-day actions, perceptions, feelings, and understandings.

Thich Nhat Hahn writes that "[t]o be in touch with the reality of the world means to be in touch with everything that is around us in the animal, vegetable, and

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[74] Jacques Derrida, *Of Grammatology*, trans. Gayatri Chakravorty Spivak (Baltimore: The Johns Hopkins Press, 1976), 159.

mineral realms"[75] and that "for one thing to exist, everything else also needs to exist."[76] During the Vietnam War, Thich Nhat Hahn founded the Order of Interbeing (*Tiep Hien*) to practice this "being in touch with."[77] Seeing Buddhist practice as not just a vertical transcendence but also a horizontal engagement with the world, the Order of Interbeing emphasizes the need to engage with the world, not just think about it: "Ideas about understanding and compassion are not understanding and compassion. Understanding and compassion must be real in our lives. They must be seen and touched."[78] The Order's Charter outlines four principles that form the foundation of the Order including Principle 2 that "Direct practice-realization, not intellectual research, brings about insight. Our own life is the instrument through which we experiment with truth."[79]

Embodied Arrivals

So, once the souls were of necessity implanted in bodies, and these bodies had things coming to them and leaving them, the first innate capacity they would of necessity come to have would be sense perception, which arises out of forceful disturbances. This they all would have. The second would be love, mingled with pleasure and pain. And they would come to have fear and spiritedness as well, plus whatever goes with having these emotions, as well as all their natural opposites. And if they could master these emotions, their lives would be just, whereas if they were mastered by them, they would be unjust. And if a person lived a good life throughout the due course of his time, he would at the end return to his dwelling place in his companion star, to live a life of happiness that agreed with his character.

—Plato[80]

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[75] Thich Nhat Hahn, *Interbeing: Fourteen Guidelines for Engaged Buddhism* (New Delhi: Full Circle, 2000), 3.
[76] Ibid., 35.
[77] Ibid., 4.
[78] Ibid., 5.
[79] Ibid., 8.
[80] Plato, *Timaeus*, 42a-b.

This dissertation is fundamentally embodied and is shot through with a desire to recover a sense of wholeness in the face of fracture and trauma. Though it tackles questions that on the surface may appear highly metaphysical, transcendental, and/or immaterial, the project continuously returns to concrete, lived experience of real, phenomenological bodies. There is no getting around the fact that these words, written on the page, read by a potential reader, perhaps you, are embodied bodies, persons. Real, living, or perhaps had been living, persons. My own experience has demanded my attention, and this dissertation is one way of responding.

Narrative 1

I am marked, physically and psychologically, by autoimmunity. When I was five years old, I contracted scleroderma. I do not have memory of this. All I do know is that over the course of six months, my left arm, finger tips to shoulder blade, transformed; instead of smooth, pinkish skin, it became spotty and discolored, hardened. A similar patch formed on my abdomen. These body parts, became sensitive, painful, cramped often. They began to atrophy. The elbow bone protruding. No one ever explained to me what had happened, but my physical health was monitored bi-annually by a family friend who happened to be a rheumatologist. I was told at some point something about juvenile rheumatoid arthritis. I don't remember my treatment. What I do have scattered recollections of is pain.

Almost twenty years after developing scleroderma, autoimmunity crashed into my life again. This time, full body arthritis, chest pain, shortness of breath,

numb and white fingers and toes, extreme fatigue, lack of appetite, and a fever. I scoured my mind for explanations. I remembered something about rheumatoid arthritis. This must be it. I returned to the family doctor. My case was not clear cut; she referred me to another physician. Two were investigating my condition. Over the course of the next few years, I was in diagnostic limbo. My physician at the time, assuring me that it was for the best in terms of insurance (this was before the protections for folks with pre-existing conditions was legislated), left me with Undifferentiated Connective Tissue Disease. Later, I was officially diagnosed with Systemic Lupus Erythematosus, SLE or lupus for short. Like scleroderma, lupus is an autoimmune disease. Autoimmune diseases are characterized by one's own immune system reacting to its own tissues as if they were foreign pathogens. This means that my body produces antibodies that fight itself, different tissues including my heart, DNA, and phospholipids.

In the literature, autoimmune diseases signified a crisis of the self. Back in the 1950s and 60s, women with rheumatoid arthritis were told that they acquired the disease because they attempted to exceed their role as mother-wife.[81] Other explanations offered autoimmunity as what happens when someone never learned

[81] See for example Mary Felstiner, *Out of Joint: A Private & Public Story of Arthritis* (Lincoln, NE and London: University of Nebraska Press, 2005).

how to recognize friend from foe.[82] Ultimately, the blame lay with the patient; a fractured subject.[83]

When I was first going through my first lupus flare[84], I was told that I would need to change my life. I shouldn't go to graduate school which was starting in the fall, just six months after I first went into the hospital. I was told that I would no longer be able to do the things I liked to do. I was told I shouldn't do this, or shouldn't do that. These conversations ended in panic attacks, a general uncontrollable and uncontainable physical, emotional, and mental response. Ultimately, I decided that I would go to graduate school, and while there at the School of the Art Institute of Chicago, I studied autoimmunity as a physical, psychological, social, and philosophical condition. I investigated what it meant to describe the disorder in terms of self-misrecognition and self against self instead of against non-self or other (Other). I spent two years on that project. It was what brought me to Emory and into The Graduate Institute of the Liberal Arts. However, at some point, everything became stagnant. It was no longer satisfying, neither intellectually nor personally, to keep going with the dialectic. This or that no longer seemed to get at the existential condition I was trying to address. Even though my experience of lupus is concrete—I concretely feel pain, my blood labs come back

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[82] G. Maté, "Why does the body sometimes declare war on itself?", *Toronto Globe and Mail* (June 14, 1993), 16 quoted in Emily Martin, *Flexible Bodies: Tracking Immunity in American Culture From the Days of Polio to the Age of AIDS* (Boston: Beacon Press, 1994), 271.
[83] I addressed these questions thoroughly in my 2011 Master's Thesis at the School of the Art Institute of Chicago titled "The Misfit Mime Mimes Self: New Metaphors for Autoimmunity."
[84] Generally autoimmune diseases are described as vacillating between flares, meaning disease activity, and remission.

with certain results—it is also marked by ambiguity. My experience of my own body had to be validated by an outside Other. The space between my body and its other, my body and its self, opened. A chasm. An entity that was neither this nor that. Something material yet immaterial. Physical yet psychological. Knowable but simultaneously deeply unknown.

My compulsion to deconstruct the myths and narratives used to explain my own body brought me to ever increasing abstract places. My work began to shift away from the "explicit body in performance"[85] to more performative gestures, not reliant upon the image or appearance of the body. Instead of producing representations of the body, I sought to create atmospheres in which the body's condition could be experienced more viscerally. This kind of work required different considerations of how the image functioned within specific spaces and the role the other senses played. A sort of subtlety is needed to create atmospheres that I considered to be autoimmune. These spaces had to be somehow in-between being this or that; they needed to carry within them their own ambiguity, straddling the boundaries of materiality.

In using sound and radio, growing more abstract and leaving the realm of materiality, I found a way to address the inherent strangeness of autoimmunity. This strangeness is not special to autoimmunity. Rather, it pervades all existence. As with wave-particle duality, you can never say definitively that light is either a particle or a wave. It is both and.

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[85] Rebecca Schneider, *The Explicit Body in Performance* (London and New York: Routledge, 1997).

Narrative 2

I am marked my trauma. I took my first shot of alcohol when I was twelve years old. Right down the hatch. At the very moment it went down the gullet, I knew something had changed in me. I took it stoically. My friend even made a comment about it. Soon after, I was chasing alcohol. Always trying to find it. Next, drugs. Always looking for a way to escape my life, my reality. I couldn't deal with life on life's terms. I believed the lot I was thrown was not fair. My childhood was unfair. I looked for an escape route. I was a young teen depressive with suicidal ideation developing alcoholism and addiction. A misfit with low self-esteem who had no idea who I was or who I was meant to be, a being without purpose. A youngling without direction. A child surviving trauma that seemed without end. A kid who developed maladaptive coping skills that would not serve me in the long run.

Finally, in February 2019 my life became too much and I finally gave up, checking myself into a residential treatment facility followed up by eight weeks of Intensive Outpatient Treatment. During that time, I discovered that somehow I had managed to survive three decades of untreated complex PTSD, coupled with two decades of substance abuse disorder and multiple diagnoses of various mental illnesses. I learned that some of the root causes of my problems have been my inability to create a coherent identity for myself and that my position was the Invisible One in my family system. In other words, many of the reasons I have been feeling so much pain for so long is because I have felt unseen and unheard without ever really knowing who I am. I have never felt truly embraced. My Self was never whole.

Whether I consciously knew it or not, the artwork that I have been creating over the past decade or so has tried to redress this pain. Retroactively, I can see all the connections now. The artworks of others that I love allow me to experience either being held, seen, or heard. The philosophies that inspire me teach me about what it means to be a Being. In a sense, what is at stake in this dissertation is my very ownmost Being. I study seeing because I have always wanted to be seen. I study listening because I have always wanted to be heard. I theorize the im/material embrace because I have always wanted to be held. I study that which connects us because I have always wanted to feel connected. I research phenomena that are difficult to understand because I feel that I have always been misunderstood.

Today, in pursuing the path of returning home to myself, the questions I have been pondering in my studio and theoretical practices come into clarity. My thoughts on the relationship of autoimmunity, selfhood, and disturbances in the body now correspond more to holistic models of disease that correlate experiences of trauma with shifts in the body's energies, which can result in illness. This model describes illness as the body's way of communicating that something must be addressed in consciousness.[86] There is nothing inherently wrong with my body—it is just trying to talk to me. My body is in communication with spirit; there are signs all around me that point the way—I am no longer floating in a void alone and afraid. From this vantage, I weave together artists, disciplines, theories, and concepts to understand the valence of my own desires, the web of my own interests.

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[86] See Christiane Northrup, *Women's Bodies, Women's Wisdom: Creating Physical and Emotional Health and Healing*, Revised Edition (New York: Bantam, 2002) and Caroline Myss, *Anatomy of the Spirit: The Seven Stages of Power and Healing*, Special Anniversary Edition (New York: Harmony, 2017).

Even though I have always felt outside the self and non-self, it is not terrifying anymore. I can rest in this space that is beyond comprehension; I can rest in *khora*.

The Maternal Embrace: *Khora*

Khora [χώρα], in its resistance to concrete definition, provides a way to get at the ambiguous, the not clear-cut, something that aligns more closely with my embodied experience and the artworks I analyze here. It is itself only arrived at through "bastard reasoning,"[87] a way outside Socrates' own usual method of knowledge production. Emerging in the middle of Plato's *Timaeus*, *khora* arrives, threatening to unseat neat rational argument. In philosopher Georges Didi-Huberman's essay "The Fable of the Place" in the exhibition catalogue for *James Turrell: the other horizon*, he writes that "Plato did not fear to demand that the place should shatter his own way of thinking, and this could form a model for us today—leaving shattered before each work the modes of thinking that was ours just before having laid our eyes upon it."[88] What happens when we heed this call of encouragement to challenge our thinking and belief systems at every step with curiosity, care, and compassion?

In the dissertation I provide multiple readings and interpretations of *khora* as they appear in the thought of Jacques Derrida, Jonathan Sallis, Julia Kristeva, and Luce Irigaray to provide a holistic rendering of *khora*'s potentials. Further, I

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[87] Plato, *Timaeus*, 52b.
[88] Georges Didi-Huberman, "The Fable of the Place," in *James Turrell: the other horizon,* ed. Peter Noever (Ostfildern-Ruit: Cantz Verlag, 1999), 54.

contribute other concepts that I believe have an affinity to *khora*, even if not explicitly spoken. These include psychoanalyst and painter Bracha Ettinger's Matrix, Wilfred Bion's *O*, and Heidegger's *Lichtung*. I argue that turning towards *khora* forces us to think differently about the immanent, transcendental, and metaphysical. Because *khora* refuses to be circumscribed, to engage it means to shift our conceptions about what it means to be and become. The certainty of a clearly delineated ground dissipates beneath our feet. Instead, as Heidegger claims, the ground is a nullity; there is an existential "not-ness" in the being of Dasein.[89] However, as I will also show, this not-ness may in fact be an ever-present, amorphous energy that perhaps is beyond intellectual conceptualization. This project is driven by the definite and corporeal experience of this energy. Because this project starts from being-in-the-world which "is from the beginning geared to interpreting, opining, being certain, and having faith, a kind of behavior which is in itself always already a founded mode of being-in-the-world,"[90] it seeks to understand these experiences and elucidate them and their significance to the reader.

Ether: Is everything connected? What world is this?

This dissertation considers the world as one that "ripples and sways." It is not static. Moreover, this is a world wherein there is an "irreducible incompleteness

[89] Heidegger, *Being and Time*, 273.
[90] Ibid., 198.

of knowledge as classically understood."[91] This is a project that comes out of the claims about epistemology that Heisenberg made with his uncertainty principle and those about ontology that Bohr made with his complementarity principle. Heisenberg's uncertainty principle states that we cannot know a particle's momentum and location at the same time, while Bohr's complementarity principle states that nature displays "features that are mutually exclusive but equally necessary for a comprehensive, *complete*, description and analysis."[92]

In a 2008 interview about his then newly published book *The Lightness of Being: Mass, Ether, and the Unification of Forces*, Nobel Prize winning physicist Frank Wilczek describes the term he put forward to illustrate the underlying structure of the universe, the Grid: "The Grid is my term for what we normally perceive as empty space. It's a medium in many senses. It has spontaneous activity. It also has a constant material component, and this is one of the constant material components in the field."[93] Further, when asked how people react to this concept, he states that "[s]ome people get very excited because they really resonate with the idea that we live inside a medium that we're all connected."[94] This sounds very much like the ether of yesteryear.

Throughout time, humans have devised a multitude of narratives to describe the origin and nature of the universe. Different interpretations have different

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[91] Arkady Plotnitsky, *Complementarity: Anti-Epistemology after Bohr and Derrida* (Durham and London: Duke University Press, 1994), 5.
[92] Ibid.
[93] Alan Boyle, "The Grid we live in," *NBC News* (Sept 24, 2008), https://www.nbcnews.com/science/cosmic-log/grid-we-live-flna6C10404730 (accessed February 7, 2021).
[94] Ibid.

starting points and ways of explaining how the beings and objects that inhabit our world either are or aren't connected to each other. Some accounts take up the relationship between what is seen and unseen, existence and essence, ways of attempting to understand what it means to live (and die) in a world. One of the concepts that appears throughout philosophy is of a connecting substance that provides a continuous universe, the one that we perceive as a lived stream of experience. This concept appears in different terminologies throughout Western philosophy and Eastern mysticism, and emerging as *ether*, it provided a physical explanation for how the world as we know it came to be experienced as it is. Today, *ether* evokes a more poetic vision, an ethereal plane. Or, the word is used to describe the intangible world of radio and telecommunications more broadly. Regardless of its usage, *ether* serves as the connecting medium between people, technologies, realms, and matter. This project considers *ether* in its multiple meanings and positions, but it more specifically seeks to bring to light the relationship between intuitive and experimental knowledge. In a sense, this project attempts to deal with existence: are we connected, part of something whole? Or are we floating in space, lost, alone?

This dissertation engages science and scientific thinking to fully flesh out the thought processes, material configurations, and perceptual experiences of the artworks and philosophies I discuss. The role science, namely physics, plays in this discussion is not meant to be a privileged one. The relationship of science to philosophy, the entanglement of matter and meaning, physics and metaphysics, is not cut and dried. Rather, I aim to show that different modes and methods of

engaging our world are enhanced and rendered more clear when combined, reflected, and diffracted with, in, against, and through others. This way of engaging science, the practice of science, and scientific knowledge is indebted to feminist science and technology studies and its argument that science is not necessarily this immense omnipotent, rational, and objective truth. Instead, scientific knowledge is generated from specific situations wherein particular bodies, agents, and material apparatuses are always already entwined. Though I focus here more specifically on physics, my approach has developed from a sustained engagement with other investigations into epistemology and ontology that span other disciplines and fields of study including dance, performance studies, and social theory.

According to one interpretation, matter is only the specific result of the excitation of fundamental forces; everything is wavy, nothing is particular. In a lecture by physicist David Tong, he describes how the fundamental building blocks of our universe are really more akin to "fluid-like substances."[95] These are fields that ripple and sway; they are not static. In the lecture, he lays out twelve matter fields and four forces fields and states that there is a "harmonious dance" amongst and between them.[96] In this theory, particles are understood to be bundles of specific excitations of these waves.[97]

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[95] David Tong, "Quantum Fields: The Real Building Blocks of the Universe," The Royal Institution," https://www.youtube.com/watch?v=zNVQfWC_evg (accessed October 21, 2019), 9min 55sec.
[96] Ibid., 37min.
[97] Nick Huggett, "Philosophical Foundations of Quantum Field Theory," *The British Journal for the Philosophy of Science*, vol. 51 (2000), 624.

Comparing contemporary physics to Eastern mysticism's world views in *The Tao of Physics: An Exploration of the Parallels Between Modern Physics and Eastern Mysticism*, Frijof Capra writes that

> [i]n the Eastern view, then, the division of nature into separate objects is not fundamental and any such objects have a fluid and ever-changing character. The Eastern world view is therefore intrinsically dynamic and contains time and change as essential features. The cosmos is seen as one inseparable reality—forever in motion, alive, organic; spiritual and material at the same time.[98]

For example, in Buddhism, the two concepts of *sunyata*—emptiness, void, developed by Nagarjuna of the Mahayana tradition—and *tathata*—suchness, thusness, developed by Ashvaghosha, also of the Mahayana tradition—may help us to understand the paradoxical nature of *khora* and the ways in which the elements appear. Capra links these two concepts to describe the ways in which the universe is one ultimate reality, yet appears to consciousness as individual entities.[99] Through meditating on the concept of interbeing, we come to see the truth of this. During a Dharma talk titled "Touching Vitality, Touching Life," Brother Pháp Linh at Plum Village, a monastery founded by Thich Nhat Hahn, gives the example of a vortex in a stream. This vortex may appear to us as a discrete entity, but in fact it is made up of the water flowing in the stream and so the water it is "comprised of" is never the same. He asks, so how can we say the vortex is?[100]

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[98] Fritjof Capra, *The Tao of Physics: An Exploration of the Parallels Between Modern Physics and Eastern Mysticism* (Boulder, CO: Shambhala Publications, 1975), 24.
[99] Ibid., 97.
[100] Brother Pháp Linh, "Touching Vitality, Touching Life," (Dharma talk, Plum Village, Loubès-Bernac, France, January 30, 2021).

Capra further explains that in Western ideology, the world is seen as having an outside divine ruler that "directs the movement of the bodies," whereas Eastern thought focuses on internal mechanisms.[101] This external divine ruler, as we could say about the Demiurge in *Timaeus*, emerged through centuries of thought developments and splits in which Capra places the origin with the Greek sixth century BC opposition between Heraclitus and Parmenides. He describes how Heraclitus proposed a world of eternal Becoming which was perpetually changing, while Parmenides proposed an eternal, unique, and invariable Being, wherein change was impossible.[102]

Fifth century BC Greek thought overcame this opposition with the atom of Leucippus and Democritus, resolving the problem of spirit and matter. Capra argues that since this apparent resolution, philosophy turned away from the problem of matter and turned to other concerns including ethics, and additionally codified Aristotle's system of knowledge about the natural world until the Renaissance. It was then that we had the application of mathematics to experimental data and empirical knowledge, birthing modern science.

In 1637, Descartes published his famous words *Cogito ergo sum*, claiming "I think therefore I am," thus reifying an extreme dualism that pits *res cogitans* (mind) against *res extensa* (matter). Within this worldview, Isaac Newton developed classical physics. Capra states that

> [f]rom the second half of the seventeenth to the end of the nineteenth century, the mechanistic Newtonian model of the universe dominated all scientific thought. It was paralleled by the image of a monarchical God who

[101] Capra, *The Tao of Physics*, 24-5.
[102] Ibid. 20-21.

> ruled the world from above by imposing his divine law on it. The fundamental laws of nature searched for by the scientists were thus seen as the laws of God, invariable and eternal, to which the world was subjected.[103]

However, with contemporary physics, this model has changed and is continuously changing. According to Capra, there has been a return to a more fundamental unity, which can be found in Quantum Field Theory, the Cosmic Microwave Background which is electromagnetism, and throughout Karen Barad's theories of entanglement, intra-action, and agential realism.

According to nuclear physicist Lawrence Fagg, electromagnetism is the all-pervasive force that provides us access to God's immanence:

> The entire universe is bathed in this very low-energy electromagnetic radiation, which is electromagnetism's *first*, and still extant, imprint on the cosmos. Thus, the CMB from a modern viewpoint might arguably be considered as holding a provocative relation, metaphorical or otherwise, to what is described in Genesis 1:3: "'Let there be light,' and there was light."[104]

Fagg is also concerned with that which is invisible and inaccessible to the senses; what is there "between" what we experience as material. He states that

> [i]n fact, the great majority of space occupied by all earthly objects is impregnated with an astronomical number of such essentially nonmaterial phenomena in a constant flurry of activity. All things that appear to be solid or liquid or to have substance consist principally of this vibrant space … Hence, we and all apparently material earthly objects are a part of a vast ocean of essentially nonmaterial space energized by an innumerable multitude of virtual electrodynamic phenomena.[105]

The seas swallow us.

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[103] Ibid., 22.
[104] Lawrence Fagg, *Electromagnetism and the Sacred: At the Frontier of Spirit and Matter* (New York: Continuum, 1999), 124.
[105] Ibid., 54.

And, what of space? In the narrative that Carlo Rovelli presents in his book *Reality Is Not What It Seems: The Journey to Quantum Gravity*, the millennia old question arises: "What *is* space?"[106] To our everyday experience, this question is absurd. We exist in space. We inhabit space. Space is the volume of our apartment. Space is outer space. It is the distance between me and you. According to Democritus and Newton, space "had to be a large, empty container, a rigid box for the universe."[107] This corresponds to our everyday understanding of space. The trouble we come to is how to categorize empty space: is it something or nothing? Can it somehow be in between these two poles? Einstein's 1915 Theory of General Relativity inquired into the what of space, positing the existence of a gravitational field, which is space itself. This gravitational field is like the undulating and fluctuating electromagnetic field: "It is a real entity that undulates, fluctuates, bends, and contorts."[108]

Approaching Unconscious Desires

The Unconscious plays a large role in this dissertation, and is at play throughout the works that I engage here. For James Turrell and Pauline Oliveros, many of their projects and investigations are fueled by dreams or produce spaces of dream-states for their audiences. For Tetsuo Kogawa, Anna Friz, and Sally McIntyre, the focus is on communication with others or a longing to connect. These artists'

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[106] Carlo Rovelli, *Reality Is Not What It Seems: The Journey to Quantum Gravity*, trans. Simon Carnell and Erica Segre (New York: Riverhead Books, 2017), 79.
[107] Ibid., 79.
[108] Ibid., 82.

works allow their audiences to tap into what is held in their unconscious, that which we hold down, cast away. In experiencing works of art, or in making art ourselves, we are able to reach into these caverns and pull up the things we previously thought we could not. Wilfred Bion's concept of *O*, the radically unknowable, comes through as it is transformed in the working through of the analysand with the analyst, or the of the artist with the work, or the artwork with the listener/viewer. What is key to *O* is the process by which it reveals itself and is experienced.

Feminism

"*the ether swaddles me | you | us*" can trace its commitments to one of feminism's early tenets: the personal is political. This statement, in its simplest interpretation, connects the individual subject to a larger social context. The voice on the radio always states her name and where she is broadcasting from, seeking out listeners to whom she can connect. Furthermore, this dissertation argues for the validity of intuitive and experiential knowledge. Whatever happens on a micro level is never divorced from the macro. However, what we have learned from feminism's own critique of this statement is that what we consider "the personal" is itself unstable and subject to a myriad of forces; the positioning of "the personal" is a nexus point that slides around on a spectrum of identifications and contexts, which includes gender, race, class, ability, nationality, etc. Woman as a universal concept no longer holds up in the face of lived reality.

This project's approach is deeply rooted in critical theory, science studies, feminist theory, and feminist science studies in that it is unsatisfied with the status

quo and desires to transgress the boundaries of (phal)logocentrism which delimits knowledge, or, rather, certain types and/or objects of knowledge.[109] One important contribution that feminist theory has made that this dissertation takes seriously is that one's position in the world matters, and that that particular position comes to produce certain knowledge. My embodiment as a woman shapes the way in which I navigate the world and understand it. However, it is not only my gendered identity that shapes this; my race and class are also integral to my embodiment, along with many other factors. My experience as a white woman is different from the experience of a woman of color. Intersectional feminism shows us how the confluence of gender, race, class, ability, nationality, and etc. produce specific identities and positions.[110]

Some have argued that these individual worldviews produce the world as a highly fractured one wherein there are multiple truths and "[g]ender, race, the world itself – all seem just effects of warp speeds in the play of signifiers in a cosmic force

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[109] Fundamental to the orientation of my enquiry are various theories of the (social) construction of knowledge and knowledge-making practices including that of Ludwik Fleck, Thomas Kuhn, and Michael Polanyi. See Ludwik Fleck, *Genesis and Development of a Scientific Fact*, ed. Thaddeus J. Trenn and Robert K. Merton, trans. Fred Bradley and Thaddeus J. Trenn (Chicago and London: The University of Chicago Press, 1979); Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 50th Anniversary Edition (Chicago and London: The University of Chicago Press, 2012); and Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago and London: The University of Chicago Press, 1962).

[110] See for example Kimberlé Crenshaw, "Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory, and Antiracist Politics," *University of Chicago Legal Forum* (1989): 139-67 and Patricia Hill Collins, *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment*, 2nd edition (New York: Routledge, 2000).

field."[111] In light of the drama of the Sokal Papers[112] and the cutting criticisms of poststructuralism and postmodernism as unwieldy theories unrooted from any world we might understand as real, Donna Haraway introduced feminist objectivity, or "situated knowledge," to address the "epistemological electro-shock therapy, which far from ushering us into the high stakes tables of the game of contesting public truths, lays us out on the table with self-induced multiple personality disorder."[113] In her essay "Situated Knowledges," Haraway writes that "[s]ituated knowledges require that the object of knowledge be pictured as an actor and agent, not a screen or a ground or a resource, never finally as a slave to the master that closes off the dialectic in his unique agency and authorship of "objective" knowledge."[114] This means that when I study nature, I do not extract something from

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[111] Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," in *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York and London: Routledge, 1991), 184.

[112] The Sokal Affair that I am referring to here took place in 1996 when physicist Alan Sokal submitted his paper "Transgressing the Boundaries: Toward a Transformative Hermeneutic of Quantum Gravity" and was published in the appropriately titled issue "Science Wars" in the journal *Social Text*, an important journal for the field of cultural studies. Using theories derived from poststructuralist and postmodern analysis, Sokal argued for the instability and relativity of the field of gravity. Sokal, unbeknownst to the editors of the journal, meant this as satire. Sokal believed that through his satirical take on the deconstruction of science would show that the theoretical concerns of cultural studies was not based on evidence or logic. However, what we have seen in recent physics is this very relativity, which Sokal denounced. For more, Alan D. Sokal, "Transgressing the Boundaries: Toward a Transformative Hermeneutic of Quantum Gravity," *Social Text*, no. 46/47 (Spring–Summer 1996), 217-252; John Caputo's chapter "*Khôra*: Being Serious with Plato" in his book *Deconstruction in a Nutshell: A Conversation with Jacques Derrida* (New York: Fordham University Press, 1997), 71-105; Christine Froula's article "Quantum Physics/Post-modern Metaphysics: The Nature of Jacques Derrida," *Western Humanities Review*, vol. 39 (1985), 287-313; Cathryn Carson's article "Who Wants a Postmodern Physics?," *Science in Context*, vol. 8, no. 4 (Winter 1995), 635-655; and Mara Beller, "The Sokal Hoax: At Whom Are We Laughing?" *Physics Today*, vol. 51, no. 9 (1998), 29-34.

[113] Haraway, "Situated Knowledges," 186.

[114] Ibid., 198.

nature as if she were a passive object. Rather, the knowledge produced is a collaboration between me and nature, both actors playing a role. For Haraway, situated knowledge is one redress to the problem of

> how to have simultaneously an account of radical historical contingency for all knowledge claims and knowing subjects, a critical practice for recognizing our own "semiotic technologies" for making meanings, and a no-nonsense commitment to faithful accounts of a "real" world, one that can be partially shared and friendly to earth-wide projects of finite freedom, adequate material abundance, modest meaning in suffering, and limited happiness.[115]

Situated knowledge recognizes objectivity to be "about particular and specific embodiment,"[116] yet this particularity is not set loose from its grounding as a play of signifiers and radical relativism as poststructuralism might have it (or, at least how poststructuralism has been criticized). Rather, situated knowledge is both partial and "locatable," allowing for "webbed connections" and "shared conversations."[117] This partiality is dependent upon the split subject, one that is both/and/or multiplicities simultaneously. Moreover, it is the specific positioning of this split subject that contributes to the partial knowledge produced. Added to this complex of "location, positioning, and situating,"[118] is the never passive nor inert "object" that we are examining, analyzing, discovering. The object is a material-semiotic actor; it is not raw material of nature nor is it a hidden object waiting for the scientist to discover it as pre-existing and pre-determined.

Expanding upon situated knowledges, Karen Barad develops the concept of *agential realism* in her book *Meeting the Universe Halfway: The Entanglement of*

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[115] Ibid.,, 187.
[116] Ibid., 190.
[117] Ibid.
[118] Ibid., 195.

Matter and Meaning to address this problem of the object of which Haraway speaks. In a sense, it is akin to the concept of the material-semiotic actor. According to agential realism, any phenomenon that we are observing or studying is not just shot through with our own preconceived ideas and our particular embodiment, but the phenomenon itself is an agent coming into being through its relationship with the world, everything that is co-existing. What Barad takes to task is how "language and culture [have been] granted their own agency and historicity while matter [has been] figured as passive and immutable."[119] "*the ether swaddles me | you | us*" engages this complexity of the materiality of the world by focusing on a phenomenon that is largely immaterial: the electromagnetic spectrum.

As Heidegger does, Barad prioritizes phenomena over objects, stating that "[p]henomena are constitutive of reality. Reality is composed not of things-in-themselves or things-beyond-phenomena but of things-in-phenomena."[120] Further, as Haraway argues, these phenomena come to be known through specific material-discursive practices that are performative. In scientific experiments, for example, the practitioner uses a tool or set of tools to carry out the experiment. For Barad, this arrangement of instruments makes up the apparatus which also includes the scientist herself and all the other material and immaterial conditions at play. She states that according to physicist Niels Bohr, "apparatuses are macroscopic material arrangements through which particular concepts are given definition."[121] As an

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[119] Karen Barad, "Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter," *Signs*, vol. 28, no. 3 (Spring 2003), 801.
[120] Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007), 140.
[121] Ibid., 142.

example, Barad provides an explication of the Stern-Gerlach experiment, thus demonstrating how the production of scientific knowledge is inextricably linked to the scientist and the experimental apparatus used.

The goal of the Stern-Gerlach experiment was to discover whether "space quantization" was a real phenomenon, and so physicist Otto Stern developed an experimental apparatus in 1921 that used magnets to trace the movements of electrons in a beam of silver atoms. The idea was that the polarization of the magnets would produce two different tracks of electrons which would be visible as separate traces on the glass plate detecting screen. Another physicist Walther Gerlach conducted the experiment but was unable to detect the traces on the glass plate, but when he handed the plates to Stern, the traces began to emerge; the interaction of the silver on the plate with the sulfur from Stern's breath, a consequence of his habit of smoking cheap cigars, produced silver sulfide, a black substance, thus rendering the previously invisible traces visible. Just like combination tones, which are psychoacoustic tones that are formed in the inner ear when two separate tones are played simultaneously, a favorite of composer Pauline Oliveros who I address below, these two "objects"—the invisible traces of electrons and the sulfurous breath—produce the experimental results.

Barad uses this example to argue that the distinct material conditions of experiments produce specific results and thus specific knowledge.[122] The introduction of the cheap cigar to the experimental apparatus, a choice determined in part by Stern's particular gender and class situation, contributed to the discovery.

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[122] Ibid., 162-166.

This is not to say, however, that these social factors determined or caused the outcome of the experiment. According to Barad, that would be an oversimplification and misunderstanding of the role of gender, class, causality, and the production of scientific knowledge. Rather, Barad states that this experimental drama demonstrates how "material practices that contributed to the production of gendered individuals also contributed to the materialization of this particular scientific result."[123] Additionally, Barad emphasizes that the Stern-Gerlach experiment does not prove that there are "leaks in the system where social values seep in despite scientists' best efforts to maintain a vacuum-tight seal between the separate domains of nature and culture."[124] Instead, the story of the experiment shows us how the apparatus' comes to be configured and how that comes to matter.

Additionally, Barad argues that we need to reinvest in materiality and limit our privileging of language as the primary shaping force of meaning; she argues for a material-discursive understanding of the world that takes into account the performative nature of the discursive and the material. It is not merely the language contained within discourse, it is the unfolding of discourse and language itself.[125] Instead of taking the object as a static image, Barad sees the entity as an active relationality. Matter itself, the "stuff" of the world, is not a fixed and stable object that grounds the world. For Barad, "[m]atter is produced and productive, generated and generative. Matter is agentive, not a fixed essence or property of things."[126] As

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[123] Ibid., 167.
[124] Ibid., 167-8.
[125] Ibid., 135.
[126] Ibid., 137.

opposed to being a static object, matter is a configuration of phenomena that are always flowing.

Listening

This project takes listening as fundamental to our everyday experience and how we create the knowledge we have about the world. However, I should note that listening can be an orientation and does not necessarily have to involve the faculty of hearing, not everyone has that. Listening is visceral and vibratory in a way that vision may not be. We listen with our bodies in 360° as opposed to vision's 120° arc. It is this aspect that renders it an embodied practice.

In Jean-Luc Nancy's treatise on listening, he distinguishes between the instantaneousness of the visual and the temporal extension of the audible, which is always spatial: "it spreads in space."[127] The presence of the sonorous is a present that is "a *coming* and a *passing*, an *extending* and a *penetrating*."[128] In other words, the being of the sonorous is always already characterized by being in the transitive sense. Sound is understood and followed in its being differential.[129] To explain the structure of temporality, Husserl describes it through listening to the melody. We maintain notes just heard in the present that are passing into the past: time of the present moment is extended. Nancy claims further that sound is not a phenomenon in the strict sense of the word because instead of manifesting, sound evokes.[130]

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[127] Jean-Luc Nancy, *Listening*, trans. Charlotte Mandell (New York: Fordham University Press, 2007), 7.
[128] Ibid., 13, emphases in original.
[129] Ibid., 16.
[130] Ibid., 20. I will not necessarily delve into whether this indeed can apply to the other

Nancy argues that this renders the listening subject not as a phenomenological subject, but rather a "resonant subject," or maybe the subject is "perhaps no subject at all, except the place of resonance."[131] In other words, the resonant subject is a self that is generated in the echo, which is durational and not instantaneous as is light. In a way, this brings to bear Derrida's focus on absence; the sound is always passing into silence, but its "resonant meaning" lingers. This brings us back again to the Tao, *khora*, inter-being.

Form & Method

"*the ether swaddles me | you | us*: Becoming-Khora in Light, Sound, and Transmission Art" requires a different format and method than the conventional dissertation. Because this project engages with what generally exceeds our everyday experience and understanding, it is fitting that the form and method of the dissertation reflects the project's own condition. Essentially, this project re-opens the question of being by engaging works of transmission art.

"*the ether swaddles me | you | us"* is rather rhizomatic. Following Gilles Deleuze and Félix Guattari 's description of the rhizome as that which "has no beginning or end; it is always in the middle, between things, interbeing, *intermezzo*,"

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senses, but I will offer this: in seeing a tree, I am seeing the tree. When I am touched by a certain fabric, I am actually being touched by that fabric. It seems that what Nancy is getting at is that listening to a melody, for example, is an evocation because the particular phenomenon we experience is not the singular notes (cf. Husserl and Bergson), but the whole resonance of the sounding. However, I am not sticking hard-and-fast to this differentiation, but I believe it to be outside the constraints of this particular project.

[131] Ibid., 21-22.

this project is always in suspension.[132] In the introduction to their book *A Thousand Plateaus: Capitalism and Schizophrenia*, they write that a book is an assemblage; it "has neither object nor subject; it is made of variously formed matters."[133] What this means for this project is that there are convergences and divergences of these "formed matters" that all co-exist within the framework of these pages. As Deleuze and Guattari argue, the project is an organism, and perhaps a "body without organs," since it seems to always already be pointing to its own dismantling. Perhaps most fundamental for me is this: "There is no difference between what a book talks about and how it is made."[134] Not only has this project emerged out of my particular embodiment, but it has been guided along the way by intuition and tacit knowledge, which are perhaps manifestations of the spiritual which this project seeks to unfold, and have been arrived at through my own artistic practice. Therefore, the dissertation maps out an assemblage of philosophical terms and artworks. These terms are not meant to determine the artworks, however, and they do not hold definitive power. Rather, I deploy them in order to interrogate them. In using them, we can identify their contours and limits. At these limits, the work of art emerges. The artworks that I will focus on in this dissertation point to what is simultaneously the most and least obvious about our world: the waves of the world—light, sound, the electromagnetic spectrum. These works show us how our experience of the

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[132] Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), 25.
[133] Ibid., 3-4.
[134] Ibid., 4.

world is complex and multivalent, exceeds our own usual definitions and descriptions.

Transmission Art

Electromagnetism is one of the four fundamental forces and was experimentally confirmed by James Clerk Maxwell in his 1864 paper "A Dynamical Theory of the Electromagnetic Field."[135] This field came into emergence 380,000 years after the Big Bang. Electromagnetic radiation is light, which includes both visible light and other wavelengths on a spectrum which spans from gamma rays, which have the shortest wavelengths, to x-rays, ultraviolet light, visible light, infrared, microwave, and to radio, which has the longest wavelengths. This physical phenomenon is sometimes perceptible by the human animal and sometimes it is not. Whether invisible or not, the activity of the electromagnetic field makes possible vision, communication, and the study of our bodies and selves. Since electromagnetism is considered to be fundamental to the world, this project considers art that uses it to have ontological, epistemological, and phenomenological concerns. Transmission art refers to the field of art that uses the electromagnetic spectrum as material, concept, and/or site. By this I mean, transmission artists can use different electromagnetic waves to produce the work, as conceptual apparatus of the artwork they produce, and/or as the actual presentation site of the artwork, where the work lives and is accessed or experienced. Because of this, in order to

[135] For purposes of brevity and complexity, I will not be addressing the details of the scientific history of the electromagnetic spectrum, including the debated origin with Michael Faraday.

fully analyze transmission art, it is necessary to re-examine what we mean by being, experience, and consciousness. And, as I will show, the experience and examination of works of transmission art help us to re-pose these very questions of being, experience, and consciousness. This is a complex operation.

Practice-Based Research

This dissertation explores the potentials of the pre-conceptual, pre-verbal, and pre-ontological that artistic practice provides. What do these terms do to/for the artist and her work? What are the possibilities afforded to the being who is radically excluded from a concrete dialectic of being? In not being identified as proper to the name, what does this being do? Where is she positioned? The way that I engage these questions is through art. This dissertation presupposes that art and artistic practice operate within an order that makes asking these questions possible. Additionally, I argue that the work of art does not function purely by representational means; rather, the work is *doing* something. Not just an object for our viewing pleasure, the work of art requires that we apprehend it in the fullest sense of the word. It requires our careful circumspection which, as Heidegger shows, is inextricably tied to understanding. However, I argue that this understanding is not necessarily tied to linguistic expression or communication. Apprehending the work of art can evoke pre-conceptual and pre-verbal understandings, or perhaps post-conceptual and post-verbal (might this be the realm of the spirit?). The work can be the generation or emergence of meaning in motion.

The way I approach art as both object and process of inquiry shapes the readings of the works that I will discuss in this dissertation. This approach is influenced by and draws upon many philosophies and theories of art including the performative, Heidegger's definition of art, poststructuralism, phenomenology, psychoanalysis, and feminist theory.

In his 1935 essay, "The Origin of the Work of Art," Heidegger sets out to uncover the being of a work of art, its origin, or essence. At first, the question of the "what" as it pertains to the work of art seems simple: the artist is the origin of the work of art. But, as he shows, the work is also the origin of the artist. Heidegger states that "neither is the sole support of the other," which requires for there to be a "third thing which is prior to both, namely, that which also gives artist and work of art their names—art."[136] This demands the question as Heidegger asks: "But can art be an origin at all? Where and how does art occur?"[137] He responds: "Art—this is nothing more than a word to which nothing actual any longer corresponds."[138] So, the "question of the origin of the work of art becomes a question about the essence of art."[139]

In order to get to the essence of the work of art, Heidegger first thinks through the difference of a work of art from an ordinary thing. He writes that

> [i]f we consider the works in their untouched actuality and do not deceive ourselves, the result is that the works are as naturally present as are things. The picture hangs on the wall like a rifle or a hat. A painting, e.g., the one by Van Gogh that represents a pair of peasant shoes, travels from one exhibition

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[136] Martin Heidegger, "The Origin of the Work of Art," trans. Albert Hofstadter, in *Basic Writings*, ed. David Farrell Krell (London: Harper, 2008), 143.
[137] Ibid.
[138] Ibid.
[139] Ibid., 144.

> to another. Works of art are shipped like coal from the Ruhr and logs from the Black Forest. During the First World War Hölderlin's hymns were packed in the soldier's knapsack together with cleaning gear. Beethoven's quartets lie in the storerooms of the publishing houses like potatoes in a cellar."[140]

When we read this however, we admit that we indeed do *not* consider works of art to be mere things. There is something excessive about them. The work of art "manifests something other" than what it is made of.[141] For example, the artist James Turrell, who I discuss in chapter one, makes work about the "thing-ness" of light. In so doing, this thing, light, becomes more than just a-turned-on-lightbulb. The work exists within the shining of the light and its being in space with the viewer. The work of art has similarities to both "equipment" in that "it is something produced by the human hand" and to the "mere thing" in that it has "taken shape by itself and is self-contained,"[142] but it is neither of these things.

What is essential to the work of art is not beauty as it usually is discussed in aesthetics, though "beauty is one way in which truth essentially occurs as unconcealment"[143]; rather, the work sets the truth of beings to work, or the work of art is the "happening of truth at work."[144] This work does not refer to "reproduction of some particular entity that happens to be at hand at any given time; it is, on the contrary, the reproduction of things' general essence."[145] This means that the sort of "reproduction" Heidegger is referring to is not necessarily representational or corresponds to a measure of truth that aligns with verisimilitude, adequation, or the

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[140] Ibid., 145.
[141] Ibid.
[142] Ibid,, 154
[143] Ibid., 181.
[144] Ibid., 162.
[145] Ibid.

"conformity of knowledge with the matter."[146] Rather, the kind of truth of the work of art is an active one, which Heidegger aligns with one of the Greek interpretations of truth: *alētheia.* This mode of truth is revealing, unveiling, or disclosing.

The work of art sets up a world, which enables us to see and experience earth as it is, as it "emerges as native ground."[147] "*The work lets the earth be an earth.*"[148] "World," which the work of art sets up and "keeps … abidingly in force," is "not the mere collection of the countable or uncountable, familiar and unfamiliar things that are at hand."[149] In other words, the world is not the conglomeration of all the stuff that is in it. "World is never an object that stands before us and can be seen."[150] As opposed to equipment, which uses up the material of which it is made, the material disappearing into usefulness, the work of art "causes [the material] to come forth for the very first time and to come into the open region of the work's world."[151] In speaking of color in the work of art, Heidegger writes that "[c]olor shines and wants only to shine. When we analyze it in rational terms by measuring its wavelengths, it is gone."[152]

What this means for this project is that I approach the practices of viewing and making artworks as modes of revealing the truth about them. Additionally, my approach considers the performative nature of the works. Tracing its genealogy to J.L. Austin's text *How To Do Things with Words*, the performative has been an

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[146] Ibid., 176.
[147] Ibid., 168.
[148] Ibid., 172.
[149] Ibid., 170.
[150] Ibid.
[151] Ibid., 171.
[152] Ibid., 172.

influential force in the practice and analysis of contemporary art. In the chapter "Performative Utterances," Austin describes how the being and function of this sort of linguistic phenomenon differs from the ways in which philosophy has generally thought of statements: that they are either true or false. Rather, a performative utterance, which does indeed appear as a statement, is "*doing* something rather than merely *saying* something."[153] For example, when someone says "I promise," it is not merely a statement of fact. The very saying of these two words is itself the act of promising. What this means for my approach is that I consider the artworks to be *doing* something, rather than just *showing* something.[154]

The study and practice of the fine arts are not easily separated into discrete categories of theory and application. Fine art practice and research is characterized by praxis—theory is embodied. This can play out in a multitude of ways in today's contemporary art landscape. Contemporary artists oftentimes are also art historians, critics, curators, researchers, and social activists, among other identifications and professions. PhD programs in Visual Studies at institutions of esteem including Harvard, University of Rochester, and University of California-Irvine, have developed innovative curricula that encourage their students to engage in "unconventional" methods of research and production. Even though these departments and the field itself are called "Visual," the scope of the research and production are not limited to the scopic. Much research has been accomplished in

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[153] J.L. Austin, *How To Do Things with Words* (Cambridge, MA: Harvard University Press, 1962), 235.

[154] For a discussion about the relationship between performance, representation, and representability, see the influential book by Peggy Phelan, *Unmarked: The Politics of Performance* (London and New York: Routledge, 1993).

the past decade or so that argues for the expansion of the visual to include a more holistic sensorium.[155] This is the context in which I write. "*the ether swaddles me | you | us*: Becoming-Khora in Light, Sound, and Transmission Art" contributes to the fields of visual studies and transmission art in its commitments to innovative forms and research questions. The dissertation elucidates how its philosophical and theoretical concerns cut through a multitude of disciplines: contemporary art history, performance studies, transmission art, quantum physics, feminist theory, visual studies, philosophy, and psychoanalysis.

Hank Borgdorff argues that artistic research is a form of knowledge production even though it is pre-reflective and non-conceptual.[156] Artistic research is an embodied and intuitive process, central to phenomenological inquiry. Borgdorff writes that

> [c]haracteristic of artistic research is that art practice (the works of art, the artistic actions, the creative processes) is not just the motivating factor and the subject matter of research, but that this artistic practice—the practice of creating and performing in the atelier or studio—is central to the research process itself. Methodologically speaking, the creative process forms the pathway (or part of it) through which new insights, understandings, and products come into being.[157]

In other words, by approaching this dissertation as creative practice, I generate new insights into the question of being. The studio process and artistic practice allows

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[155] See for example, Erin Manning's books including *Relationscapes: Movement, Art, Philosophy* (Cambridge, MA: The MIT Press, 2009) and *Politics of Touch: Sense, Movement, Sovereignty* (Minneapolis: University of Minnesota Press, 2006).
[156] Hank Borgdorff, "The Production of Knowledge in Artistic Research," in *The Routledge Companion to Research in the Arts*, eds. Michael Biggs and Henrik Karlsson (London and New York: Routledge, 2011), 44.
[157] Ibid., 45-6.

the artist to "think differently" with a different sort of logic.[158] The artist, being toward *poiesis*, is working to resolve questions she has posed to herself and thus to the world. These questions and problems are not always ones that can be *thought* through or out of; they must be *gotten* through by way of action. And, artistic practice is action. In other words, the questions this dissertation poses are put to the test through the process of the becoming of the work of art. But, as Thich Nhat Hahn says, "the way out is in,"[159] so we must turn inwards as well.

Chapter Overviews

The first chapter centers on *khora* and further lays out the conceptual framework in and by which this project takes shape. I present multiple readings and views of *khora* starting from the origin point in Plato's dialogue *Timaeus* to Julia Kristeva's *semiotic chora*. I also bring other terms into the mix that I argue have affinities to *khora*: Heidegger's *Lichtung*, Bracha Ettinger's *Matrix*, and Wilfred Bion's *O*, among others. This chapter serves as the theoretical foundation of the proceeding analyses.

Chapters two, three, four, and five comprise readings and interpretations of works by artists as they pertain to the theoretical foundation I laid out. Each of the artists and their works evoke questions of experience and being through different points of focus and using different methods.

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[158] I am indebted to art historian Jay Bernstein's discussion of this that I experienced in Summer 2010 during my participation in the Stone Summer Theory Institute offered through the Art Institute of Chicago and the School of the Art Institute of Chicago.
[159] Thich Nhat Hahn, *The Way Out*, dir. Wouter Herhoeven (KRO-NCRV and Evermind Media, 2018).

In chapter two, I address James Turrell, an American artist who uses light in his large-scale installations. Inside one of Turrell's *Perceptual Cells*, the viewer is embraced by light and sound, overwhelmed by a disorienting experience that takes her out of herself and returns her to herself, though changed. This immaterial embrace by the electromagnetic spectrum (visible light it just a small part of the EMS), returns us to that experience of being held within; we find ourselves in the primordial womb.

In chapter three, I turn to Pauline Oliveros, an American experimental composer and musician. For Oliveros, who founded the Deep Listening Institute, listening is of paramount importance. Throughout her life, she followed the directive she gave herself: "Listen to everything all the time and remind yourself when you are not listening."[160] Concentrating on the practice of listening and taking it further to Oliveros' later concept of "quantum listening," chapter two focuses on the spatial and relational aspects of listening, and what that means for one's conscious and unconscious being.

Chapter four addresses the work of Australian transmission artist Joyce Hinterding whose practice has been concerned with the ways in which our bodies resonate with natural electricity. In Hinterding's channeling of naturally occurring electromagnetism, she taps into the workings of nature and provides the audience member with access to this phenomenon that is always already there, though we are generally unaware of it. We are surrounded, imbued, and made up of forces and

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[160] Pauline Oliveros, "Quantum Listening: From Practice to Theory (to Practice Practice)," in *Sounding the Margins: Collected Writings 1992-2009* (Kingston, NY: Deep Listening Publications, 2010), 76.

fields. This idea used to be called ether by the ancients and physicists alike, but it met a fatal blow at the turn of the 20th century. However, it is making an interesting re-emergence in Quantum Field Theory.

Chapter five comprises three sections, each devoted to a separate artist. The first section looks to Japanese artist Tetsuo Kogawa who uses low-powered FM radio transmitters to unleash the democratic potential of radio, which had become constrained by regulations. Starting in the early 1980s, Kogawa began hacking commercially available toys, like remote-controlled cars, so he could use them as radio transmitters to broadcast short distances, connecting people in proximity using radio shows. What I am concerned with in this section is not the unidirectional flow of the broadcast from sender to receiver, but the spatial configuration that the transmission itself assembles. The next section is on Canadian transmission artist Anna Friz and adds a psychological dimension. Many of Friz's early works center on lone individuals attempting to communicate with others. Her more recent works have shifted, making room for the radio device itself to have agency to communicate, have desires. She argues that we are becoming-radio and that the radio body desires others. The last section analyses the work of New Zealand artist Sally Ann McIntyre who uses radio to address and redress historical tragedies of natural extinction and colonialism. In McIntyre's work, FM transmission becomes a channel of healing.

"*the ether swaddles me | you | us:* Becoming-Khora in Light, Sound, and Transmission Art" takes experience seriously, even when it seems silly to describe what was felt. When we over-intellectualize our everyday life and our perceptions of works of art, we run the risk of forgetting the inherent magic of life. Part of what this

project seeks to do is tap into that frequency so as to reconnect with the cosmos. We are not separate from our universe even though our minds tell us this everyday.

In re-connecting and coming to experience *khora*, we can heal. I believe that these artists' works provide the viewer and/or listener with new opportunities to experience their own bodies and being-in-the-world. This project originates in a deeply rooted traumatic embodiment and attempts to recover through the work of these artists and thinkers.

Chapter 1. *Khora*

When you see only waves, you might miss the water. But if you are mindful, you will be able to touch the water within the waves as well. Once you are capable of touching the water, you will not mind the coming and going of the waves.

—Thich Nhat Hahn[161]

"MY EARS FEEL LIKE CAVES."

—Pauline Oliveros,[162]

"The ocean of ether waves quivers to every touch."

—Unknown Author[163]

For heaven's sake, Theaetetus, do you understand anything of what they mean each time one of them says that many or one or two things are *or* have become *or* are becoming*, or when another one speaks of hot mixes with cold and supposes that there are separations and combinations? Earlier in my life I used to think I understood exactly what someone meant when he said just what we're confused about now, namely, this* is not*. You do see what confusion we're in about it?*

—Plato[164]

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161 Thich Nhah Hahn, *Living Buddha, Living Christ*. 20th Anniversary Edition. (New York: Riverhead Books, 2007), 157.

162 Pauline Oliveros, "Some Sound Observations," in *Software for People: Collected Writings 1963-1990* (Kingston, NY: Pauline Oliveros Publications, 2015), 19. Reprint of *Software for People: Collected Writings 1963-1980* (Baltimore: Smith Publications, 1984).

163 "In Electricity's Field," Los Angeles Times (Jul 1, 1895),3 quoted in Douglas Kahn, *Earth Sound Earth Signal: Energies and Earth Magnitude in the Arts* (Berkeley: University of California Press, 2013), 182.

164 Plato, *Sophist*, trans. Nicholas P. White (Indianapolis and Cambridge: Hackett Publishing, 1993), 243b.

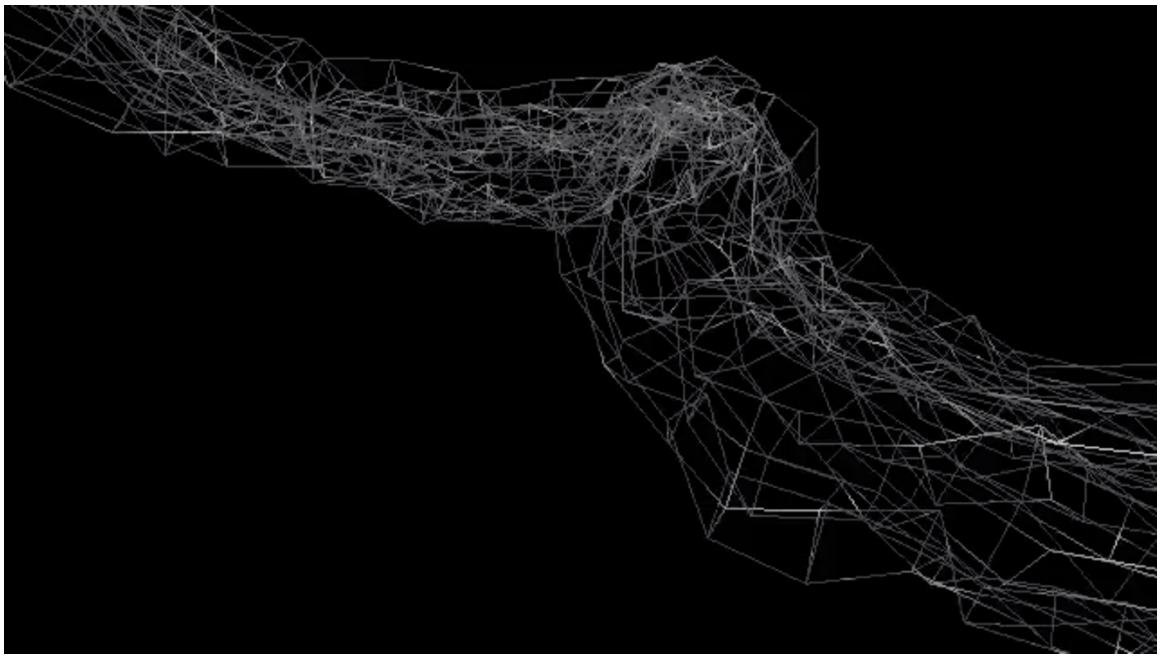

Figure 3. Video still of Brett Balogh, *Chora*, 2009, multi-channel video and audio installation. Experimental Sound Studio, Chicago, IL. November 13 – December 13, 2009. Image courtesy the artist.

The video: a black background, white lines undulating. A web of transforming connections that swirl and spiral within the boundaries of the screen. A heavy machinic drone provides the sonic environment for the form that is becoming. This is Chicago-based new media artist Brett Balogh's 2009 installation *Chora*. According to the artist's statement, the work is "inspired by the Ring of Fire in the Pacific Ocean, an area of great geologic instability."[165] Originally presented as an immersive, audio-visual installation, the work is computer-controlled, and the visual material takes form based on an algorithm that is programmed to be unpredictable. What the viewer witnesses is manifestation, digital material becoming sensible by way of code.

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[165] Experimental Sound Studio, "Brett Ian Balogh: Chora," Experimental Sound Studio, https://ess.org/esscalendar/2009/11/13/brett-ian-balogh-chora (accessed December 19, 2020).

The Ring of Fire, circumscribes an area off the east coast of Australia, traveling up and contouring the east coast of Asia, connecting to Alaska and down the west coast of the Americas. Here, along this 25,000 miles, which borders the Pacific Ocean, are volcanoes and earthquakes. Here, the process of subduction is activated—one plate converges with another resulting in the denser plate sinking underneath, a process that has created most of the Earth's continental crust. This is where the cracks of the Earth, the tectonic plates, generate new material. Through the installations titling, Balogh connects this geological phenomenon to *khora*, evoking a broader discussion about generation and materiality. The digital nature of the installation calls us to consider the concrete material nature of what we so often describe as immaterial.

I use this work to dive into some of the main themes I will be addressing in this chapter and throughout the dissertation. These themes include materiality, being, place, and embodiment. This dissertation examines these themes through the work of light, sound, and radio-based art. Many of the works are site-specific, and in a way they have to be. The particularities of a space denote the quality of light, and the quality of light delineates the space. In the case of sound, as we will see, both our internal and external environments are integrated in our listening and recording. As for radio, whenever there is an event of radio transmission, the work becomes site-specific, responding to the particularities of that place's energy. These works emerge from their place and make use of space; they trace the contours of spaces and places, bring them forth as phenomena to be experienced by the viewer. Through the tracing, the works produce space and place. Particular to this project, most of these

works I discuss engage the electromagnetic spectrum as site. In engaging this invisible, mainly insensate phenomenon, it becomes sensible through the artist's aesthetic participation. In order to discuss these works, bring them together as a concrete "category," I seek their ground. The groundless ground that I find for these works is that of *khora*, a (non)place, (non)space.

Khora is explicated in Plato's *Timaeus*, a dialogue that narrates the origins of the cosmos. Within the context of the dialogue, this origin story is discussed within the frame of the city, essentially situating the account in a particular place. However, the peculiar term that emerges in the dialogue, *khora*, which can be translated as place, land, country, region, space, cannot be constrained or contained by these translations. Rather, in this cosmogony, *khora*, as an irreducible function-entity, is described as the wet-nurse of becoming, the nurturer, the mother, in and from which εἶδος (Idea) becomes sensible/image. Here, it cannot be simply translated as place or space because it gives place and space themselves. The term itself is an aporia, which suggests that we must traverse through the seas of *logos*' other, a bastard reckoning. According to Plato, this is a discourse birthed from a foreign mother.

In *Timaeus*, the main interlocutor Timaeus needs to restart his speech multiple times; he finds that the beginning he made just prior is insufficient to account for the complexity of the discussion. Jonathan Sallis describes how this turning back multiple times to begin his speech anew is a searching for a way to an even more archaic beginning, the ἀρχή. Each time, the discourse strays further from the "simple or linear," and by necessity it has to "engage in a more complex, if not

aporetic, movement with respect to the beginning."[166] The difficulty lies in part in the fact that the beginning that Timaeus seeks to discuss is itself before time, before the ordering of the heavenly bodies was accomplished that would produce time, and also before the generation of the elements themselves which are used to create the mixture that the demiurge made to produce the cosmos. We are not in easy waters. Rather, we are swimming in the realm of the strange and obscure. We are permeated by the Cosmic Microwave Background, an ethereal cosmic swaddling. We have entered the quantum field.

The first distinction Timaeus makes is between "*that which always is* and has no becoming" (the intelligible, eternal Paradigm, εἶδος) and "*that which becomes* but never is" (the sensible, the mimetic image, earthly time-bound Imitation, μίμημα)."[167] One of the problems, however, is that cosmic ποίησις, cosmic creation, always as τέχνη, requires pre-existing stuff or material in order to create since "whatever is made is made *from* something."[168] So, how does this stuff come to be? To answer this Timaeus has to posit another structure, that is "difficult and vague" that helps to explain the process by which the material world comes to be material.[169] This he introduces as the third kind, χώρα, the "*receptacle* of all becoming—its wetnurse, as it were."[170] From here on out, Timaeus admits that he needs to resort to a likely account, εἰκὼς λόγος. However, as Sallis points out, this is

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[166] Jonathan Sallis, *Chorology: On Beginning in Plato's* Timaeus (Bloomington: Indiana University Press, 1999), 95.
[167] Plato, *Timaeus*, 28a.
[168] Sallis, *Chorology*, 96.
[169] Plato, *Timaeus*, 49a.
[170] Ibid.

decidedly not myth, μῦθος.[171] It is at this juncture that Timaeus again calls "on god the protector to bring us safe—in the sense of granting safe passage to port across difficult waters (διασώζειν), thus passage across the depths, passage over the abyss—through a narration that is strange, out of the way, out of place, displaced—the word is ἄτοπος."[172] This place is the receptacle (ὑποδοχή) of becoming which receives, supports, nurtures, and shelters; this is χώρα.[173] As verb, *khora* means to be in flux because it is always making room or giving way.[174] Intuitively, I am harmonizing *χώρα* with ether, which has stood for spirit, the elastic medium that connects all being, and has become the electromagnetic force in physics.

This dissertation aims to think with and through this receptacle that is strange and incomprehensible when confined to the *logos*. Heidegger argues in "What Is Metaphysics?" that "[a]ncient metaphysics conceives the nothing in the sense of nonbeing, that is, unformed matter."[175] How does this apply to *khora* and its non/being? Because of this difficulty, recourse to the "likely account" is required, forms of thought and rhetoric that are generally sequestered to poetry, or even worse, sophistry. In Book X of *Republic*, Plato takes to task the imitative artist, saying that the painter or the poet does not know the reality of the thing being painted: "The imitator or maker of the image knows nothing of true existence; he knows appearances only."[176] In *Sophist*, the sophist is described as a hunter, seller,

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[171] Sallis, *Chorology*, 97.
[172] Ibid., 98.
[173] Ibid., 99-100.
[174] Ibid., 118.
[175] Heidegger, "What Is Metaphysics?," 107.
[176] Plato, *Republic*, trans. Benjamin Jowett (New York: Vintage, 1991), 601b.

wholesaler, retailer,[177] who only has a kind of "belief-knowledge about everything, but not truth"[178] and barters in imitation and appearance. The sophist says what is not as though it is, bringing into language what is "unthinkable, unsayable, unutterable, and unformulable."[179] The problem, however, is how are we to express the inexpressible in a way that is not sophistry? The Visitor says to Theaetetus:

> Really, my young friend, this is a very difficult investigation we're engaged in. This appearing, and this seeming but not being, and this saying things but not true things—all these issues are full of confusion, just as they always have been. It's extremely hard, Theaetetus, to say what form of speech we should use to say that there really is such a thng as false saying or believing, and moreover to utter this without being caught in a verbal conflict.[180]

How am I to make this speech about cosmic *poiēsis* in a "true" way? Experience will guide. The practice of art can aid in this quest through its non-discursive potential to express that which cannot be limited to the mind's comprehension.

We may consider these practices as what Jacques Derrida calls dangerous supplements, additions that must be made in order to facilitate communication and expression. In his book *Of Grammatology*, Derrida defines the supplement as what is added, but also the substitute because it itself is a "plenitude enriching another plenitude."[181] The supplement gathers itself and "cumulates and accumulates presence. It is thus that art, *techné*, image, representation, convention, etc., come as supplements to nature and are rich with this entire cumulating function."[182] In *Timaeus*, we are presented with the addition of the third kind, *khora*, in order to

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[177] Plato, *Sophist*, 231d-e.
[178] Ibid., 233c.
[179] Ibid., 238c.
[180] Ibid., 236e.
[181] Derrida, *Of Grammatology*, 144.
[182] Ibid.

better explain how the immaterial world of the Eidos comes into presence as an earthly, material object of becoming.

These supplements make sensible to us the play of *différance* that like a Möbius strip is the relationship amongst and between presence and absence. Derrida theorizes *différance* as that movement which produces meaning. Based on the tension between living speech and "dead" writing, *différance* is the deferred meaning that takes shape through the difference between signifiers. It is only that I understand the letter "A" through it not being the letter "B." In the case of presence and absence, it is only in the experience of absence that I come to know presence. For the purposes of this project, it is through the exploration of immateriality, that material takes form and becomes present to me, or through the investigation of *khora* as supplement, that being discloses itself. Derrida writes:

> If differance is recognized as the obliterated origin of absence and presence, major forms of the disappearing and the appearing of an entity, it would still remain to be known if being, before its determination into absence or presence, is already implicated in the thought of differance. And if differance as the project of the mastery of the entity should be understood with reference to the sense of being. Can one not think the converse? Since the sense of being is never produced as history outside of its determination as presence, has it not always already been caught within the history of metaphysics as the epoch of presence? … *differance* in its *active* movement—*what* is comprehended in the concept of *differance* without exhausting it—is what not only precedes metaphysics but also extends beyond the thought of being. The latter speaks *nothing other than* metaphysics, even if it exceeds it and thinks it as what it is within its closure.[183]

In other words, to prioritize absence is both part of and a challenge to a metaphysics that privileges the living present/presence. Applying feminist theorist Elizabeth Grosz's use of the Möbius strip as the visual for the relationship "between" mind and

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[183] Ibid., 143, emphases in original.

body, or the interior and exterior, we can begin to see how apparent dualities are not separate entities at either end of a pole. For Grosz, using the Möbius strip enables us to see how psychical interior and corporeal exterior do not have separate "fundamental identity[es] or reducibility," but rather we can recognize "the torsion of the one into the other, the passage, vector, or uncontrollable drift of the inside into the outside and the outside into the inside."[184] Importantly, Plato's description of the demiurge's work reflects this symbol:

> Next, he sliced this entire compound in two along its length, joined the two halves together center to center like an X, and bent them back in a circle, attaching each half to itself to end to end and to the ends of the other half at the point opposite to the one where they had been joined together. He then included them in that motion which revolves in the same place without variation, and began to make the one the outer, and the other the inner, circle. And he decreed that the outer movement should be the movement of *the Same*, while the inner one should be that of *the Different*.[185]

So, how should we approach this third kind which according to Derrida "is *neither* this *nor* that or that is *both* this *and* that"?[186] How do we engage this aporetic (non/a)-entity? This dangerous supplement to being and becoming? Perhaps as Timaeus did at the beginning of his *likely account* with *his prayer to the Gods* (27c-d), we should do the same. Then, we can venture forth into potentially perilous territory, the chasm that *khora* opens; a genus that "no longer belong[s] to the horizon of sense."[187]

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[184] Elizabeth Grosz, *Volatile Bodies: Toward a Corporeal Feminism* (Bloomington: University of Indiana Press, 1994), xii.
[185] Plato, *Timaeus*, 36c, emphasis in original.
[186] Derrida, "Khōra," 89.
[187] Ibid., 92-3.

Sarah Kofman's essay "Beyond Aporia?" provides an apt metaphor to address this adventure into the abyss, into aporia—the sea. Kofman relates *poros*, meaning a sea-route back to Poros, who is described as the father of Eros in Plato's *Symposium*. The story goes that during the celebration of the birth of Aphrodite, Penia (poverty) planned to overcome her "lack of resources" by having a child with Poros, and thus became pregnant with Eros that night. [188] Through Penia's necessity, by way of Poros, Eros came to be. In tracing this history, Kofman states that "a *poros* is never traced in advance."[189] Further, she writes that

> [o]ne speaks of a *poros* when it is a matter of blazing a trail where no trail exists, of crossing an impassible expanse of territory, an unknown, hostile, and boundless world, an *apeiron* which it is impossible to cross from end to end; the watery depths, the *pontos*, is the ultimate *apeiron* (*paron* because *apeiron*); the sea is the endless realm of pure movement, the most mobile, changeable and polymorphous of all spaces, a space where any way that has been traced is immediately obliterated, which transforms any journey into a voyage of exploration which is always unprecedented, dangerous, and uncertain.[190]

As Derrida notes, this adventure by necessity requires myth. Like Love, who is a great spirit between mortal and immortal, *khora* is a third kind that is in-between. It is that which cannot be understood. For Gregory Shaw, *khora* is spiritual receptivity. As he states in his article "The *Chôra* of the *Timaeus* and Iamblichean Theurgy," "theurgists understood that the mystery of the *chôra* and our path to deification was discovered not in what we can grasp conceptually but in our capacity to endure not-

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[188] Plato, *Symposium*, trans. Alexander Nehamas and Paul Woodruff (Indianapolis and Cambridge: Hackett Publishing, 1989), 203c.
[189] Sarah Kofman, "Beyond Aporia?," trans. David Macey, in *Post-structuralist Classics*, ed. Andrew Benjamin (London and New York: Routledge, 1988), 10.
[190] Ibid.

knowing and not grasping: to become receptive—as the *chôra* is receptive—to the divine influx."[191]

We are going to travel through some uncharted territory, testing some routes that have not been traversed before. We can and must do this because *khora* as this third term, a third kind (genus), creates this im/possibility. *Khora* herself/itself gives herself/itself over to this very experimentation and open field. *Khora* is this groundless ground, "an open-ended and porous receptacle of the *uncontainable*, of innumerable and incalculable effects, as an un-principle, an an-arche."[192] The very activity of generating a reading, creating this examination, is *khora*. As Sallis claims, *khora* is an occurrence, a happening.

To situate *khora*, I sketch out a field of ideas that spans (meta)physics, psychoanalysis, and feminism. I trace affinities of *khora* to other terms drawn from these discourses. Speaking "materially" about *khora*, I place it within the discussions about the fundamental forces of the universe, particularly the electromagnetic force. The strangeness of quantum physics, with its paradoxical dualities, necessitates thinking according to a different logic, which is the chorology which Sallis argues is in operation. This sort of "logic" can be found in Eastern mysticism, amongst the conceptions of *Brahman*, *Tao*, and *Dharmakaya.* Through this terrain, *khora* appears as matter, ground, ether, Lichtung, womb, Unconscious, and Matrix. *Khora*, as the

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[191] Gregory Shaw, "The *Chôra* of the *Timaeus* and Iamblichean Theurgy," *Horizons*, vol. 3, no. 2 (Dec 2012), 113.
[192] John Caputo, "*Khôra*: Being Serious with Plato," in *Deconstruction in a Nutshell: A Conversation with Jacques Derrida* (New York: Fordham University Press, 1997), 105.

limit to being and discourse, circumscribes a physics and being that is strange and wavering. We are embraced by the ether.

The Maternal Matter of Khora

For many feminists, *khora* is problematic in that it is metaphorically aligned with the feminine in its passivity; it is the nurse, the mother who is there to receive all things from the Father, the one who imprints her. In the correspondence of *khora* with matter, the feminine can *only* be body. However, if *khora* is considered in its complexity, alignment with the feminine does not seem to be as damning.

Luce Irigaray launches an attack on the metaphoricity of maternity and how women are regarded in Plato's oeuvre throughout her book *Speculum of the Other Woman*. Her chapter "On the Index of Plato's Works: Woman" provides excerpts from Plato's dialogues that are derogatory of women. These sentences display women as lower than men, inferior to them. So, it may appear strange for me to critically reinvest in *khora* considering these incriminating examples that surface throughout Plato's works. What I seek to show, however, is that by returning to these texts, we can uncover new potential for terms and concepts, including, more specifically, *khora*.

In her chapter "How to Conceive (of) a Girl," Irigaray provides the following from Aristotle's *Generation of Animals* as an epigraph: "for the natural substance of

the menstrual fluid is to be classed as "prime matter" (prōtē hylē)."[193] Irigaray asks about this "first matter," relating it to the body of the mother. She writes:

> [m]ight this not be the body of the mother, and the process of becoming flesh within the mother? Of becoming *phýsis* always already constituted as the *hypokeimenon* that defines the substance of man? Might it not be this bodiliness shared with the mother, which as yet has no movement of its own, has yet to divide up time or space, has in point of fact no way of measuring the container or the surrounding world or the content or the relations among these? It cannot be shaped in any distinct mold. Fusion, confusion, transfusion of matter, of body-matter, in which even the elementary would escape any static characterization. In which same and other would have yet to find their meaning."[194]

Though this account grants some importance to the feminine, Irigaray argues that the life that is growing in the womb is already being, begotten from the Father; the Mother on the other hand "is both radically lacking in all power of logos and offers, unawares, an all-powerful soil in which the logos can grow."[195] This being unaware and lacking power is what makes the feminine subservient. However, this definition of matter taken from Aristotle is already a distortion of the power of the feminine as it pertains to *khora* in the *Timaeus*. We need rather think of *khora* more like the performativity of matter.[196]

Khora has proven to be difficult for philosophers since the *Timaeus*. In some commentaries and translations, it lost its complexity, becoming merely passive matter. Sallis provides a genealogy of how *khora* was defined in different commentaries on Plato's *Timaeus*. Starting with Aristotle and Plutarch, he argues

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[193] *Aristotle: Generation of Animals*, trans. A.L. Peck (Cambridge: Harvard University Press, 1963), 111 quoted in Luce Irigaray, *Speculum of the Other Woman*, trans. Gillian C. Gill (Ithaca, NY: Cornell University Press, 1985), 160.
[194] Irigaray, *Speculum of the Other Woman*, 161.
[195] Ibid., 162.
[196] Karen Barad, "Posthumanist Performativity."

that their simplification of *khora* to matter evacuates the work of chorology from *khora* itself. In claiming that *khora* is matter is to resolve the very tension that *khora* in fact is.[197] But, in Plotinus' explications on matter, matter begins to take a more similar shape to the strangeness of *khora*, but as Sallis claims, these theorizations come from a "world quite remote" from the *Timaeus*. In Ennead III.6.7, Plotinus claims that matter is "not-being; it is a ghostly image of bulk, a tendency towards substantial existence; it is static without being stable; it is invisible in itself and escapes any attempt to see it, and occurs when one is not looking, but even if you look closely you cannot see it."[198] At first blush, this resembles the both/and, neither/nor qualities of *khora*. However, Plotinus writes that "[w]hatever announcement it makes, therefore, is a lie, and if it appears great, it is small, if more, it is less; its apparent being is not real, but a sort of fleeting frivolity."[199] It is this frivolity and falsity that is problematic.

We see this lie in Irigaray's essay "Plato's *Hystera*," in which she takes to task the maternity of Plato's cave from Book VII of *Republic.* The Allegory of the Cave starts with the description of "men dwelling in a sort of subterranean cavern with a long entrance open to the light."[200] In the depths of the cave, these beings come to believe that shadows are real. Since this is all they know, they do not see that a shadow-horse is not an actual living, breathing horse. It is not until one of them escapes and steps into the light of the sun (the Father), that he comes to understand

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[197] Sallis, *Chorology*, 151.
[198] Plotinus, *Ennead III.6.7*, trans. A.H. Armstrong, Loeb Classical Library (Cambridge, MA and London: Harvard University Press, 1993), 241.
[199] Ibid., 241-243.
[200] Plato, *Republic*, trans. Benjamin Jowett (New York: Vintage, 1991), 514a.

the nature of illusion and truth. In this story, the cave is a den of illusion. Irigaray tells us to "[r]ead it this time as a metaphor of the inner space, of the den, the womb or *hystera*."[201] In a rejoinder to her imperative, she claims that "[g]round, dwelling, cave, and even, in a different way, form—all these terms can be read more or less as equivalents of the *hystera*" (243). The cave is the site of image-production, which for Irigaray functions equivalently to *khora*:

> The cave gave birth only to phantoms, fakes or, at best, images. One must leave its circle in order to realize the factitious character of such birth. Engendering the real is the father's task, engendering the fictive is the task of the mother—that "receptacle" for turning out more or less good copies of reality.[202]

This mother, being without her own form or identification, is a "clean slate ready for the father's impressions, which she forgets as they are made."[203]

Judith Butler reads Irigaray's "speculative" and "excessive" reading of Plato as rendering the "feminine as [the] constitutive exclusion" which secures philosophy's borders.[204] Further, Butler states that "[t]his exclusion of the feminine from the propriety discourse of metaphysics takes place, Irigaray argues, in and through the formulation of 'matter.'"[205] What is curious is that Butler finds Irigaray's most cogent critique of the maternal cave in Irigaray's citational exercise "Une Mère de Glace," an essay that is purely made up of sections of Plotinus' *Enneads III.6* "On the

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[201] Irigaray, *Speculum of the Other Woman*, 243.
[202] Ibid., 300.
[203] Ibid., 307.
[204] Judith Butler, *Bodies that Matter: On the Discursive Limits of "Sex"* (London and New York: Routledge, 1993), 11.
[205] Ibid., 12.

Impassability of Things Without Body." But, as Sallis argues, Plotinus' commentaries on matter cannot and do not get us closer to the "being" of *khora*.

Taking into account quantum physics and the ways in which it perceives the world, matter itself is complicated phenomenon, thus allowing us to reinvest in the weirdness of *khora*. Perceiving the universe as wavy and fluid, we can no longer count on matter's solidity anyways.

Semiotic Chora

Unlike some feminists who criticize *khora*, which I briefly addressed above, theorist Julia Kristeva appropriates the concept as semiotic chora, developing it as the entry to meaning-making. Not unlike Kristeva's theory of the abject, in that "[t]here looms, within abjection, one of those violent, dark revolts of being, directed against a threat that seems to emanate from an exorbitant outside or inside, ejected beyond the scope of the possible, the tolerable, the thinkable,"[206] the semiotic chora both precedes and seems to be outside of signification, perhaps just like *khora* herself as it appears in *Timaeus*. Kristeva writes: "Neither model nor copy, the *chora* precedes and underlies figuration and thus specularization, and is analogous only to vocal or kinetic rhythm."[207] Bound to the body, the semiotic chora is the seat of *signifiance*, which is the "unlimited and unbounded generating process, [an] unceasing operation of the drives toward, in, and through language," which is "a

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[206] Julia Kristeva, *Powers of Horror: An Essay on Abjection*, trans. Leon S. Roudiez (New York: Columbia University Press, 1982), 1.
[207] Julia Kristeva, *Revolution in Poetic Language*, trans. Margaret Waller (New York: Columbia University Press, 1984), 26.

structuring and de-structuring *practice*, a passage to the outer boundaries of the subject and society."[208] For Kristeva *signifiance*, which is always in dynamic process forever unfolding has two modalities: the semiotic and the symbolic. Taking the Greek translation of semiotic as "distinctive mark, trace, index, precursory sign, proof, engraved or written sign, imprint, trace, figuration," she offers the echolalia of infants as example—the burble and babbles of their vocalizations that do not necessarily have specific, discrete meanings.[209] The other dynamic, the symbolic, is that which produces meaning through the use of the sign and appropriate syntax. For Kristeva, this process of *signifiance* is always one that "puts the subject in process/on trial [en procès]."[210] Not static, the subject is in constant flux and is not assumed to be a self-same actor that is concretely divided from the object of which it speaks. Stating that she is "borrow[ing] the term *chora* from Plato's *Timaeus* to denote an essentially mobile and extremely provisional articulation constituted by movements and their ephemeral stases,"[211] she emphasizes that chora is "rupture and articulations (rhythm), precedes evidence verisimilitude, spatiality, and temporality."[212]

Basing her theory on what literature and art produce, the text, Kristeva shows that these practices all "underscore the limits of socially useful discourse and attest to what it represses: the *process* that exceeds the subject and his

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[208] Ibid., 17.
[209] Ibid., 25.
[210] Ibid., 22.
[211] Ibid., 25.
[212] Ibid., 26.

communicative structures."[213] It is this excess, the beyond or outside of, that interests me. That thing which we must shove to the side or eject from ourselves in order to communicate or think logically or rationally.

In a preverbal state, our bodies' drives organize our vocalizations. We cry in pain or hunger. We coo and babble when we are warm and feel secure. For Kristeva, these tonal articulations are connected to the body of the mother. Through that relationship, our cries are interpreted into concrete action or mirrored back to us. This makes the mother's body "what mediates the symbolic law organizing social relations and becomes the ordering principle of the semiotic *chora*."[214] In our introduction into the realm of the Symbolic, words first take form as objects to be played with. For example, consider the echolalia of a child; with ever increasing repetition, the word seems to begin to fail its meaning. With correction and training, however, our ability to communicate in language concretizes us as a subject in the world of the Father—we have arrived in the realm of the Symbolic. For this to happen, we must reject the Mother.

Additionally, Kristeva is concerned with our oppression in a patriarchal capitalist society. Her critique and call to action: "the kind of activity encouraged and privileged by (capitalist) society represses the *process* pervading the body and the subject, and that we must therefore break out of our interpersonal and intersocial experience if we are to gain access to what is repressed in the social mechanism: the generating of signifiance."[215] In other words, our capitalist society throws away the

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[213] Ibid., 16.
[214] Ibid., 27.
[215] Ibid., 13.

body and its pre-conceptual, non-discursive possibilities. For Kristeva, a theory of language needs to be "based on the subject, his formation, and his corporeal, linguistic, and social dialectic,"[216] since "the subject is defined by a continuous becoming resulting from the complex interaction between the drives, semiotic flows, symbolic relations and social norms."[217] For Kristeva, "linguistic changes constitute changes in the *status of the subject*."[218] Our very being is at stake here.

In some of the artworks that I analyze through *khora*, the ways in which language, the voice, and communication are at play seem to reflect this other-ordering of processes of signification like the *semiotic chora*. In some of the artworks I will look at, the "language" that is being presented does not correspond to the human and her meaning-making. Rather, the semiotic here is open to other entities: birds, devices, space itself. Additionally, in some of Anna Friz's works, we find a focus on what is normally cut from audio recordings: the sounds and exclamations of the body.

The Matrix

In a somewhat similar move to that of Kristeva, painter and psychoanalyst Bracha Ettinger offers the Matrix as another organizing principle of signification, aligning it with the mother's body. For Ettinger, unlike Kristeva, the Matrix is another element in the Symbolic, not outside of it as is the semiotic chora; it is a

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[216] Ibid., 15.
[217] Gavin Rae, *Poststructuralist Agency: The Subject in Twentieth-century Theory* (Edinburgh: Edinburgh University Press, 2020), 191.
[218] Ibid.

"supplement" to the Phallus, bringing the maternal body into the realm of the law of the Father. Unlike the phallus, though, which is organized based on principles of have/have-not, One/not-One as either rejection or assimilation, the Matrix "involv[es] multiplicity, plurality, partiality, difference, strangeness, relations to the unknown other, prenatal passages to the Symbolic, with processes of change of I and not-I emerging in co-existence and of change in borderlines, limits, and thresholds within and around them."[219] In another sense, built into the realm of the Symbolic is the Möbius strip of interior and exterior; the stability of the law of the Father is shaky and not independent. For Ettinger, she describes this movement as

> [s]ubject and *objet a* are as inseparable as the front and back of the same fabric, the recto and verso of the same sheet of paper. When the subject appears, the *objet a* disappears, and when the *objet a* finds a way to penetrate to the other side (as in art) or to reappear as hallucinations in the Real, signifying meaning (symbolic and imaginary, exchangeable through discourse) disappears and goes into hiding.[220]

Though basing Matrix on the feminine body, Ettinger claims that the Matrix is not found exclusively amongst women; men participate in matrixial metramorphosis because this model is based on "an originary feminine difference that evades the dichotomy and femininity"—this is pregnancy, a movement of "jointness-in-differentiating."[221] Still today, we all "experience the uterus as an environment."[222]

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[219] Bracha Ettinger, "Matrix & Metramorphosis, *Differences: A Journal of Feminist Cultural Studies*, vol. 4, no. 3 (Fall 1992): 178.
[220] Ettinger, *The Matrixial Borderspace*, 42.
[221] Bracha Ettinger, "Matrixial Trans-subjectivity," *Theory, Culture & Society*, vol. 23, no. 2-3 (2006), 219.
[222] Ettinger, "Matrix & Metramorphosis," 187. We may think of this similarly to Freud's Uncanny and intra-uterine phantasies—Das Unheimlich harkens to the feminine Heim, a place in which we have all been: "Whenever a man dreams of a place or a country and says to himself, while he is still dreaming: 'this place is familiar to me, I've been here before,' we may interpret the place as being his mother's genitals or her body. In this case too, then, the

But, the womb that the matrix offers is "conceived of … not primarily as an organ of receptivity or 'origin' but as the human potentiality for differentiation-in-co-emergence."[223] This is an important orientation in consideration of *khora* because *khora* need not be passive; it is an active participant in the shaping of what comes into form. The Matrix, like *khora*, is not merely a container.[224]

With Ettinger, we are trying to find a place alongside the phallic, but not in substitution. What Ettinger distinguishes between the two—castration complex and intrauterine complex—is that for the former, anxiety arises at the emergence of the experience *before* repression, and for the latter, anxiety is experienced *after* repression, not during the original experience. In other words, Ettinger is staking the claim that the originary experience of the womb is that of pleasure and we only become frightened and anxious when we repress our experience of it. She further states that "a matrixial difference is produced with-in and is accompanied by a matrixial affect that is in itself a channel for the inscription of different passages from Thing to object. Matrixial affects arise in the process of creating and viewing art, and matrixial phenomena inside and alongside *the uncanny* bear witness to their working-through."[225] This is to say that the Matrix, perhaps similar to the workings

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Unheimlich is what was once *heimisch*, familiar; the prefix "*un-*" is the token of repression." Sigmund Freud, "The Uncanny," 1919, in *The Standard Edition of the Complete Psychological Works of Sigmund Freud, Volume XVII (1917-1919): An Infantile Neurosis and Other Works*, 245, quoted in Ettinger, *The Matrixial Borderspace*, 47. But, as I will discuss below, the matrix does not mean a desire for the mother in an Oedipal way.

[223] Ettinger, "Matrixial Trans-subjectivity," 219.

[224] Ibid.

[225] Ettinger, *The Matrixial Borderspace*, 47-8.

of *khora*, in a way "channels" and produces world. Instead of being cut off, alone in the world, remembering the Matrix offers us a way back to connection.

Though Lacanian psychoanalysis is mainly concerned with the visual, the scopic regime of the gaze, the auditory does come into play. Yes, we desire to be gazed upon by (the) m/Other, but different parts of the body are desiring organs too, including the ears: "The common factor of *a* is to be bound to the orifices of the body. What repercussions, therefore, does the fact that the eye and the ear are orifices have on the fact that perception is spheroidal for both?"[226] We yearn for mother's voice, which had once "enveloped us, touched us, and also eluded us."[227] We are now split from her. Ettinger makes clear that her intrauterine phantasy will not be made to disappear to castration, and she further distinguishes this from the usual scopic regime:

> *The intrauterine* or *womb phantasy is not to be folded retroactively into the castration phantasy but must be considered as coexisting with it, contrary to other pre-Oedipal*—postnatal—*phantasies based on weaning or on separation from organs as part-objects.* This leads, I propose, in two directions: toward an analysis of the particularity of what [she] calls, after Freud's *Mutterliebsphantasie*, the *matrixial phantasy and complex*; and toward a conception of a different subjectivizing stratum (different from the phallic one), which I have called *matrixial*. This stratum can still be somehow informed by *mastery* (sadism), *gazing* (scopophilia), and *curiosity* (knowledge-seeking), but in a way that is different from the phallic one. Rather, it is mainly informed by *touching, hearing, voice,* and *moving*, not plainly connected with particular erogenetic areas, not uniquely connected with bodily orifices, and it is relationally affected. It is composed by linking and relating.[228]

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[226] Jacques Lacan, "Seminar of 21 January 1975," in *Feminine Sexuality: Jacques and the École Freudienne*, ed. Juliet Mitchell and Jacqueline Rose (New York: Norton, 1982), 165 quoted in Ettinger, *The Matrixial Borderspace*, 43.
[227] Ettinger, *The Matrixial Borderspace*, 42.
[228] Ibid., 48, emphasis in original.

This relational affectation is key here. We come into intimate contact with the world through the waves and vibrations that permeate our bodies. Mechanical soundwaves and immaterial electromagnetic waves hug and saturate us.

In Freud's analysis of the Wolf Man, he describes his patient as wanting to escape the world and return to the womb: "Life makes me so unhappy! I must get back to the womb!"[229] For Freud, this desire to return to the womb is not really just about being in the environment of the womb. Rather, he interprets this "wish-phantasy" as a homosexual one: the patient desires to "be copulated with by his father, might obtain sexual satisfaction from him, and might bear him a child."[230] This interpretation, focusing mainly on an attachment to the father, only leaves room for the mother to be the object of "incestuous intercourse"[231] after the re-birth. For Sandor Ferenczi, the desire to return to the womb is linked to the Oedipal drive and achieved through sex; emissions, as representative of the ego, since the phallus is "a miniature of the total ego," strive for the womb.[232] Unlike these male-centered theories, the desire for the womb I pursue in this chapter is not tied to this sexual fantasy and Oedipal desire. Rather, the desire is fueled by a yearning for care. The embrace need not be equated with lustful groping. The embrace is something we associate with physical warmth. Perhaps with our mother, the primordial maternal embrace. We seek it to find comfort; it provides us with a feeling of safety. When we are born, we leave the watery womb and enter the airy world without our

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[229] Sigmund Freud, "From the History of an Infantile Neurosis," 259.
[230] Ibid., 260.
[231] Ibid., 261.
[232] Sandor Ferenczi, *Thalassa: A Theory of Genitality*, trans. Henry Alden Bunker (New York: W.W. Norton & Company, 1968), 16, 18.

consent. For many of us, we return to the water to seek soothing—warm baths, baptisms, the ocean. The water immerses us fully.

This immersion is a generative net: "I therefore view the feeling of oceanic immersion in the world … not as fusion or undifferentiation but as borderlinking-in-differentiation in a compassionate resonance chamber."[233] It is not that I become lost in this expanse of undifferentiated being. Rather, I come to be "individuated" through processes of divergence and linking: "The matrixial borderspace is a sphere of encounter-events where intensities and vibrations as well as their imprints and 'memory' traces are exchanged and experienced by fragmented and assembled experiencing partial-subjects who are reattuning their affective frequencies."[234] Ettinger states that this movement, activity, is an operation of "copoiesis," as opposed to autopoiesis, since the "I and non-I co-emerge, co-change, and co-fade within a shareable web."[235]

What I find to be most productive in looking to Ettinger's work is the ethical dimension of it; here, we find compassion for each other in this "Cosmos" where we are all "becoming-subject."[236] Since the matrix is not "a conscious, alienating, cultural tool of power in the service of the Ego"[237] like the phallus, it encourages us to bear witness to our co-existence and co-constitution with the other. For the work of art, this occurs over time, significant to time-based and installation art, which

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[233] Ettinger, "Matrixial Trans-subjectivity," 220.
[234] Ibid., 219. Note here the language of radio and *khora*: frequency, tuning, imprinting.
[235] Ibid., emphasis in original.
[236] Ibid., 220.
[237] Ettinger, *The Matrixial Borderspace*, 51.

unfolds through its duration. For Ettinger, this is an "aesthetic-in-action as a healing that is an ethics-in-action."[238]

Khora as the Dream of the Unconscious

Khora is also something of dreams, something outside of *logos*. It is the likely account, though it is εἰκὼς λόγος, not εἰκὼς μῦθος; we are still here in the realm of *logos*, not *mythos*. It is like Sigmund Freud's dream-work [*Traumdeutung*]: material generated in the dream is ripe for serious consideration and contemplation. What had been relegated to the Unconscious, bubbles up to consciousness in the dream, evading the censor, the night watchman. *Khora*, in her darkness, becomes perceptible in the dream.

The concept of the Unconscious, revolutionized through the thought of Freud, provides an explanation for the complexity of our experience: how and why we do certain things without a seemingly conscious reason for them. The idea for another realm of consciousness emerged out of Freud's work with hysteria patients and his observation that there is a "discrepancy between the hysterical symptom of many years' duration and the single precipitating cause."[239] In other words, the symptoms of the hysteric could be traced to events or experiences that happened in the past and do not seem to be "directly" related to the present symptom. These experiences have been churning in the Unconscious and make themselves present through at first puzzling means. When the somatic symptom of the hysteric appears, it is a

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[238] Ettinger, "Matrixial Trans-subjectivity," 221.
[239] Sigmund Freud and Joseph Breuer, *Studies in Hysteria*, trans. Nicola Luckhurst (New York: Penguin, 2004), 8.

physical signifier of a "symbolic relation."[240] However, the causal relation of the symptom is more complicated than if this, then that. Freud and his colleague Joseph Breuer argue that

> the causal connection between the precipitation psychical trauma and the hysterical phenomenon is not such that the trauma in its role as *agent provocateur* would release the symptom which would then continue to exist in its independent state. Rather we are bound to assert that the psychical trauma, or more precisely, the memory of it, operates like a foreign body which must still be regarded as a present and effective agent long after it has penetrated.[241]

In this early work, Freud and Breuer posit that this must be the work of a "double conscience," "a splitting of consciousness," "a second consciousness, a *condition seconde*," but they associate this more specifically with hysterical dissociative states and the acute hysterical attack instead of an everyday structural reality.[242] This problem is further elucidated in Freud's early paper "Project for a Scientific Psychology," wherein the Unconscious is left as *unbewusst*, as adjective or adverb. However, the two categories, the splitting of the workings of the mind into two are not sufficient; like in *Timaeus*, it is necessary to develop a new schema that is a bit strange.

In *The Interpretation of Dreams*, first published in 1900, Freud expounds on this "second consciousness" positioning it as something outside consciousness and gives it the proper name of the Unconscious [*Unbewusste*]. It is here where he claims that the Unconscious is "*the* problem of psychology."[243] Further, in his 1915 essay

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[240] Ibid., 9.
[241] Ibid., 10.
[242] Ibid., 14, 18.
[243] Sigmund Freud, *The Interpretation of Dreams* (New York: Avon, 1965), 650.

"The Unconscious," Freud argues that the very concept of the Unconscious "is *necessary* because the data of consciousness have a very large number of gaps in them."[244] He states that "[a]ll these conscious acts remain disconnected and unintelligible if we insist upon claiming that every mental act that occurs in us must also necessarily be experienced by us through consciousness."[245]

It is in the dream and experiences of parapraxes (i.e., Freudian slips, where we say something that we did not consciously intend), for example, that the unconscious as Unbewusste emerges. For Freud, the Unconscious is "the true psychical reality; *in its innermost nature it is as much unknown to us as the reality of the external world, and it is as incompletely presented by the data of consciousness as is the external world by the communication of our sense organs.*"[246]

The essay "The Unconscious" seeks to explain the process of repression as not "annihilation" but rather the "prevent[ion] of something from becoming conscious."[247] Freud establishes that consciousness is only a small piece of the present moment and "the greater part of what we call conscious knowledge must in any case be for very considerable periods of time in a state of latency" (167). It is this latency that calls for the structure Freud creates of the *Ucs.*, *Pcs.*, and *Cs*.

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[244] Sigmund Freud, "The Unconscious," (1915), trans. C.M. Baines, in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, vol. XIV (1914-1916): On the History of the Psycho-Analytic Movement. Papers on Metapsychology and Other Works, 166.
[245] Ibid., 167.
[246] Freud, *The Interpretation of Dreams*, 651, emphasis in original.
[247] Freud, "The Unconscious," 166.

Khora as Irma's Open Mouth

What psychoanalyst Jacques Lacan homes in on in Freud's structure of the Unconscious is the gap between the cause and the effect found in the naval of the dream, "the ultimately unknown center."[248] Lacan characterizes this gap as a lack, reading the limit of the *Un* of the *Unbewusste* as the "*Unbegriff*—not the non-concept, but the concept of lack."[249] Using Freud's dream of Irma's Injection, a dream which is critical to the dream-work Freud formulates in *The Interpretation of Dreams*, Lacan seeks to show how there is a radical rupture or separation of the subject from itself.

Recurring throughout Freud's *The Interpretation of Dreams* is his dream in which he looks into his patient Irma's open mouth at a party:

> I said to her: 'If you still get pains, it's really only your fault.' She replied: 'If you only knew what pains I've got now in my throat and stomach and abdomen—it's choking me'—I was alarmed and looked at her. She looked pale and puffy. I thought to myself that after all I must be missing some organic trouble. I took her to the window and looked down her throat, and she showed signs of recalcitrance, like women with artificial dentures. I thought to myself that there was really no need for her to do that,—She then opened her mouth properly and on the right I found a big white patch; at another place I saw extensive whitish grey scabs upon some remarkable curly structure which were evidently modelled on the turbinal bones of the nose.[250]

Freud interprets the dream thus: he is not responsible for Irma's condition and lack of progress; a wish-fulfillment and self-justification.[251] Later on, in his chapter on the

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[248] Jacques Lacan, *The Seminar of Jacques Lacan Book XI*: *The Four Fundamental Concepts of Psychoanalysis* ed. Jacques-Alain Miller, trans. Alan Sheridan (New York: W.W. Norton & Company, 1998), 23.
[249] Ibid., 26.
[250] Freud, *The Interpretation of Dreams*, 139-140.
[251] Ibid., 151, 206

process of condensation in the dream-work, Freud identifies other women for whom Irma stood as "collective image/figure"[252]: his wife (who was pregnant at the time, note the puffy face[253]), his daughter, and another one of his patients. All in all, the dream centers on Freud, the analyst, while Irma appears as the placeholder for his wishes.

In Lacan's analysis of the dream, we find a much stranger situation. Lacan notes Freud's extreme satisfaction with himself for explaining the dream and its meaning fully, without gaps, which leads Lacan to inquire about unconscious desire, the "thing which is pushed away and horrifies the subject," that which Freud elides in his interpretation.[254] Irma's "recalcitrance," her "feminine resistance" is too much for Freud.[255] So is her face: her puffiness signals his wife's pregnancy, a generative womb. Lacan argues that in peering into Irma's open mouth, a cavity that can be associated with other female cavities, Freud faces "the foundation of things" and an "ultimate formlessness" which speaks to him: "*You are this, which is so far from you, this which is the ultimate formlessness*."[256]

Of course the specter of "ultimate formlessness" is found within the body of a woman, a dream-woman. Irma's exposed body cavity is a terrifying sight for Freud, complete with growth and scabs, mutant and dangerous products. This cavernous

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[252] Ibid., 327
[253] Jacques Lacan, "The Dream of Irma's Injection," in *The Seminar of Jacques Lacan Book II: The Ego in Freud's Theory and in the Technique of Psychoanalysis 1954-1955*, ed. Jacques-Alain Miller, trans. Sylvana Tomaselli (New York: W.W. Norton & Company, 1988), 154.
[254] Ibid., 151.
[255] Ibid., 153.
[256] Ibid., 154-5, emphasis in original.

space is abject. In Freud's words, "a dark continent."[257] For Lacan, she is "radically the Other," a being of the Real, rendering her inaccessible.[258]

Lacan's reading, however, seems to rupture his own formulation of the unconscious as "definable, accessible, and objectifiable." In his further reading of the dream, as the splitting of Freud into the multiple characters that inhabit the dream, Lacan concretizes his theory of the unconscious as structure, and this structure "is outside of all subjects."[259] In identifying the importance of this particular dream, the first dream that Freud describes and marks with a plaque, is that "what is at stake in the function of the dream is beyond the *ego*, what in the subject is of the subject and not of the subject, that is the unconscious."[260] In his insistence on the importance of the *word*, Lacan states that the "important thing, and this dream shows us it, is that analytic symptoms are produced in the flow of a word that tries to get through," and that it is this "quest for the word, the direct confrontation with the secret reality of the dream, the quest for signification as such."[261]

This rendition of the word is different from the way Freud approaches it, for example, in the analysis of his dream of the Three Fates. During his analysis, Freud realizes that he plays with words or names more or less like objects, a "kind of

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[257] Sigmund Freud, "The Question of Lay Analysis," in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, vol. XX *(1925-1926): An Autobiographical Study; Inhibitions, Symptoms, and Anxiety; The Question of Lay Analysis, and Other Works*, 211.
[258] Jacques Lacan, *The Seminar of Jacques Lacan Book XX: On Feminine Sexuality, The Limits of Love and Knowledge 1972-1973* (New York: W.W. Norton & Company, 1975), 70-75, quoted in Bracha Ettinger, *The Matrixial Borderspace*, ed. Brian Massumi (Minneapolis: University of Minnesota Press, 2006), 6.
[259] Lacan, "The Dream of Irma's Injection," 159.
[260] Ibid.
[261] Ibid., 159, 160.

childish naughtiness" — for example, Brücke refers both to his colleague and a bridge.[262] We also see in Freud's emphasis on the Wolf Man's drawing of his dream that the image appears as a composite of multiple elements: fairytales, conflicts with the dreamer's sister concerning a picture book displaying a wolf, the family's dying sheep, the father's joke to "gobble him up."[263] For Lacan, the word or image serves as the screen that separates the subject from the Real, which is "unassimilable."[264] This separation from The Real, which can only be encountered in the tuché—the touch of the dream-image, for example—forces Freud to develop "the idea of another locality, another space, another scene, *the between perception and consciousness*."[265]

Khora as Bion's *O*

Psychoanalyst Wilfred Bion centers his work on the phenomenology of the analytic session itself and his insistence that "interpretation is a transformation," not necessarily an extraction.[266] In other words, the analytic session does not merely uncover or bring a pre-formed content to consciousness in order to cure it; rather, the session essentially transforms the contents themselves. Bion analogizes this to the painter who paints a field of poppies, stating that "the facts of an analytic experience (the realization) are transformed into an interpretation (the

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[262] Freud, *The Interpretation of Dreams*, 240.
[263] Sigmund Freud, "From the History of an Infantile Neurosis," in *Three Case Histories* (New York: Simon & Schuster, 1963), 190.
[264] Lacan, *The Seminar of Jacques Lacan Book XI*, 55.
[265] Ibid., 56.
[266] Wilfred Bion, *Transformations: Change from Learning to Growth* (London: William Heinemann Medical Books, 1965), 4.

representation),” and that the particular theories a particular analyst may use with a particular analysand are tools, like the artist’s brushes and paint, that can shift.[267]

Using an example of an incoherent stream of monologue given by one of his patients, Bion posits that the patient was attempting to reveal O, which stands in for the unformed content, instead of obscuring it. The incoherent speech “was to give an impression of O. The impression was often difficult to express in words.”[268] Part of the difficulty lies in the fact that “no one can ever know what happens in the analytic sessions, the thing-in-itself, O; we can only speak of what the analyst or patient *feels* happens, his emotional experience.”[269] Bion’s insistence on process is key here. O cannot necessarily be revealed as something that concretely exists in the unconscious and is simply dredged up. Rather, in the process of approaching it, in attempting to confront it, the analysand experiences the pain of O that can lead to achieving truth and growth. This is not at all a quest for pleasure nor an uncovering of an unconscious content which can be then unraveled and cured.

Bion is not the analyst who dishes out concrete interpretations of the unconscious contents as they emerge. Rather, Bion argues that essentially the analysand is dealing with something that cannot be contained, is radically unknowable, and the analyst is there to bring it to light, as phenomenon. The emergent phenomenon, the “absolute facts” of the analytic session, “cannot ever be known” and so are “denote[d] by the sign O,” description can only be of how they

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[267] Ibid., 4, 5.
[268] Ibid., 22.
[269] Ibid., 33.

appear "at the time they took place."[270] The description necessarily involves the analyst herself who always carries her own anxieties; the O (analyst) has to be taken into account in the analysis of O (patient).

O surfaces through transference-countertransference, though not in any way like Freudian transference, which to Bion is a "rigid motion" that "involves little deformation" and "implies a model of movement of feelings and ideas from one sphere of applicability to another."[271] Rather, Bion's transference-countertransference is the relationship developed in the container-contained, which refers to the process of the analyst receiving something from the analysand, trans/formulating it, and giving this transformation as interpretation to the analysand who could not process this herself. Bion states that "[w]hen he assigned O to denote the reality, the impressions of which the individual submit to the process Tα, he had in mind what Kant describes as the unknowable thing-in-itself."[272] The *Ding-an-sich* in Bion's formulation is only arrived at through a phenomenological investigation, the experience of the analytic situation. This is a process of making the unknowable knowable through an embodied experience with another: "[t]he psycho-analyst tries to help the patient to transform that part of an emotional experience of which he is unconscious into an emotional experience of which he is conscious. If he does this he helps the patient to achieve private knowledge."[273] In

[270] Ibid., 17,
[271] Ibid., 19.
[272] Ibid., 31.
[273] Ibid., 32.

Bion's schema, language has a concrete existence, but the signifier only has meaning in experience:

> The name given an object, often regarded as the sign for a quality abstracted from something, or from which something has been abstracted, is by me defined as genetically related to a selected fact. It is a sign intended to mark, and bind, a constant conjunction. It is therefore signification, but devoid of meaning. It receives its accretion of meaning from experience."[274]

Perhaps similar to the performative utterance, the particular signifier used in the approaching of O "cannot properly be described as true or false in its relationship to O."[275]

This is important to my investigation of *khora* and art-making practices because of the emphasis on process and emergence. O, like *khora*, is inherently unknowable through usual means; they only come to be known by their effects and what emerges from them. Additionally, it is this irreducibile unknowability that drives this dissertation.

The Bright Side of *Khora*

Up until this point, *khora* has been correlated with darkness—whether it be with the cave, the womb, the unconscious. Now, we can look to Sallis' remarks on *khora* as lightness, which he brings in from the *Sophist*. In a dialogue with The Visitor, the stranger claims that "the sophist runs away into the darkness of not-being, feeling his way in it by practice, and is hard to discern on account of the darkness of the place [τόπου]" whereas "the philosopher, always devoting himself

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[274] Ibid., 53.
[275] Ibid.

through reason to the idea of being, is also very difficult to see on account of the brilliant light of the place [χώρας]."[276] Using this passage, Sallis claims that "the place is, then, not only just that of the philosopher but also, as such, the place of the brightness of being."[277]

Lichtung as both light and clearing is, for Heidegger, related to the unveiling of truth. He states in §28 of *Being and Time* that

> [W]hen we talk in an ontically figurative way about the *lumen naturale* in human being, we mean nothing other than the existential-ontological structure of this being, the fact that it *is* in such a way as to be its there [sein Da zu sein]. To say that it is "illuminated" [erleuchtet] means that it is cleared [gelichtet][278] in itself *as* being-in-the-world, not by another being, but in such a way that it *is* itself the clearing [Lichtung]. Only for a being thus cleared existentially do objectively present [Vorhandednes] things become accessible in the light [im Licht zugänglich] or concealed in darkness [in Dunkel verborgen]. By its very nature, Dasein brings its there along with it [Das Dasein bringt sein Da von Hause aus mit]. If it lacks its there, it is not only factically not, but is in no sense, the being [Seiende] which is essentially Dasein. *Dasein is its disclosedness*."[279]

It is as if the curtain is being pulled back and light, now pouring in, reveals what had been in darkness. I imagine this as the opening of the chest, the heart, of Dasein, to allow Being to flow in and around. In his discussion of truth as *alētheia* as it pertains to the work of art, Heidegger makes recourse to the clearing as the operative "site" of this unconcealment of being: "In the midst of beings as a whole an open place occurs. There is a clearing. Thought of in reference to beings, this clearing is more in being than are beings. This open center is therefore not surrounded by beings;

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[276] Plato, *Sophist*, 254a; Sallis, *Chorology*, 116
[277] Sallis, *Corology*, 116.
[278] In the marginal notes, Heidegger provides here: ἀλήθεια—openness—clearing, light, shining.
[279] Heidegger, *Being and Time*, 129.

rather, the clearing center itself encircles all that is, as does the nothing, which we scarcely know."[280] Emerging from being, this open center enfolds the totality of beings, perhaps like a torus of revolution. In David Chai's examination of the relationship between Heidegger's clearing and Daoism, he interprets clearing in the Daoist sense as that which "hollows out beings so as to permit the creative flow of life to occur within" and also "clears beyng of itself in order that its rootedness in nothingness can shine forth."[281] Chai, however, is unsatisfied with the relationship that Heidegger creates between the clearing and nothingness. For Chai, nothingness in the Daoist sense is generative of being in a way that Heidegger's nothingness as primordial negation is not. Aligning *khora* with the Dao, Hui Peng Constance Goh writes that these two are "the white spaces out of which the inky marks of writing emerge."[282] Here again we see openness and generativity; *poiesis* and signification emerge from these "blank" spaces.

Another interpretation of Heidegger's Lichtung is that of lightness in the sense of weight or density. In his essay "The End of Philosophy and the Task of Thinking," Heidegger describes the metaphor of the forest clearing as not necessarily just about light making its way through the trees, but to suggest the inverse of a density—*Dickung*. Here, he defines lightening as "to make it light, free, and open, e.g., to make the forest free of trees at one place."[283] For the purposes of

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[280] Heidegger, "The Origin of the Work of Art," 178.
[281] Chai, "Nothingness and the Clearing," 587. Being is spelled as "beyng" in the text.
[282] Hui Peng Constance Goh, "Dao and Khōra: The Chiasmic Encounters of the Third Kind," *The International Journal of the Humanities*, vol. 5, no. 12 (2008), 110.
[283] Martin Heidegger, "The End of Philosophy and the Task of Thinking," trans. Joan Stambaugh with revisions by David Farrell Krell, in *Basic Writings* (London: HarperPerennial, 2008), 441.

aligning this theoretical proposition with that of *khora*, I argue that it is the very openness that *khora* provides.

The clearing illuminates the activity of *khora*; it provides the philosophical place wherein *khora* can rest in its unconcealment while still remaining enigmatic to us.

Conclusion

All of these different readings of khora provide the framework for my investigation. The purpose of laying all of these out is to generate the landscape of this project, build up the ground from which it sprouts. As I said above, all of these terms are in rhizomatic relation with each other, and are not meant to be read as simple correspondences. Rather, in putting them alongside each other, we can see processes of being and becoming whirl and twirl in an energetic stream.

Chapter 2. James Turrell: The Cave, Khora, Inner Light, Lichtung, Paradoxical Light

"O you, our Emperor! Supreme Power, Supreme Goodness, Wisdom Itself, without beginning, without end, and without measure in your works: These are infinite and incomprehensible, a fathomless ocean of wonders, O Beauty containing within yourself all beauties. O Very Strength! O God, help me! I wish I could command all the eloquence of mortals and all wisdom to understand that to know nothing is everything…"

—St. Teresa of Avila[284]

"While it is one thing to know that Earth moves relative to the stars, it is quite another to feel it in your stomach."

—Michael Govan[285]

"The idea of the Boddhisattva, one who comes back and entices others on the journey, is to some degree the task of the artist. It is a different role from that of one who is there when you get there. The Boddhisattva entices you to enter that passage, to take the journey. This is where I began to appreciate an art that could be a non-vicarious act, a seeing whose subject was your seeing."

—James Turrell[286]

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[284] Teresa of Avila, *The Way of Perfection*, 500th Anniversary Edition, trans. Henry L. Carrigan, Jr. (Brewster, MA: Paraclete Press, 2015), 95.

[285] Michael Govan, "Inner Light: The Radical Reality of James Turrell," in, *James Turrell: A Retrospective*, ed. Michael Govan and Christine Y. Kim (Los Angeles: Los Angeles County Museum of Art and Prestel Verlag, 2013), 19.

[286] James Turrell, *James Turrell, Air Mass*, (London: The South Bank Centre, 1993), 18. This is an exhibition catalogue published on the occasion of the exhibition *James Turrell* that was at the Hayward Gallery, The South Bank Centre in London from April 8–June 27, 1993.

Figure 4. Installation view of James Turrell, *Afrum (White)*, 1966. Cross Corner Projection. ©Los Angeles County Museum of Art and Pace Gallery.

Entering the space of the museum's gallery, I encounter a white cube floating above the ground. This glowing form is the only source of illumination in the room, the rest of the space shrouded in darkness. As I move back and forth, the cube follows me, always facing me. I dance with it. It delights me. After our dance, I approach it to thank it. The cube dissolves. The voluminous structure flattens. The cube transforms into a bent plane of light, wrapping the inside of the corner of the room.

This describes my experience of *Afrum (White)*, one of Light and Space artist James Turrell's earliest projection pieces, which was included in the ambitious *James Turrell: A Retrospective* that was organized by the Los Angeles County Museum of Art, The Museum of Fine Arts Houston, and the Solomon R. Guggenheim

Museum in New York. Though the work, when broken down into its element components appears as quite simple, the apparent simplicity of white light on a white wall is not simplistic at all. The viewer experiences something more than white light on a white wall. She catches a glimpse of her own experience of perception and how it shifts and transforms with her own body's movement within the space of the gallery. The cube emanates from the corner or sinks into it, opening up a hole in the wall. Sometimes, it's just a plain ole plane of light.

Afrum (White) along with most of Turrell's work are usually discussed in terms of illusion and have been for many years. Wolfgang Zimmer titled his 1981 review in *ARTnews* of Turrell retrospective exhibition, *James Turrell: Light & Space*, at the Whitney Museum of American Art "Now you see it, now you… ," an allusion to magic tricks. He writes that "Turrell puts the viewer in a constant state of readiness to be fooled, but the trick is a precisely calculated one."[287] In her introduction to the exhibition catalogue for that show, curator Melinda Wortz writes that

> [w]hen Turrell presents light without the context of an object, he allows us more direct access to understanding the illusory nature of perception. We see that his projections on the wall do not articulate the wall's surface. On the contrary, they act to deny the physicality of the wall as a boundary, creating instead the illusion of an object made of light, hovering in space, like some mysterious vision. Our persistence in identifying the light projection as substance, even when we know none is there, confirms the tenacity of our perceptual biases.[288]

Art historian Dawna Schuld has compared his work to the Necker Cube, the line drawing of a three dimensional cube that seems to switch orientation, in her essay

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[287] Wolfgang Zimmer, "Now you see it, Now you…," *ARTnews*, Vol. 80 (Feb 1981), 225.
[288] Melinda Wortz, "Introduction," in *James Turrell: Light & Space*, 7-13 (New York: Whitney Museum of American Art, 1980), 8.

"Practically Nothing: Light, Space, and the Pragmatics of Phenomenology" published in the catalogue accompanying the exhibition *Phenomenal: California Light, Space, Surface* that features Turrell's work. In the essay, she describes the perceptual experiences Turrell provides the viewer:

> What follows is the delightful awareness that one can return to the illusion simply by repositioning one's body vis-à-vis the sensing space. This ability to consciously hold perception in flux is also a characteristic of many of Turrell's projection pieces, notably the *Afrum* "cube," which like a Necker illusion can be cognitively manipulated to invert into its corner or revert into a projected cube that juts out toward us, while with a step to the left or the right it "rotates. Not one interpretation achieves primacy."[289]

But, is illusion really what is at stake in the work? The point?

Discussing Turrell's work *Blood Lust*, Georges-Didi Huberman asks: "Is it a *trompe-l'œil?"*[290] But, alas, these sorts of tricks of the eye can usually be resolved, and here "there is nothing of the sort."[291] He writes further: "Our man has taken a couple of steps to the left, presently he sees the tilted red triangle—and he tilts with the visual: a method to attempt to understand it—but everything becomes even more bizarre, and more disturbing."[292] This is not of the same order that Nancy Marmer writes in her 1981 account of Turrell's exhibition at the Whitney. There she states that Turrell engages in "the chilling art of deception," which is a "more rigorous, even didactic aspect to [his work] that tends to be ignored."[293] The

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[289] Dawna Schuld, "Practically Nothing: Light, Space, and the Pragmatics of Phenomenology," in *Phenomenal: California Light, Space, Surface*, ed. Robin Clark (Berkeley and Los Angeles: University of California Press, 2011), 116-118). The exhibition was on view at the Museum of Contemporary Art San Diego from September 25, 2011 - January 22, 2012.
[290] Georges Didi-Huberman, *The Man Who Walked in Color*, trans. Drew S. Burk (Minneapolis: Univocal, 2017), 31.
[291] Ibid.
[292] Ibid.
[293] Nancy Marmer, "James Turrell: The Art of Deception," *Art in America*, Vol. 69 (May 1981),

disturbance of which Didi-Huberman writes is instead about how Turrell's work challenges our perceptual mastery; it is not about deceiving us. These "illusions" rather provoke and tempt our default confidence. In the midst of the installations we are forced to deal with the boundaries of our own bodies, negotiate the points at which our skin meets the world because once inside, for example, one of Turrell's Ganzfelds,[294] relying on sight will not get us very far.

Craig Adcock addresses how Turrell rejects readings of his work as illusion and deception, claiming that "he is not trying to fool the viewer."[295] Elsewhere he has stated that "[p]eople have talked about illusion in [his] work, but [he] d[oes]n't feel it is an illusion because what you see alludes to what in fact it really is—a space where the light is markedly different."[296] To put Turrell's work solely in terms of illusion, let alone deception, glosses over fundamental questions about being and truth that emerge in the work. It is too quick and easy to say that the installations are simply plays of perception. Rather, what I want to focus on instead is the interplay of appearance, semblance, and phenomenon that make up and emerge from Turrell's work. Further, I argue that the work is not just about the mechanics of perception and how we translate perceptual experience into consciousness. Instead, the work demonstrates and provides philosophical questions and models about the

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[294] Ganzfeld translates from the German as "whole field." In perceptual psychology, Ganzfeld experiments have been conducted that introduce a subject to a undifferentiated, uniform field of color that feels total and encompassing.

[295] Craig Adcock, *James Turrell: The Art of Light and Space* (Berkeley and Los Angeles: University of California Press, 1990), 12.

[296] Julia Brown, "Interview with James Turrell," in *Occluded Front: James Turrell*, ed. Julia Brown (Los Angeles: Fellows of Contemporary Art and the Lapis Press, 1985), quoted in Adcock, *James Turrell*, 13.

nature of being and truth. The work enlists perception of visible light, which is part of the electromagnetic spectrum, to approach questions of Being.

Turrell stated in an interview that "[w]e create the reality in which we live."[297] In other words, how the viewer experiences these installations is not illusory; rather, how the viewer experiences them becomes the reality of the installation and their experience. Furthermore, since the installations vacillate in their appearances, in how they show themselves to us, they prove themselves to be multiple in their realities, in their being; these installations are open in themselves. And, being installations made of light, a phenomenon that is fundamentally paradoxical in its being, it is only fitting that these installations also be fundamentally ambiguous. In one of his chapters on Turrell in his book *Arts of Wonder: Enchanting Secularity—Walter De Maria, Diller + Scofidio, James Turrell, Andy Goldsworthy*, Jeffrey Kosky writes that "[h]ere, in the opening of these viewing chambers, is a light that does not illuminate and that does not bring something into focus or let it appear distinctly. Here is a light that, the artist says, 'it's not so much something that reveals as it is itself the revelation.'"[298] Turrell's viewing chambers become something like the place where we take a "step back" into this other light—one that shines without prior illumination and that is itself a reality to see. When light itself becomes revelation, what we encounter when we are observant in such

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[297] Turrell, quoted in Christine Y. Kim, "James Turrell: A Life in Art," in *James Turrell: A Retrospective*, ed. Michael Govan and Christine Y. Kim (Los Angeles: Los Angeles County Museum of Art and Prestel Verlag, 2013), 39.
[298] Jeffrey L. Kosky, *Arts of Wonder: Enchanting Secularity—Walter De Maria, Diller + Scofidio, James Turrell, Andy Goldsworthy* (Chicago: The University of Chicago Press, 2013), 101.

light changes too: it is no longer the solid and stable existing object of which we are certain, but a mysterious presence with an unnamable appeal that draws us into light without end."[299]

What we discover in our encounter with Turrell's works is that our very own perception is open, fluid, ambiguous; we can no longer be sure of our own selves. At first, this can be jarring, but, over time, this revelation discloses to us that what we take for granted as our selfsame bodies, our selfsame egos, our selfsame selves, aren't always selfsame at all. It is in the confrontation with the work of art that we can discover this: That we are just as paradoxical as the phenomenon of light. That we are both/and. That we need art to disclose this to us. That we indeed do not make any sense. That no one else does either. But, it's ok, we don't have to. All we have to do is pay attention, listen, and offer compassion.

Biography & Art Historical Context of James Turrell

James Turrell, born on May 6, 1943 in Pasadena, CA, grew up in a Quaker household with a father trained as an aeronautical engineer and a mother who held a medical degree and served in the Peace Corps. Turrell was an Eagle Scout and built boats, perhaps in a rebellion against his father's practice of flight.[300] Turrell's academic background did not start out in art. Departing from his plan to study mathematics in college, he earned his BA in perceptual psychology from Pomona College in 1965, while racking up a few art and art history classes on the way,

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[299] Ibid.
[300] Adcock, *James Turrell*, 2-3.

focusing on painting.[301] In 1963, during his time at Pomona College, he attended a performance by John Cage which included the influential *4'33"*. He described the experience stating: "I was impressed by the quality of the statement. I didn't really understand it, but I knew it was important."[302] After graduating from Pomona, Turrell made a brief stint of it in graduate school at the University of California at Irvine, studying studio art, art theory, and art history. It was during this time that he started using light as a medium, first using fire and then using projectors.

In 1966, Turrell aimed a beam of light emanating from a high-intensity, tungsten light source with a Leitz slide projector into a corner of one of the rooms of the former Mendota Hotel in Ocean Park, California that he acquired in November 1966 and was using as his studio. Inspired by the use of slide projectors in art history classes to view works of art, this act of shining a light without illuminating any image in particular evacuated the work of representation and provided the viewer with an image of pure light. This was *Afrum*, later renamed *Afrum-Proto*, one of his Cross Corner Projections, and was later shown in his first solo exhibition that was at the Pasadena Art Museum in 1967.[303] In an interview with Christine Kim, Turrell recalls the experience of viewing slides of Vermeer and Barnett Newman paintings in classes:

> The image filled the frame of the slide. And all were projected onto a silica-beaded screen that returned a dazzling brilliant luminance. I also watched the beam of light from the projector. I was looking at the light. We normally use the light to reveal something else, to illuminate other things. I was looking at the thing-ness of light. Light itself was the revelation.[304]

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[301] Ibid., 3-5.
[302] Ibid., 4.
[303] This work was later purchased by Tom and Melinda Terbell Wortz.
[304] Kim, "James Turrell," 39.

After producing this work, Turrell decided to leave graduate school. In an interview with Craig Adcock he stated that "[i]t was time to stop becoming an artist and start being one."[305] Occupying the Mendota until 1974, Turrell covered over the windows and transformed the hotel into seamless white rooms so that he could play with and control the light.

Also during this time, from November 1968 to August 1969, Turrell participated in the Art & Technology program conceptualized by Maurice Tuchman and organized by the Los Angeles County Museum of Art. Prominent physicist Dr. Richard Feynman served as the general scientific advisor for the program.[306] As described by Jane Livingston in the catalogue accompanying the culminating exhibition for the program, Robert Irwin and Turrell's first meeting with the museum staff, Dr. Feynman, and the scientist the artists would work with most closely, Dr. Ed Wortz, the meeting "was one of the most exciting and spontaneously productive occasions of its kind we attended during the entire course of [the Art & Technology program]."[307] Wortz, a physiological psychologist at the Garret Corporation who headed the corporation's life-science division and contract for NASA's Apollo Program, was exploring strange and unusual perceptual experiences astronauts were potentially going to encounter while traveling in outer space and

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[305] Adcock, *James Turrell*, 6.
[306] Ibid., 62.
[307] Jane Livingston, *Art & Technology: A Report on the Art & Technology Program of the Los Angeles County Museum of Art, 1967-1971*, ed. Maurice Tuchman (Los Angeles: Los Angeles County Museum of Art; New York: Viking Press, 1971), 128, quoted in Adcock, *James Turrell*, 65.

hopefully when landing on the moon; perception enstranged.[308] The pairing was a good one and the collaboration between them proved to be fruitful. Together, they experimented with the mechanics, limits, and expanses of human perception. As Adcock notes,

> [a]lthough each member of the collaboration used different approaches, they all had the ability to look and listen intensely. They all had different artistic, scientific, and philosophical backgrounds, but they were each concerned with the fine distinctions of perception made possible through prolonged concentration and carefully considered observation.[309]

The trio—Wortz, Irwin, and Turrell[310]—contacted Jay Dowling of the psychology department at UCLA for access to the university's anechoic chamber to investigate the experiences and effects of a "total aural field."[311] They also studied and practiced meditation, biofeedback training, and alpha conditioning, all part and parcel of the development of their artistic practice.[312] From this research, the team decided to pursue a project involving a Ganzfeld with an anechoic chamber.

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[308] My readings of perceptual and experiential strangeness that works of art provide derive from the concepts of defamiliarization as they are described by Viktor Shklovsky (*ostranenie*) and Bertolt Brecht (Verfremdungseffekt). See Shklovsky's 1917 essay "Art as Device" printed in *Viktor Shklovsky: A Reader*, ed. and trans. Alexandra Berlin (New York: Bloomsbury, 2017), 73-96 and Brecht's 1936 essay "Alienation Effects in Chinese Acting" reprinted in *Brecht on Theatre: The Development of an Aesthetic*, ed. and trans. John Willett (New York: Hill and Wang, 1992), 91-99. I also add Antonin Artaud's *theater of cruelty* he proposed in *The Theatre and Its Double* is intended to immerse the audience member in order to bring about a transformation. Antonin Artaud, *The Theatre and Its Double*, trans. Mary Caroline Richard (New York: Grove Press, 1958).

[309] Adcock, *James Turrell*, 66.

[310] For the purposes of brevity, I will not be discussing the role the Robert Irwin played. An entire chapter could be devoted to the distinctions between the use and role of light and perception between the two artists.

[311] Adcock, *James Turrell*, 66.

[312] Alison de Lima Greene, "As It Is, Infinite: The Work of James Turrell," in *James Turrell: A Retrospective*, ed. Michael Govan and Christine Y. Kim (Los Angeles: Los Angeles County Museum of Art and Prestel Verlag, 2013), 122.

However, this project was never realized, but we can see and experience it in Turrell's realized solo works, in his own Ganzfelds and Perceptual Cells.

The relationship of Turrell's work to Minimalism seems to constantly be under scrutiny. In an interview with Christine Kim, Turrell states that "his difficulty is with how perceptual art has become a subset of Minimalism. That is not its origin, not its context."[313] However, many still do associate his work with Minimalism. In Adcock's monograph on Turrell, he devotes an entire chapter to Minimalist art discussing both West Coast and East Coast varieties, and includes plates of works by Tony DeLap, John McCracken, Larry Bell, Tony Smith, Robert Irwin, and Douglas Wheeler. In her dissertation on Turrell and Quakerism, Lise Kjaer briefly glosses the art historical context of Turrell's work, stating that his work, popping up at the closing of Minimalism and the opening of Post-Minimalism plus being from the West Coast, does not easily fit within the category of Minimalism as it has been outlined by New York critics such as Rosalind Krauss. Kjaer notes that Krauss believed the work to be retrogressive and headed back towards Abstract Expressionism, which had the goal of producing the "abstract sublime."[314] However, Abstract Expressionism depends on the Modern Subject entering the viewing experience and the Modern Subject exiting the viewing experience: whole, selfsame. Arguably, Minimalism, whether it is East Coast or West Coast, can offer this as well. The difference with Turrell's installations is that we are not guaranteed that whole,

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[313] Kim, "James Turrell," 42.
[314] Rosalind Krauss, "Overcoming the Limits of Matter: On Revising Minimalism," in John Elderfield, ed., *Studies in Modern Art I: American Art on the 1960s* (New York: Museum of Modern Art, 1991), 137 quoted in Lise Kjaer, "Awakening the Spiritual: James Turrell and Quaker Practice" (PhD dissertation, City University of New York, 2008), 24.

selfsameness when we exit. Sometimes, we have to crawl out of the installation. A declaration of humility.[315]

Turrell has focused his career on producing works that give light room to breathe. In these installations, light, instead of merely serving a function, just being a means to an end, can be an end in itself. It becomes voluminous, misty, full, dense. Turrell's works also provide the viewer opportunities to experience her own experience, perceive her own perception. She can bathe in the light; she is embraced by it. Standing, sitting, or laying down in these installations, she sometimes contemplates, sometimes takes stock of her bodily boundaries, or sometimes just gets lost.

Philosophies of Being

The Cave and Khora

In the proposal that Turrell submitted for his team to the Los Angeles County Museum for the Art & Technology Program on January 15, 1969, he describes a series of spaces that takes the viewer through different seeing and hearing conditions, always preparing the viewer for the next one. The viewer first enters the preparatory area, in which the sound is dampened, spending five to ten minutes there. She then travels to the second space, of which the entrance is "obscured by

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[315] From Turrell's statement on *City of Arhirit* (1976) published in the exhibition catalogue for *the other horizon*: "In the Stedelijk installation, people got down on their hands and knees and crawled through it because they experienced intense disequilibrium. … We finally had to cut a path into the floor, but even then people had trouble standing. The guards put two dots on the walls and wore thick glasses so they could actually have a horizon made between the two dots. Then when the work was at the Whitney, some people actually fell." *James Turrell: the other horizon*, ed. Peter Noever (Ostfildern-Ruit: Cantz-Verlag, 1999), 124.

either a blind wall or curve," an anechoic chamber, a cube measuring 12 x 12 x 12 feet; the viewer sits in a mobile reclined chair. After a time, the reclined chair flattens and is hydraulically lifted up to the third, upper chamber. At first, it is dark and quiet. This upper chamber, a dome constructed of seamless, semi-translucent plexiglass for back projection, is where the Ganzfeld takes place. The goal was for the viewer to experience changes in the color temperature, quality, and intensity of light without images. From there, she is lowered back down, and exits the installation through a tunnel.[316]

Reading about this proposal calls to mind Plato's Allegory of the Cave, which I discussed above concerning Irigaray's reading of it. Told by Socrates in Book VII of Plato's *Republic*, the cave functions as the scene of representation. I repeat the story here: There are people living in an underground dwelling, chained, with their eyes fixed straight ahead of them, unable to turn around. Behind them, a fire and beyond that, the world. The world's activities are broadcast onto the cave wall as shadows formed by the flames. Because these people have only known these shadow-images, they experience them as reality, understand them as the actual world, and name them as such. But, Socrates argues, those shadow-images are not the real world. The man who one day breaks free of his chains, escapes the cave, and walks into the light of day, at first is blinded by its brilliance. With time, he comes to see the actual world and can look into the light without pain.

Many correlate Turrell's practice to the Allegory of the Cave. Describing his studio work at the former Mendota Hotel, Turrell states that the

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[316] Adcock, *James Turrell*, 67-68.

> human activity of seeing comes from an interior space. The Mendota Hotel *was* a Plato's Cave. The projections became a representation of reality—not that they're unreal at all, it's just that they are a small distinct part of reality. We are sitting in the cave looking at the reflection of reality with our backs to it. The spaces themselves are perceivers and preform perception. These rooms were cameralike spaces that apprehended the light so as to be physically present within the space.[317]

The physical nature of these sealed off rooms, what Turrell called "sensing spaces" at the Mendota are similar to that of the cave, but I argue that their function is radically different. Nothing about the images cast on the studio wall speak to a pejorative virtuality. Rather, with the Mendota Stoppages, the sealed studio, with its apertures that let in the outside world, provide an open space for perceptual play and the emergence of phenomena, more like John Cage's influential composition *4'33"*, which Turrell saw at Pomona College.[318] In *4'33"*, the silence of the performance stage opens up an entire arena of sound. The absence of musical notes allows for the noises and acoustics of the concert hall to perform. Writing about Turrell's Ganzfeld works, Michael Govan states that "[i]n his utterly simple, entirely abstract, construction-environment-artwork, Turrell has obliterated the philosophical and actual barriers between subject and object, as if the ideal forms and their shadows on Plato's cave wall have merged into one ultra reality."[319] Perhaps these works, the later Ganzfelds and Perceptual Cells, give the viewer a glimpse of the ineffable experience of *khora*.

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[317] Kim, "James Turrell," 43.
[318] Turrell described his experience of the performance in an interview with Christine Y. Kim published in the catalogue accompanying the retrospective. Ibid., 39.
[319] Michael Govan, "Inner Light," 33.

Figure 5. James Turrell, *Breathing Light*, 2013, LED light into space. ©Los Angeles County Museum of Art and Pace Gallery.

Meditation Room

The gallerist at Los Angeles gallery Kayne Griffin Corcoran led me to the back of the gallery to experience *Meditation Room*, an iteration of Turrell's Perceptual Cell works that began with *Gasworks* in 1993.[320] She asked me to choose either "hard" or "soft" cycle. I chose "soft" because I was not sure how hard "hard" would be. The technician/gallerist sets the program and led me inside a dome where I encountered two leather-covered tables/beds positioned head-to-head. The door closed and the cycle began. For "soft," sixteen minutes of shifting gradations of colors and sounds wash through and fill the dome. After some time, I became uncertain whether I was

[320] Leah Ollman, "Review: Perceptual Cell a consummate Turrell experience," *LA Times* (Jun 21, 2013), http://articles.latimes.com/2013/jun/21/entertainment/la-et-cm-james-turrell-review-20130617.

seeing the insides of my eyelids or the then-color-saturated-white dome above me, encompassing the entirety of my field of vision. Pinks, golds, blues, greens, violets—they all seemed to enter into and exit from my eyes simultaneously. The varying pitches and frequencies of tones and buzzes felt as if they were emanating from my own nervous system, pulsating from within my own body. I reach my arm out, attempt to caress the light with my fingers and I meet empty space. I want to *feel* the *substance* of light. I am not alone. Many, in fact, do this with his works, especially with his Space Division Constructions.[321]

At the end of the cycle, returning to the blank canvas of white and silence, the dome, which prior to the experience felt empty, now feels alive. It is potential. It is now merely resting for its next performance. Writing on the "apparently empty space" of *khora*, Derrida writes that this "gaping opening, an abyss or chasm" is the starting point for all. He asks: "Isn't it starting out from this chasm, "in" it, that the cleavage between the sensible and the intelligible, indeed, between body and soul, can have place and take place?"[322]

Using space, light, and sound, Turrell produced a perceptual experience that wrapped my body in an immaterial blanket. Light and sound waves embraced me, showing me how close these phenomena are to me; within this dome, I was not separate from them, they made up my body. Not covered by anything physical apart from the clothes I wore, I experienced an enveloping that both surrounded and

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[321] Christine Y. Kim, "Light Occupies Space" in *James Turrell: A Retrospective*, ed. Michael Govan and Christine Y. Kim (Los Angeles: Los Angeles County Museum of Art and Prestel Verlag, 2013), 102-3.
[322] Derrida,"Khōra," 103.

permeated me. This dome was no longer separate from me; it inhabited me. As Michael Govan write about Turrell's Ganzfelds, "at certain moments one's entire grasp of boundaries, of walls, ceiling, floor, dissolves. The experience is often less "extrasensory" than transgressive: color and light literally enter the body."[323] The light behind our eyes meets the fire beaming from outside of us.

Writing on Turrell's earlier *Gasworks*, Govan states that "Turrell offers a glimpse not of something *out there* but of the light and space *behind* the eye."[324] Further, he writes that "[b]y this programmed and concentrated exposure to light, Turrell is able to place the viewer in a "theta" or even "alpha" state of altered consciousness—the goal of much spiritually driven meditation practice."[325] Inside *Meditation Room*, the buzzes and colors felt like they were inside my ears, behind my eyes, not outside me, not separate and apart. As Govan writes: "His art collapses the distance between the perceiving subject and the object of perception."[326] No longer was I separate from the apparatus of the installation. I was part of it, one with it. Or, maybe, it was part of me. The light indeed greeted me.

In Plato's *Timaeus*, in describing how and why the human body was made the way it was, the interlocutor describes how the "eyes were the first of the organs to be fashioned by the gods, to conduct light" and that the "pure fire inside us … they made to flow through the eyes."[327] Sight is then described as when daylight surrounds the visual stream and fire passes through the eye and meets the fire of an

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[323] Govan, "Inner Light," 32.
[324] Ibid., 31
[325] Ibid.
[326] Ibid., 34.
[327] Plato, *Timaeus*, 45b.

object forming a "column of fire," which then reaches the soul.[328] Essentially, for Plato, the eyes are the apertures that connect a being to the external world. We can connect because inside of us is light, a belief that many spiritual practices hold.

Light and Spirit

Many critics and art historians have brought up Turrell's Quaker background as an influence in his artistic practice. However, many, including Didi-Huberman resolutely, claim that Turrell's work is "[a]bsolutely not" mystical and that it is "absurd" to suggest links to Turrell's Quakerism or Zen Buddhism.[329] In that same essay, Didi-Huberman relates Turrell's work to *khora*, which Plato claims cannot be arrived at through dialectal thought, it can only be gotten to by way of a path that is "dimly seen." To suggest that this path is not mystical or spiritual seems to be shortsighted in its clinging to the rationality of the Father. From Didi-Huberman:

> Turrell's work, because it concerns the place, because it invents places, perhaps also demands that we speak according to a "third genre of discourse." A genre beyond the classical dualisms where history and modern art have placed us for so long. The classical Platonic dualisms still exist, still operate in our discourses: that which forms a pattern in contrast to that which forms an imitation, that which is intelligible in contrast to that which is sensible (indeed, that which is "intellectual" in contrast to that which is "sensual"), that which is immutable in contrast to that which changes. The word *fable* would here serve as an emblem for an anachronistic speech, an untimely speech refusing the dilemma between these two great genres of discourse which, in classical Platonism, are known as *logos* and *mythos*: respectively, where art is concerned today, the positivist logic of time objectified into lines of progress, and the metaphysical myth of time frozen

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[328] Ibid., 45b-c, fn 45.

[329] Didi-Huberman, "The Fable of the Place," 54. For the purposes of space and time, I will not be addressing Turrell's Buddhist meditation practices. Instead, I will more thoroughly be addressing Oliveros' philosophy of meditation. For a discussion on Turrell's work in meditation and the influence of Eastern thought on his work, see Adcock, *James Turrell*, 72-4 and 83.

> into pseudo-origins. Could a fable, voiding itself of its own affabulation, serve to say something about this place which is neither the literal nor the metaphorical? But a fable, even if it is divinatory, will inevitably fall short of lucidity, destined as it is to its place, as though to the zone, the time, where we slip over into sleep, gradually losing our capacity for waking thought."[330]

The way that I am approaching *khora* in this dissertation is not just as fable, not just as *mythos*, as Didi-Huberman is taking it to be. Rather, *khora*, as it shows up in *Timaeus*, is εἰκὼς λόγος, still within the realm of logos, presents us with an opportunity to challenge our own thinking. In a sense, it opens up the possibility for thinking or comprehension beyond rationality, which may be something like spirituality. Instead of thinking this or that, *khora* forces us to think both/and while simultaneously neither/nor, as Derrida claims. To hold these in our comprehension, baffling indeed, may require a spiritual dimension, another way. The khora, a "*triton genus*"[331] demands an "aporetic way."[332] We must trust the direction we take through the open sea, tracing ourselves back to what we knew before the floods.[333]

Turrell's work can be a baffling experience. Simultaneously immaterial and extremely haptic, what I *know* to be *just* light I *feel* physically. The first few times I experienced his work, I admit I played around with it. Reaching out into spaces to test whether they were empty or not, delighted when my hypotheses checked out and even when they did not. It was almost like being at a carnival. Color everywhere. So much stimulus. Over time and continued viewings, however, my relationship with the work changed. I started to spend more time with each work. The pieces and I

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[330] Ibid., 55.
[331] Derrida, "Khōra," 91.
[332] Ibid., 90.
[333] As described in *Timaeus*, Solon learns from the Egyptians that Greeks don't know their history because they lose everything through reoccurring flooding.

began to unfold with each other the longer we stayed with the other. Within some of them, I truly felt them envelop me, embrace me. Those moments were important. I refuse to explain them away. I can only describe these as spiritual experiences.

Earlier in his career, when there was "little confirmation of [Quakerism] in Turrell's discussions of his intentions," critics and art historians still saw a "supporting locus for Turrell's work in the individualistic and humanitarian nature of Quaker teaching and practice," which privileges an individual relationship with Spirit without prescription. For Richard Andrews, this is "echoed in the open-mindedness of Turrell's art, which sets up conditions for understanding visual experience in a manner that is neither didactic nor compulsory."[334] In an interview with Andrews later in the catalogue for the exhibition *James Turrell: Sensing Space* that was at the Henry Art Gallery at the University of Washington in 1992, Turrell deflects a question Andrews poses about his Quaker background: "How much of your childhood—in terms of being raised in a strong Quaker environment, with the absence of decoration, and the importance of reflection, pulling back into oneself to better understand the world outside yourself—how much of that is in your work?—saying:

> That's hard for me to answer, because I'm a little too close to that. The thing is, that the things that you've mentioned are obvious. There's obviously an economy of means and also quite a non decorative bent to that form of Puritanism. I must say I think one of the strongest qualities you perceive in the experience of these pieces is the one of the nature of time in the pieces. It is a really different time, and that quality is something that comes from them, from those areas. It's a different time than some kinds of art have.[335]

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[334] Richard Andrews, "The Light Passing By," in *James Turrell: Sensing Space*, ed. Richard Andrews (Seattle: Henry Art Gallery, University of Washington, 1992), 10.
[335] Richard Andrews, "1982 Interview with James Turrell," in *James Turrell: Sensing Space*, ed. Richard Andrews (Seattle: Henry Art Gallery, University of Washington, 1992), 38.

In 1980, Turrell started work on his installation *Meeting* at MoMA P.S. 1. The piece consists of a Skyspace and benches extending from the room's walls. At the time Turrell constructed *Meeting*, he was not actively conscious about the relationship of his Quaker roots to his art practice. But, as Lise Kjaer argues, it was in making *Meeting*, that Turrell acknowledged the influence that Quakerism had on his work.[336] Years later, Turrell was commissioned to design a Quaker meeting house, and in 1999, the Live Oaks Friends Meeting House, broke ground in Houston, concretely bringing together the spiritual and artistic practices together.[337] In a later interview with Christine Kim, he describes the Quaker belief about "the relationship between the light inside and the light outside" and how his "grandmother believed the purpose of meditation or contemplation was to wait upon the Lord and meet up with the light inside."[338] Further, he describes how even with our eyes closed, we can see or sense light: "There is never no light. You see that in the Perceptual Cells because that's about the seeing behind the eyes, seeing like we see in a dream."[339]

This inner light, connecting to the light outside of us, brings Turrell's work to bear on Heidegger's concept of *Lichtung*. Heidegger's *Lichtung* is evident in Turrell's works in that experiencing his work opens up the perceptual space that allows us to examine our being-in-the-world and our relational condition. Further, Turrell's works create situations of veiling and unveiling, which for Heidegger are imperative

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[336] Kjaer, "Awakening the Spiritual," 34.
[337] David Hays, "Using the Sky to Discover an Inner Light: James Turrell's 'skyspace' for a Quaker group alters perceptions of the heavens," *New York Times* (Apr 8, 2001), AR35
[338] Kim, "James Turrell," 40.
[339] Ibid.

for disclosing truth. These pieces, in their perceptual complexities, point to our relational nature, our being as Dasein.[340]

Usually, analyses of Turrell's work enlists the phenomenology and psychology of perception offered by Maurice Merleau-Ponty. This is apt for many reasons considering Merleau-Ponty's focus on the body and embodiment. However, I look to Heidegger's Being, which is often left out of the narrative, save for some more recent inquiries.[341] To put this another way, I seek the ontology of Turrell's works. Perhaps this takes me into transcendental territory, but I cannot deny my desire to understand the truth and Being of these works. I posit that Turrell's work plays out the undulating process of truth as it emerges in *alētheia*. These light installations that seem to play games with the viewer's perception, which as I argued above are hardly illusions, in fact point to the truth of light itself as phenomenon, its fundamental enigmatic nature, which in turn force us to re-examine our own Being.

Heidegger describes phenomenon as "what shows itself in itself," which is distinct from both semblance (the possibility of beings showing themselves as not themselves) and appearance ("something which does not show itself announces itself through something that does show itself"). Important to a discussion about Turrell, these are all made possible, by light, illumination: "'phenomena,' are thus the

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[340] I began to sketch out these ideas in a 2013 art review. Meredith Kooi, "James Turrell's Cave and the Unveiling Truth," *Bad At Sports* (Oct 24, 2013), http://badatsports.com/2013/james-turrells-cave-and-the-unveiling-truth/.
[341] Christopher Townson, "Site and Non-Site: Heidegger, Turrell, Smithson" (PhD diss., University of Essex, 2005), microfilm, 1.

totality of what lies in the light of day or can be brought to light."[342] In *Being and Time*, the figure of light takes on the meaning of Dasein's coming into disclosedness:

> To say that it is "illuminated" means that it is cleared[343] in itself *as* being-in-the-world, not by another being, but in such a way that it *is* itself the clearing [Lichtung].[344] Only for a being thus cleared existentially do objectively present things [Vorhandenes] become accessible in the light or concealed in the darkness. By its very nature, Dasein brings its there along with it. If it lacks its there, it is not only factically not, but is in no sense, the being [Seiende] which is Dasein. *Dasein is its disclosedness*.[345]

It is only in this clearing that sight, or for the purposes of spiritual practice—inner sight—becomes possible.[346] In interviews, Turrell talks about his choice of medium: "My art was about perception. The material may have been light, but perception was the medium. The "material" was patently immaterial, the medium in which it took place, perception, even more ephemeral."[347]

In Heidegger's essay "The Origin of the Work of Art," clearedness also relates to shining which figures prominently as radiance, meaning a shining forth or an emanation, something in excess.[348] Turrell's light is indeed excessive. In his Ganzfeld works for example, the light is more than itself, extending its own limits while overflowing them, becoming quasi-material; this light is simultaneously being and non-being, material and immaterial. In the catalogue accompanying the exhibition

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[342] Heidegger, *Being and Time*, 27.
[343] Heidegger provides a footnote * "Ἀλήθεια—openness—clearing, light, shining."
[344] Heidegger provides a footnote here as well clarifying that Lichtung is not externally produced. "But not produced."
[345] Heidegger, *Being and Time*, 129.
[346] Ibid., 164.
[347] Kim, "James Turrell," 42.
[348] Andrew Mitchell, *Heidegger Among the Sculptors: Body, Space, and the Art of Dwelling* (Stanford: Stanford University Press, 2010), 10.

the other horizon that was at MAK in Vienna, curator Daniela Zyman writes of *Wide Out* a Ganzfeld produced for the show, that the work

> convokes the perpetual interplay of distance, illusion, and perception evoking a *Ganzfeld* experience where atmospheric density and the powerful mass of light gradually become physically felt, haptically verifiable it seems, in their fine materiality. It's the intense experience of an objectless colored field, absolutely homogenous and occupying the peripheral totality of the visual sphere.[349]

For Zyman, this totality she speaks of challenges our understanding of here and there. We ask ourselves: where are we in this space? She further states that "Turrell reinforces this enigmatic nature of space and its dimensionality by materializing the space in between—the transitory—the ambient space through light."[350]

In Andrew Mitchell's analysis of Heidegger's examinations of Ernst Berlach's sculptures, he states that "Being takes place *between* presence and absence, at the surface where the being extends beyond itself and enters the world. Being takes place at the limit of the thing—understanding limit as Heidegger does, not as where something ends but where it begins."[351] Not only do Turrell's installations show us the limits and instability of our own perception and boundaries of our bodies, but the works also illuminate the complexity of light as a physical phenomenon. As Heidegger states in "The Origin of the Work of Art,"

> the more purely the work itself is transported into the openness of beings—an openness opened by itself—the more simply does it transport us into this openness and thus at the same time transport us out of the realm of the ordinary. To submit to this displacement means to transform our accustomed ties to world and earth and henceforth to restrain all usual doing and prizing,

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[349] Daniela Zyman, "the other horizon: On the Exhibition at the MAK," in *James Turrell: the other horizon*" (Ostfildern-Ruit: Cantz Verlag, 1999), 18.
[350] Ibid.
[351] Ibid., 23.

> knowing and looking, in order to stay within the truth that is happening in the work.[352]

Unlike Heidegger's argument, however, that "language alone brings beings as beings into the open for the first time,"[353] the materiality of the work, brings light as being into the open, and us along with it. In Turrell's installations, we experience light as both material and immaterial, and it provides us the opportunity to perhaps examine the boundaries of our skin for the very first time. We can feel the light touch us while simultaneously "knowing" its immaterial existence. In his Wedgework or Space Division Construction series, we reach out to grab the light, coming back with nothing. As Melinda Wortz writes in the introduction to the catalogue for the 1980 exhibition of Turrell's work at the Whitney, "[i]f we reach into the recessed space in an attempt to touch the substance that we see within, we immediately realize that in a physical sense nothing is there. Yet the visual experience is vividly real. How can we reconcile what we are seeing—density, substance, fullness—with what our intellect tell us—that the space is empty, not full?"[354]

Standing within one of Turrell's Ganzfelds, Dasein finds itself thrown into the midst of an unstable world. No longer fixed to a particular place, light itself is the space, clearing, that opens Dasein to the possibilities of its ownmost being. As Heidegger writes, "[o]nly this clearing grants and guarantees to us humans a passage to those beings that we ourselves are not, and access to the being that we

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[352] Heidegger, "Origin of the Work of Art," 191.
[353] Ibid., 198.
[354] Melinda Wortz, "Introduction," in *James Turrell: Light & Space* (New York: Whitney Museum of American Art, 1980), 9.

ourselves are."[355] Turrell has stated in an interview that "But for something so powerful, situations for its felt presence are fragile … I like to work with it so that you feel it physically, so you feel the presence of light inhabiting a space. I like that quality of feeling that is felt not only with the eyes."[356]

Paradoxical Light

One thing that Turrell's work does is produce the clearing, the opening, that brings light into the radiance of its own shining. Coming from a Heideggerian perspective, this is art setting-into-work truth. The phenomenon of light itself has been an ongoing paradox for physics since it displays properties of both particle and wave, which is referred to as wave-particle duality. Depending on which experimental apparatus is in play, light will either behave as a particle or as a wave; it does not do both within the parameters of the experiment. In her book *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Karen Barad describes the puzzling and paradoxical nature of wave-particle duality using the example of the double-slit experiment. In this experiment, which had been a *gedanken* [thought] experiment for many years, but became a reality in the 1990s, we witness how depending on the arrangement of the apparatus, light behaves as either a particle or a wave.

Barad turns to the modified two-slit experiment that physicist Niels Bohr drew to examine the behavior of light. The apparatus involves two partitions: the

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[355] Heidegger, "Origin of the Work of Art," 178.
[356] Julia Brown, "Interview with James Turrell," in *Occluded Front: James Turrell*, ed. Julia Brown (Los Angeles: Fellows of Contemporary Art and the Lapis Press, 1985), 22.

first with one slit and the second with two slits. On the other side of these partitions is a screen. What has been observed through this experiment is that light *and* matter exemplify wave behavior. In 1927 when Clinton Davisson and Lester Germer conducted the experiment using slow moving electrons fired at a crystalline nickel target, they observed that the electrons produced a diffraction pattern on the target screen. Only waves produce diffraction patterns.[357] This is super weird. How is it possible for what we believe as particles to behave like waves? Another explanation of this involves probabilities, since physics is a science of probabilities. The results from the experiment depict all the possibilities the electron carries with it until it hits the screen. This field of possibilities creates what some physicists are calling the multiverse wherein each possibility is carried out in a multiplicity of universes.

Physicist James Clerk Maxwell, who proposed the unity of the electromagnetic field in the 1860s, determined that light is a wave. However, experiments at the time seemed to contradict this theory, showing that light behaves as a particle. Bohr developed out of the two-slit experiment a modification, the which-slit experiment. This involved changing the second partition so that the bottom slit was fixed to the support and the top slit was suspended via springs. When shooting a beam of electrons or light through the partitions, the result indicates the behavior of particles. Bohr demonstrated through this experiment that whether light behaves as a wave or particle depends on which apparatus the physicist uses.[358] This was a revolutionary finding for physics in that it ran "contrary

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[357] Barad, *Meeting the Universe Halfway*, 82-3.
[358] Ibid., 105.

both to the ontology assumed by classical physics, wherein each entity (e.g., the electron) is either a wave or a particle, independent of experimental circumstances, and to the epistemological assumption that experiments reveal the preexisting determinate nature of the entity being measured."[359] In other words, "objective" phenomena do not have inherent attributes that are separate and apart from their particular material-temporal-spatial arrangements. As Barad states, "*the nature of the observed phenomenon changes with corresponding changes in the apparatus*."[360] Nature itself shows itself as multiplicity.

This paradox, wave-particle duality, is fundamental to quantum physics. As Barad states in an essay written for the art event dOCUMENTA, "[a]t the heart of quantum physics is an inherent ontological indeterminacy. This indeterminacy is only ever partially resolved in the materialization of specific phenomena."[361] Things are still undetermined. It is what sets this physics apart from classical physics. In this worldview, the world opens up to a myriad of possibilities that we didn't previously think possible. Space and time can bend and morph. Constituent elements of our reality, electron, seem to appear in multiple places at once. As I mentioned in the introduction to this dissertation, this is a world that ripples and sways and remains open.

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[359] Ibid., 106.
[360] Ibid.
[361] Karen Barad, *What Is the Measure of Nothingness?: Infinity, Virtuality, Justice*. dOCUMENTA (13). (Ostfildern: Hatje Cantz, 2012), 7.

Conclusion

James Turrell's works provide us with experiences of perception and embodiment that can lead us to philosophical questions of Being. Playing with light and darkness, space and time, his work challenges the viewer's selfsameness, ontological certainty. In his book *The Return of the Real*, critic Hal Foster writes that "Turrell's works often begin by imposing an act of *closure* or privation. But the intent is always the gift of experience dispensed in light; and therefore the works allow, in the end, an act of *opening*."[362] What this chapter sought to do is approach this opening. Many of these installations hold us in, hug us tight, almost materially. Writing on Skyspaces and Ganzfelds, Turrell says that they "not only imbed but shelter within them a subtle way of perceiving."[363] These installations prod us in our subtle bodies—the part of ourselves that comprises our energy field.

It would be too easy to analyze *Meditation Room* and the rest of Turrell's oeuvre only in phenomenological terms. Indeed, Turrell's body of work is explicitly *about* the phenomenon of perception. However, what I sought to provide in the space of this chapter are other avenues of investigation that toe the ontological line. *Meditation Room* provides an explicit example of the immaterial swaddling I seek to show in this dissertation. As Didi-Huberman argues, Turrell's "*viewing* chambers construct places where seeing takes place, where seeing becomes the experience of the chora, the "absolute" place of the Platonic fable.[364] For him, this place can be

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[362] Hal Foster, *Return of the Real: The Avant-Garde at the End of the Century* (Cambridge, MA: MIT Press, 1996), 46.
[363] Turrell, in *James Turrell: the other horizon*" (Ostfildern-Ruit: Cantz Verlag, 1999), 133.
[364] Didi-Huberman, "The Fable of the Place," 45.

arrived at through what he calls "*borderline*: limit-experiences, where the limit is constituted in a phenomenology of *time to see*, a time which, itself, little by little will come to constitute *the place as such*."[365] Additionally, this "*borderline* character of the work is that its place floats or transits between our awareness of the constructed place, which we penetrate, and our oblivion of the *chora*-place, where a significant part of our existence is founded and agitated in our dreams. The *chora*-place that with which we are *penetrated*, despite everything."[366] This work makes clear the relationships I am drawing between ether, *khora*, and Lichtung as they pertain to installation art and philosophies of Being. Turrell's installation enables the viewer to think through and experience these terms, appealing and perhaps shifting or refining both her conceptual and preconceptual understandings of space and place, materiality and immateriality. Since this project does not depend upon a stable phenomenological subject, nor does it wish to find one, it cozies up with overflowing thresholds, paradoxical puzzlers, and inhuman beings.

Now that we have examined the light of the father, it is time to go into the darkness. The underground. The invisible. The feminine.

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[365] Ibid.
[366] Ibid.

Chapter 3. Pauline Oliveros: Learning to Listen & Sonic Entanglement

In a dark night,
With anxious love inflamed,
O, happy lot!
Forth unobserved I went,
My house being now at rest. …
I continued in oblivion lost,
My head was resting on my love;
Lost to all things and myself,
And, amid the lilies forgotten,
Threw all my cares away.

—St. John of the Cross[367]

"Only one who already understands is able to listen."

—Heidegger[368]

"How we listen creates our life."

—Pauline Oliveros[369]

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[367] John of the Cross, *Dark Night of the Soul*, ed. Benedict Zimmerman, trans. David Lewis (Charlotte, NC: TAN Classics, 2010), xxi, xxiii.
[368] Heidegger, *Being and Time*, 159.
[369] Pauline Oliveros, "Quantum Listening: From Practice to Theory (to Practice Practice)," in *Sounding the Margins: Collected Writings 1992-2009* (Kingston, NY: Deep Listening Publications, 2010), 76.

In 1953, experimental composer and musician Pauline Oliveros' mother gave Oliveros a tape recorder for her 21st birthday; the device had just become commercially available. She describes experiencing the discrepancy between what she heard with her own ears and what the device recorded; the tape recorder captured sounds of which she was not aware with her naked ears. That realization, that she was not listening to all that could be perceived, prompted Oliveros to give herself a directive that she continued to practice from then on: "Listen to everything all the time and remind yourself when you are not listening."[370] This practice developed into Oliveros' philosophy of Deep Listening. As a "lifelong practice," Deep Listening "involves going below the surface of what is heard," encouraging the listener "to connect with the acoustic environment, all that inhabits it, and all that there is."[371] Listening is an active meaning-making practice; "we interpret what we hear according to the way we listen."[372]

In this chapter, I move from sight to sound using the work and philosophy of Pauline Oliveros. Based on listening, Oliveros practice and philosophy is attentive to spaces and places, our internal experiences, and the energies of the world. Her exercises and meditations are meant to guide the listener and/or performer to attune to a different consciousness that is intuitive and sensitive. In this consciousness, the listener, performer, and audience member is able to play with phenomena, collaborate with them in their entanglement. The instrument,

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[370] Ibid.
[371] Ibid., 77.
[372] Ibid., 79.

performance space, audience, and outside world are no longer separate from each other; all are part of the unfolding composition.

In her essay "The Roots of the Moment: Interactive Music" Oliveros states that

> [n]one of us who compose and improvise music can claim credit for inventing music. Music is a gift from the universe. Those of us who can tune to this gift are fortunate indeed. We are interacting with a powerful resource and sharing with billions of musicians who have preceded us, who are simultaneous with us, and who will succeed us. We can help each other to learn to listen and participate by listening as a lifetime practice.[373]

This statement seems to be a spiritual one. Here, music is a gift from Spirit, or Source. It is not necessarily a product of the composer's self-will. One of the ways to access this gift is meditation. In her discussion of Deep Listening and meditation, Oliveros does not necessarily correlate meditation to any one particular religious or spiritual practice and instead claims it as a secular practice. In a 2012 video, Oliveros states: "Deep Listening is a form of meditation. It comes out of my own experience as a composer, performer, and improvisor, and so it's coming not from a religious background, but from an inner exploration of sound and silence and what the meaning of listening is in contrast to hearing. Hearing is gathering the waveforms. Listening is the direction of attention."[374] Though Oliveros had a Buddhist practice of her own, she did not explicitly credit it as part of the work. However, in her 1973 essay "On Sonic Meditation," she did discuss some spiritual

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[373] Pauline Oliveros, "The Roots of the Moment: Interactive Listening," in *The Roots of the Moment* (New York: Drogue Press, 1998), 11.
[374] "KQED Spark: Pauline Oliveros," *KQED*, Accessed Oct 31, 2019, youtube.com/watch?v=KpawU0ta3JA, 07:05-07:35

practices from Christian and Eastern traditions.[375] Still, in all of her writings on listening and meditating, it is difficult not to draw connections to a Buddhist tradition of non-self-centeredness and compassion. In other words, in Oliveros' statements that she is tuning into something of the universe, that she is not claiming to own or keep it for herself, and that the work is of and for others but she gets to experience it for that moment in time, seem to function as spiritual principles. It is as the Buddha says: "As am I, so are these. As are these, so am I."[376] As Heidegger sees it, Dasein is always already constituted by its being-in-the-world; it can never be apart from the world. And, *khora* is only itself while being forever in a state of perpetual Becoming. In Quantum Field Theory, a particle may be only a specific excitation of the field that *presents* as a particle for a specific moment in time.

Enlisting Oliveros' own writings on listening, meditation, and the sonosphere; feminist science and technology studies theories of entanglement; Quantum Field Theory; *khora*; and a deep dive into Heidegger's Dasein and being-in-the-world, this chapter seeks to show how practices of listening bring us to intuitive understandings of our Being that are spiritual. In this chapter, I will also begin to show how the very stuff of "hard" science, the "most" secular discipline, turns out to be connected to mystical traditions in its very core.

Not only does the practice of Deep Listening call forth a discussion of a general understanding of our universe and our place in it, but it also brings to the

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[375] Pauline Oliveros, "On Sonic Meditation," in *Software for People: Collected Writings 1963-1980* (Kingston, NY: Pauline Oliveros Publications, 2015), 138.
[376] Sutta Nipāta 3:11: Nālaka, trans. Thānissaro Bhikkhu, https://www.dhammatalks.org/suttas/KN/StNp/StNp3_11.html (accessed on February 17, 2021).

forefront a feminist perspective. The feminist theories of difference, situated knowledge, and intersectionality preface the importance of an individual's particular position and/or identity.[377] In recognizing and appreciating the differences amongst and between us, we can come to places of empathy, something which Oliveros' practice aims to do. We can ask ourselves: When we really listen to another being, what comes up for us? As William Osborne notes in his article "Sounding the Abyss of Otherness: Pauline Oliveros' Deep Listening and the *Sonic Meditations* (1971)," Oliveros work *Sonic Meditations*, which paved the way for her philosophy of Deep Listening, "embod[ies] the concepts of Deep Listening, which include nonjudgmental perception, the development of empathy through listening, the creation of nonhierarchical social relationships in music making, the expanded use of intuitive forms of internal and external awareness, and new understandings of sensuality and the body."[378] In many of Oliveros' *Sonic Meditations*, the directions for listening and sounding involve using and/or comprehending the body differently and navigating the world in ways we may not have thought to do previously. For example, her oft-cited *Sonic Meditation V*:

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> *Take a walk at night. Walk so silently that the bottoms of your feet become ears.*[379]

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[377] I addressed the issue of positioning in the Introduction.
[378] William Osborne, "Sounding the Abyss of Otherness: Pauline Oliveros' Deep Listening and the *Sonic Meditations* (1971)," in *Women Making Art: Women in the Visual, Literary, and Performing Arts Since 1960*, ed. Deborah Johnson and Wendy Oliver (New York: Peter Lang, 2001), 69.
[379] Pauline Oliveros, *Sonic Meditation V* in *Sonic Meditations* (Baltimore: Smith Publications, 1971), unpg.

Pauline Oliveros History

Pauline Oliveros was born in Houston, Texas on May 30, 1932 into a family of musicians. Her mother was a piano teacher as was her maternal grandmother and namesake Pauline. Her maternal grandfather collected stringed instruments and spent his time listening to the radio and even attempted to teach Oliveros telegraphy.[380] She recalls fond memories of listening to the crystal radio with earphones, tuning into "crackling static," or "the whistles and white noise between the [radio] stations."[381] She claimed that what she "loved" were "all the negative operant phenomena of systems."[382]

Though Oliveros is best known for accordion and electronics, she is proficient in many instruments. She started taking piano lessons while her brother took up accordion, in which she was more interested. In 1945, she too took up the accordion and was introduced to combination tones,[383] which later on were to become immensely important to her practice. In junior high, Oliveros taught herself how to play the tuba so she could play in the school band, and in high school, Oliveros studied the French horn. When she was seventeen, Oliveros played the accordion in a polka band. This instrument continued with her throughout her career. Also during high school, Oliveros discovered her interest in composing and even made wire recordings of her playing her compositions.

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[380] Heidi von Gunden, *The Music of Pauline Oliveros* (Metuchen, NJ and London: The Scarecrow Press, 1983), 3, 52.
[381] Elliott Schwartz, *Electronic Music* (New York: Praeger, 1973), 256-247 quoted in von Gunden, *The Music of Pauline Oliveros*, 52
[382] Ibid.
[383] Combination tones are resultant tones that are formed in the inner ear when two tones are played simultaneously. These tones are produced psychoacoustically.

In 1949, Oliveros enrolled at the University of Houston, majoring in the accordion. She finally took her first composition class in her junior year, but was dissatisfied with the assignment which required the students to model their compositions based on Mendelssohn's *Songs Without Words* (1830). According to the musicologist Heidi von Gunden, this was "a frustrating experience because Oliveros did not want to write like someone else."[384] Ultimately, this dissatisfaction led her to leave the University of Houston for San Francisco to search for a teacher or mentor that would show her ways to compose that more closely aligned with the ways she listened to sound and performed music. In 1954, a few years after arriving in San Francisco, Oliveros enrolled at San Francisco State, but quickly realized that it did not provide what she was looking for either. Then, she met composer Robert Erickson who was teaching at the San Francisco Conservatory of Music, and she studied with him from 1954 to 1960.

Her first professional compositions, which included *Three Songs for Soprano and Piano* (1957), *Variations for Sextet* (1960), *Trio for Flute, Piano and Page Turner* (1961), and *Sound Patterns* for mixed chorus (1961), exhibit a tension between the use of traditional musical notation and materials of composition and Oliveros' own intuitive approach that uses imagery and improvisation. During this time, Oliveros was exploring different philosophies of time and how they pertain to music. These included Taoism, the *I Ching*, and also Carl Jung's "synchronicity."[385] In her early work *Variations for Sextet* (1960), Oliveros came to trust in her own process as an

[384] von Gunden, *The Music of Pauline Oliveros*, 5.
[385] Ibid., 16.

artist: “Oliveros says that she heard *Variations* bit by bit in its entire instrumental setting. It is not something that she wrote at the piano and then orchestrated. This intuitive approach might seem dangerous because one is not totally dependent upon rational control, but rather a composer must recognize and trust other personal creative processes. Oliveros allows imagery to guide her intuition.”[386] Her last piece in traditional notation came in 1961, *Trio for Flute, Piano and Page Turner*.[387] After that, improvisation became Oliveros’ primary method. Instead of composing and performing music that was impersonal and abstract, Oliveros work became more personal, deeper.

> She began to keep a record of her dreams and to study them seriously. Dreams would later influence her music, such as her improvisations with voice and accordion. Oliveros’ improvisations increased her trust in her own creativity, and she developed an inquisitiveness about aspects of her personality that were being expressed in her compositions. Sensitive to her emotions and general physical and psychological states, she used these efforts at self-understanding as an impetus for her music. As a result she began to ignore the artistic boundaries of distance between the artist and artwork, and her music became even more personal.[388]

Oliveros has been listening to and experimenting with electronics since her early childhood. Not just listening to the “crackling static” of the family’s crystal radio but also using an early-model wire recorder, a predecessor to the tape recorder that would become fundamental to her Deep Listening practice, which I described above. It was also magnetic tape that was an important part of her development as an experimental musician and composers. Her first electronic composition was *Time Perspectives* (1961), which was a piece using recorded

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[386] Ibid., 20.
[387] Ibid., 22.
[388] Ibid., 39.

environmental sounds on tape using her home tape recorder. During this time, Oliveros and a group of other musicians from the San Francisco Conservatory of Music who were engaged in improvisatory practices including Terry Riley and Loren Rush formed a group called Sonics. They built an electronic music studio at the Conservatory, and after presenting a concert, changed their name to the San Francisco Tape Music Center, which was "one of the leading new-music centers in the country."[389] At the Tape Music Center, Oliveros experimented with tape delay, which is a process of echo. The process requires at least two machines: one machine records material and the tape is threaded through another machine that is in the playback mode, so the first machine is recording both the present material and its past.[390]

Oliveros' award winning piece *Bye Bye Butterfly* (1965) exemplifies tape delay, bringing together Giacomo Puccini's opera *Madame Butterfly* (1904) with modulated, electronic sound. After 3min 25sec, Pucci's opera emerges amidst a screeching, high-pitched tone. In von Gunden's analysis of the piece, she describes how Oliveros chose the *Lentamente* of Act II, Part I, a part in the opera which is supposed to ease tension: "The music is light and melodic in order to form a contrast for the final part, where Butterfly realizes she has been deceived and commits suicide. But Oliveros distorted version of *Butterfly* is not light and melodic at all."[391]

Adding to tape delay is Oliveros' penchant for combination tones. Oliveros describes in her essay "Some Sound Observations" her practice of amplifying

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[389] Ibid., 33.
[390] Ibid., 54.
[391] Ibid., 56.

combination tones by bringing together sounds outside the range of human hearing made through setting separate signal generators. Though these particular combination tones she describes are produced electronically, Oliveros' fascination with them can be traced to her early days learning the accordion. Oliveros writes that "[w]hen I was sixteen, my accordion teacher taught me to hear combination tones. The accordion is particularly able to produce them if you squeeze hard enough. From that time, I wished for a way to eliminate the fundamental tone so I could listen only to the combination tones."[392] In conjuring the audible from the inaudible, Oliveros writes that she "felt like a witch capturing sounds from a nether realm."[393] Some were threatened by Oliveros' practice. She once was even accused of "black art."[394] There is a bit of magic involved when using this kind of listening to produce sounds and music. Since each contributing tone is not perceptible without the other and is only made audible through the act of amplification, the practice of producing combination tones enacts a practice of quantum entanglement. In the presence of a performer producing combination tones, the listener feels them in her bones.

For Oliveros, everyone is a participant in her compositions and performances. She considers her music to be "interactive music" and describes how

> participants take a share in creating the work rather than being limited to expressively interpreting pitches and rhythms. [She] ha[s] composed the outside forms, the guidelines for ways of listening and ways of responding. These forms and guidelines with appropriate application give the

[392] Pauline Oliveros, "Some Sound Observations," 26
[393] Ibid., 26.
[394] Ibid., 27.

> participants a creative opportunity to compose and perform simultaneously in collaboration with [her] and to expand their musicianship.[395]

She invites participation in many ways. In a concert setting for example, she does this by providing the performers with scores that are specific yet open to possibilities, which can be outside the boundaries of "conventional" music. Some in the field of music composition find the unconventional to be troubling. Oliveros is aware of this response, but continues with her process because of the way it speaks to her intuition and experience of the world. In describing her method, she states that

> My way of composing is seen either as a substantial contribution to the field or it is dismissed as not real because it is not written in the conventional way and cannot be judged conventionally. It is dismissed because there might be no written notes or because participants are asked to invent pitches and rhythms according to recipes or to respond to metaphors. Musicians used to reading notes and rhythms often are shocked by the bareness of the scores compared to familiar conventional scores which direct their attention to specific pitches and rhythms which to them seem predictable and repeatable. What I value is the more unpredictable and unknowable possibilities that can be activated by not specifying pitches and rhythms. I prefer organic rhythms rather than exclusively metrical rhythms. I prefer full spectrum sound rather than a limited scalar system.[396]

In order to be able to read Oliveros' scores of metaphors and sound imagery, the performer has to be able to attune their global and focal attention to all possible soundings. Oliveros' writes that the "central concern in all [her] prose of oral instructions is to provide attentional strategies for the participants" and that these attentional strategies "are nothing more than ways of listening and responding in consideration of oneself, others, and the environment.[397] The most important result

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[395] Oliveros, "The Roots of the Moment," 5.
[396] Ibid., 3-4.
[397] Ibid., 8.

of these strategies and instructions is that the performer listens because "[i]f performers are listening then the audience is also likely to listen."[398] What sets this apart from traditional notation is that the performer is required to listen to themselves, the other performers, the environment of the performing space, and the environment outside of the performing space instead of just playing the notes on the page regardless of anything. Instead of just paying attention to their parts of the piece in regards to the orchestra or grouping, the performer of an Oliveros composition needs to play from the place, with the place, with others, in the body, with the body. Playing the notes just right isn't what Oliveros' music is about. It is about expressing and bringing to life the image of the work through the attentional strategies provided by her scores. It is about creating an environment of sounding that produces a sound-dwelling for the performers and audience alike to inhabit.

On Listening

In her 1967 essay, "Some Sound Observations," Oliveros briefly recounts an experience she had while listening to a Schubert octet from the sound engineer's booth. She writes that "[a]s we watched the audience, the engineer said, 'Those people are not listening to the music as it was intended. They should be having dinner.'"[399] Originally published in the short-lived journal *Source: Music of the Avant-Garde*, Oliveros' article is a quasi-stream of consciousness. Starting with a meta-statement describing her physical act of sitting to write, Oliveros follows the sounds

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[398] Ibid.
[399] Oliveros, "Some Sound Observations," 22.

she encounters: a bulldozer, rock music playing over the radio, birds. The sounding entities she lists often mesh with each other while defining spatial contours: "In the distance, a bulldozer is eating away a hillside while its motor is a cascade of harmonics defining the space between it and the Rock and Roll radio playing in the next room. Sounds of birds, insects, children's voices, and the rustling of trees fleck this space."[400] In this environment, sounds do not compete with each other; no sound is considered better or worse than the other; each has its own value. The natural and the synthetic co-exist in a way disallowed in traditional acoustic ecology and soundscape.

In 1971, Oliveros put together *Sonic Meditations*, a quasi-workbook made for the ♀ Ensemble and dedicated to Amelia Earhart, that outlines group work for musicians and non-musicians alike to explore listening, sound-making, improvising, and composing; she characterizes this workbook as the precursor and "basis of Deep Listening."[401] One of the primary goals of following and practicing *Sonic Meditations* is the achievement or development of "[h]eightened states of awareness or expanded consciousness," which requires the "tuning of mind and body."[402] Additionally, another important goal of *Sonic Meditations* is healing through the cultivation and activation of "Sonic Energy."[403] In this way, Oliveros provides us with a secular-spiritual practice that centers on listening and responding to each other. This practice is a mixture, drawing on different traditions without judgment.

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[400] Ibid., 17.
[401] Pauline Oliveros, *Deep Listening: A Composer's Sound Practice* (Kingston, NY: Deep Listening Publications, 2005), xvii.
[402] Oliveros, "Introduction I," in *Sonic Meditations*, unpg.
[403] Oliveros, "Introduction II," in *Sonic Meditations*, unpg.

Oliveros blends together a multitude of attitudes, orientations, and practices from across the globe.

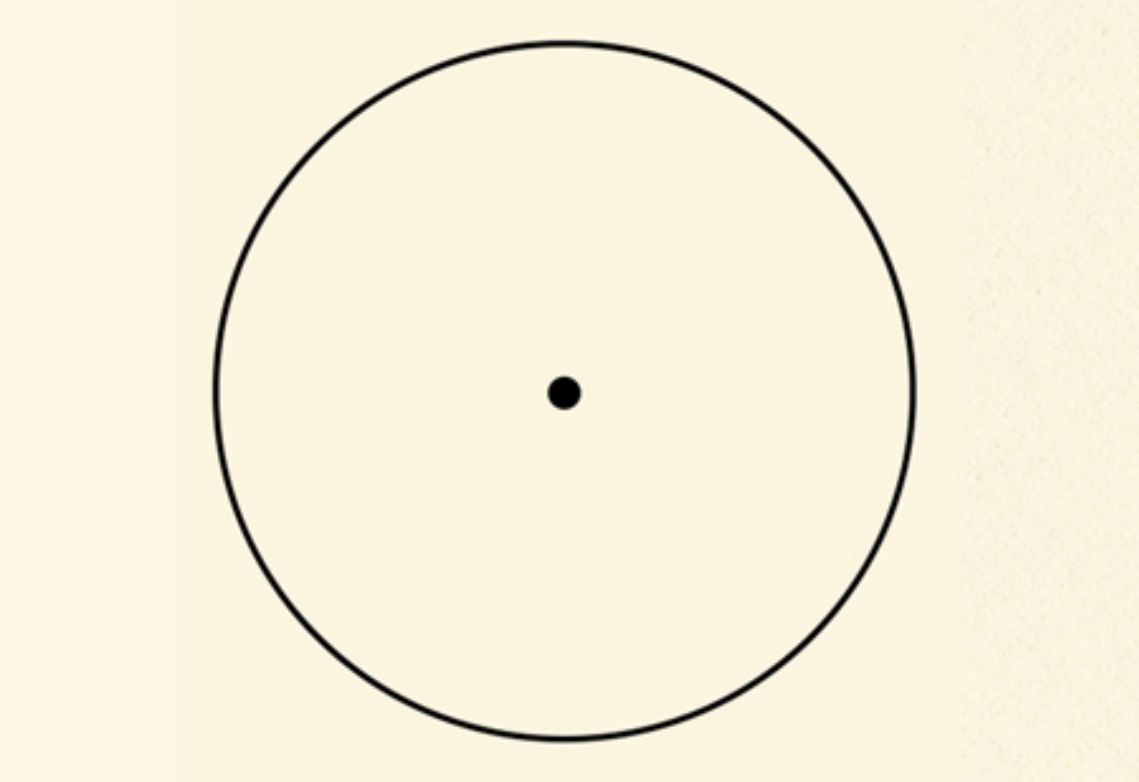

Figure 6. Pauline Oliveros' diagram of the relationship between attention and awareness. Image courtesy The Pauline Oliveros Trust – The Ministry of Maat, INC, PoPandMoM.org. All rights reserved.

In her essay "On Sonic Meditation," written in 1973 during a Guggenheim Fellowship and first published in 1976 in the *Painted Bride Quarterly*, Oliveros voices her dissatisfaction with the distinct associations we have drawn about religious and secular meditation, and argues instead that what is similar to all forms of meditation is that each "employs attention, awareness, concentration, openness, and repetition."[404] Further, she states that she uses the word "meditation, rather than concentration, in a secular sense to mean steady attention and steady awareness."[405]

[404] Oliveros, "On Sonic Meditation," 138.
[405] Oliveros changes her wording later on and substitutes "global attention" for "awareness."

For Oliveros, attention and awareness are distinct yet symbiotic. Attention corresponds to activity of the mind, is focused and selective, and can be "honed to a finer and finer point."[406] Awareness, on the other hand, refers more to the body's experiences and sensory perceptions and is "broad, diffuse, and inclusive."[407] Oliveros represents the relationship between attention and awareness as a circle (awareness) with a dot (attention) in the center.

The circles of awareness and attention can expand and contract, and each can either support or interfere with the other. Sonic meditation as a practice is a flexing of these muscles so that the practitioner can learn to keep them balanced in proper relationship with the other: "Awareness can expand, without losing center or its balanced relationship with attention, and simultaneously become more inclusive. Attention can be focused as fine as possible in any direction, and can probe all aspects of awareness without losing its balanced relationship to awareness."[408] Additionally, Oliveros characterizes the "sonic" as both "the foci of attention and stimuli of awareness."[409] The exercises that Oliveros provides for the practitioner are meant to increase the practitioner's receptivity, thus allowing her to become more attentive to and aware of both "internal and external stimuli."[410] In order to become receptive however, it is necessary to "empty the cup," or empty oneself of

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Here, I stick to the original vocabulary. For "global attention," see her essay "Software for People" originally published in 1979 in *New Wilderness Letter*, vol. II, no. 7 and later republished in *Software for People: Collected Writings 1963-1980,* 177-190.

[406] Oliveros, "On Sonic Meditation," 139.

[407] Ibid.

[408] Ibid., 141.

[409] Ibid.

[410] Ibid.

preconceived ideas and desires. For Oliveros, aesthetically, the emptying of the cup can be represented as the long tone or the drone. The drone is significant to both traditional meditation soundings, the chant for example, and also for contemporary society's industrial and electronic soundings such as motors, computers, and etc. As Oliveros states, "the mantra of the electronic age is hum rather than Om."[411]

Many of Oliveros' *Sonic Meditations* do not require musical instruments; they require only the body, breath, and the voice. In terms of the goal of healing set forth in *Sonic Meditations*, vocalizations can do just that. Stimulating the vagus nerve through vocalizing, humming, or singing can activate the parasympathetic nervous system, the part of the nervous system that allows you to calm down. Since the *Sonic Meditations* are mainly meant to be worked and performed with a group, these vocalization exercises are done with others. When humming, singing, or vocalizing in other ways, it is like giving oneself an internal hug while in the comfort of the circle of others.

Deep Listening Band

A jumble of drones that emanate from any unknown spaces and instruments. The tones and sounds meld and reverberate, one into the other. Add onto each other and sometimes dissipate. A diffraction, like the combination of competing ripples on the surface of a pond. The sounds transform and transfigure without a distinctive change of scene. There is no curtain closing here to signal the next act.

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[411] Ibid., 147.

What I describe is the recording Pauline Oliveros, Stuart Dempster, and Panaiotis made while they were fourteen feet below ground in the empty Dan Harpole Cistern at Fort Worden State Park in Port Townsend, Washington on October 8, 1988. Originally the group was there to investigate its forty-five second reverberation time, but ultimately they decided to improvise while inside the cistern with Oliveros on accordion and voice, Panaiotis also on voice, and Dempster on trombone and didjeridu. Underground, they produced five hours of improvisational recordings, all recorded by Al Swanson, which they edited down to the 63 minutes and pressed as the CD *Deep Listening*,[412] originating the Deep Listening Band.

The "deep" of the Deep Listening Band not only describes an actual spatial relationship, but also something else beyond the literal distance "deep" implies. For Oliveros, deep "has to do with complexity and boundaries, or edges beyond ordinary or habitual understandings."[413] This other definition of "deep" is more akin to the "deep" of deep ecology, a philosophy that considers non-human life to have intrinsic worth apart from human utility. The philosophy of Deep Listening proposes that listening requires an "active engagement with attention"; listening is not merely hearing.[414] Oliveros states that hearing and listening have a "symbiotic relationship" and that though the two words are generally used interchangeably, there is a distinction between them. She states that "[t]o hear is the physical means that enables perception. To listen is to give attention to what is perceived both

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[412] Pauline Oliveros, Stuart Dempster, and Panaiotis, *Deep Listening*, New Albion NA022, CD, 1989, https://www.youtube.com/watch?v=U__lpPDTUS4; Oliveros (accordion / voice), Dempster (trombone / didjeridu), Panaiotis (voice).
[413] Oliveros, *Deep Listening*, xxiii.
[414] Ibid., xxi.

acoustically and psychologically."[415] Adding to this schema, Oliveros argues that hearing is more mechanical or biological, while listening is culturally influenced.

Hearing is involuntary whereas listening is voluntary. Furthermore, listening, as Deep Listening, means to listen "in every possible way to everything possible to hear, regardless of what you are doing."[416] Because Deep Listening focuses on everything that is possible to hear, which includes "the sounds of daily life, of nature, or one's own thoughts," it is "a heightened state of awareness and connects the listener to all that there is."[417] Being a seasoned listener, though, is not limited to the musician or composer. Oliveros is adamant that Deep Listening is open to everyone. You do not need a traditional instrument to produce sound. We all breathe. We all have a heartbeat. These can be the bases of our acoustic rhythms.

When Deep Listening is practiced, the musician's capabilities to improvise with other musicians, other sounds, and the atmosphere shift. If the musician actually perceives the sonosphere, Oliveros' counter to the more rigid and moralist "soundscape," almost the entirety of the perceived world becomes a collaborator. For example, when Oliveros' describes how two fire engines "interrupted" one of her solo performances at the East-West Center in Vancouver, BC, she interprets their wails as "join[ing] the reverberation."[418] After the performance, members of the audience approached her, asking about how she managed to get the "fire engines to

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[415] Ibid., xxii.
[416] Oliveros, "Quantum Listening," 73.
[417] Ibid.
[418] Oliveros, "Improvisation in the Sonosphere," in *Sounding the Margins: Collected Writings 1992-2009* (Kingston, NY: Deep Listening Publications, 2010), 178. Originally printed in *Contemporary Music Review*, vol. 25, no. 5-6 (2006): 481-482.

go by on time"; it all seemed intentional to them. This illustrates how when the performer tunes into the sonosphere, all soundings are part of the performance. The distinction between environmental sounds and of the musical performance "proper" break down.

The Soundscape vs The Sonosphere

The practice of Deep Listening seeks to expand what we normally consider to be the sonic environment. The sonic environment is constituted not just by external sound pressure patterns that reach our ears, but also includes our inner environment. It also extends to include the energies of the Earth and the cosmos.

Soundscape

In the 1960s, composer, writer, environmentalist, and music educator R. Murray Schafer developed the field of Soundscape Studies, putting into practice the ideas he put forth in his book *The New Soundscape: A Handbook for the Modern Music Teacher*. In the book, he discusses how our definitions of music shift and change and that perhaps the music student will need to be versed in a new vocabulary of "sound objects" and "onset transients" instead of notes and scales. However, Schafer is not only concerned with music; he is also concerned with non-musical sounds, sounds of everyday life that are heard outside of a concert hall. He states that "[o]ne of the purposes of this booklet is to direct the ear of the listener towards the new soundscape of contemporary life, to acquaint him [sic] with a vocabulary of sounds he may expect to hear both inside and outside concert

halls."[419] For Schafer, our "new soundscape" is polluted; it is "sound sewage" that is "unprecedented in human history."[420] His directive is clear: "It will be more in his [the music educator's] interest to take up membership in the International Society for Noise Abatement than in his local Registered Music Teachers' Association."[421]

In his classes, he taught students to listen, catalogue, and categorize what they heard. They divided sounds into whether they were made by nature, by humans, by electric or mechanical "gadgetry."[422] For Schafer, these categories are crucial to the project, and there is a moral imperative underlying them. The more natural, the better.

Sonosphere

Contrary to R. Murray Schafer's "soundscape," Oliveros coined the term "sonosphere," a term that describes a holistic topography of sound that is more inclusive, yet elusive, and carries within it an energetic notion of the sonic environment. In her 2006 article "Improvisation in the Sonosphere," Oliveros defines the sonosphere as "the sonorous or sonic envelope of the earth created by all vibrations caused by natural or technological forces which travel through earth from its core to beyond earth, air, fire, and water as waves and phonons to receivers."[423] Within the sonosphere, she states that the "biospheric" and "technospheric" layers

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[419] R. Murray Schafer, *The New Soundscape: A Handbook for the Modern Music Teacher* (Scarborough, Ontario: Berandel Music Limited, 1969), 3.
[420] Ibid.
[421] Ibid., 4.
[422] Ibid., 6.
[423] Oliveros, "Improvisation in the Sonosphere," 178.

are "interwoven." This means that as opposed to the moral implications of acoustic ecology's soundscape, which privileges the natural and designates other sound as "noise," Oliveros' sonosphere more fully encapsulates all entities that produce sound, even sound that is outside of the human range of hearing. The sonosphere challenges the ways in which we understand the faculty of hearing. To hear within the sonosphere is to use the entirety of the body, not just the ears. She writes that we

> sense the sonosphere according to the bandwidth and resonant frequencies of the ear, skin, bones, meridians, fluids, and other organs and tissues of the body as coupled to the earth and its layers from the core to the magnetic fields as transmitted and perceived by the audio cortex and nervous system. (All of this with great variation, of course). All cells of the earth and body vibrate.[424]

Additionally, the sonosphere's listeners are not limited to humans and the human range of hearing, which spans "approximately 20hz to 20khz."[425] Rather, it "includes all sounds that can be perceived by humans, animals, birds, plants, trees, and machines."

This "sonic envelope" which "begin[s] at the core of the earth and radiat[es] in ever increasing fractal connections, vibrat[es] sonically through and encircl[es] the earth," includes anything and everything that has the potential to resound. In coupling the human body to the Earth, the two vibrate together on both a macro and micro scale: "All cells and molecules of the Earth and the body vibrate, and these vibrations are transmitted through this complex network to the auditory cortex and nervous system, where they become sound."[426] If we base our practice of listening in

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[424] Pauline Oliveros, "Auralizing in the Sonosphere: A Vocabulary for Inner Sounding and Sounding," *Journal of Visual Culture* 10.2 (2011), 162.
[425] Ibid., 163.
[426] Ibid.

the sonosphere, then we open up our experience of the world to perceptions beyond what we normally understand to be audible. When we recognize sound as vibration, we broaden our auditory organs to include the entirety of our bodies. An image from Oliveros' 1989 poem *Listen!* illustrates the ways in which different parts of the body are capable of hearing:

> Listen! Not with your ears with your stomach.
> Listen! Not with your ears with your toenails.
> Listen! Not with your ears with your armpits.
> Listen! Not with your ears with your hair.
> Listen! Not with your ears with your eyes.
> Listen! Not with your ears with your bones.
> Listen! Not with your ears with your liver.
> …
> Listen! Not with your ears with your womb.
> Listen! Not with your ears with your legs.
> Listen! Not with your ears with your palms.
> Listen! Not with your ears with your shoulders.
> Listen! Not with your ears with your cells.[427] …

In Oliveros' model of listening and tuning in, the sonic expands beyond our usual understanding of sound and what it means to listen. In an interview with Douglas Kahn, she corresponds light to sound, stating that just as there are photons for light, there are phonons for sound.[428] The aural infuses being with an invisible energetic that is perceived delicately. In contrast to concrete and definitive messages, this is a realm of positioning, intuition, and tacit knowledge. Though Oliveros does not specifically use the word entanglement to describe her improvisations with and within the sonosphere, we can learn a lot by reading the seemingly coincidental magic moments in her performances alongside concepts of

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[427] Pauline Oliveros, *Listen! (To be read aloud alone or in the company of others)*, in *The Roots of the Moment*, 25.
[428] Douglas Kahn, *Earth Sound Earth Signal,* 175.

entanglement derived from feminist science studies together with quantum physics and quantum field theory.

Quantum Listening in the Quantum Field

An instruction: "Listen to everything until it all belongs together and you are part of it."[429]

Oliveros was not just a student and practitioner of music. In the early 1970s, she also began to study consciousness and the importance of ritual, dreams, ceremonies, meditation, and mandalas. She studied Carl Jung and the psychologist Ron Lane; she began to keep a journal of her dreams. She found the work of the psychologist Robert Ornstein who stated that "we choose our consciousness at each moment."[430] Ornstein was working at the Langley Porter Institute in San Francisco and studying the benefits of meditation, parapsychology, and intuition. She also studied with Lester Ingber, a theoretical physicist who studied consciousness.[431] Around the same time, Oliveros met dancer and T'ai Chi teacher Al Huang. Her interest in producing drones matched the rhythm of his T'ai Chi classes, so she improvised with her accordion for him. She then began to take movement classes of her own, choosing Karate.

In JoAnne C. Juett's article "Pauline Oliveros and Quantum Sound," she writes that Oliveros was indeed influenced by quantum physics noting the appearance in a

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[429] Pauline Oliveros, "Interactive Listening," in *Sounding the Margins: Collected Writings 1992-2009* (Kingston, NY: Deep Listening Publications, 2010), 7.
[430] Robert Ornstein, *The Mindfield* (New York: Simon and Schuster, 1976), 51 quoted in von Gunden, *The Music of Pauline Oliveros*, 91.
[431] von Gunden, *The Music of Pauline Oliveros*, 87-9.

video recording of Oliveros the book *The Tao of Physics: An Exploration of the Parallels Between Modern Physics and Eastern Mysticism* by Fritjof Capra.[432] This book, published by Shambhala Publications would have fulfilled Oliveros' interests in Eastern traditions; she was a practicing Buddhist. It is arguable that it is in this world view that Oliveros' philosophy of Deep Listening is rooted and from which her works emerge.

For Oliveros, Deep Listening does not make distinctions between performer and audience. Within the sonosphere, everything is open for listening and play. Juett writes that "Deep listening is a musical paradox, an expanded consciousness through which performers are audience are composers are audience are performer, not so much in a cyclical relationship, but existing in a simultaneous and symbiotic state."[433] Each of the entities can participate in the sounding if they are open to the possibilities of their participation. Though Oliveros writes scores for performance, the purpose of Deep Listening is not only for increasing one's musical talent for improvisation, though that may be one benefit. Rather, for Oliveros, Deep Listening is a practice for life: "I see and hear life as a grand improvisation – I stay open to the world of possibilities for interplay in the quantum field with self and others – community – society – the world – the universe and beyond."[434] Further in her essay "Quantum Listening," Oliveros states that "[w]e listen in order to interpret our world and experience meaning. Our world is a complex matrix of vibrating energy, matter,

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[432] JoAnne C. Juett, "Pauline Oliveros and Quantum Sound," *Liminalities: A Journal of Performance Studies*, vol. 6, no. 2 (Oct 2010), 8.
[433] Ibid., 1.
[434] Oliveros, "Quantum Listening," 74.

and air just as we are made of vibrations. Vibration connects us with all beings and connects us to all things interdependently."[435] Not only does this statement signal that Oliveros is claiming something akin to the quantum field, but also that listening is an interpretation and meaning-making practice.

Claiming that the universe is an unfolding of entanglements, feminist-physicist Karen Barad introduces the concept of *agential realism*:

> as an epistemological-ontological-ethical framework that provides an understanding of the role of human *and* nonhuman, material *and* discursive, and natural *and* cultural factors in scientific and other social-material practices, thereby moving such considerations beyond the well-worn debates that pit constructivism against realism, agency against structure, and idealism against materialism.[436]

To put it more simply, agential realism takes into account how nature is not a discrete entity separate from our meaning-making, knowledge-gathering practices. Rather, nature and all beings in the world, perhaps universe, are part of the unfolding of the world; nature comes to be through the meaning we make of it. We are also embedded in our physical bodies subject to occurrences outside of our control. Further, she states the importance of this framework: "Indeed, the new philosophical framework that I propose entails a rethinking of fundamental concepts that support such binary thinking, including the notions of matter, discourse, causality, agency, power, identity, embodiment, objectivity, space, and time."[437]

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[435] Ibid., 78.
[436] Barad, *Meeting the Universe Halfway*, 26
[437] Ibid.

We can "apply" Barad's conceptual framework to Oliveros' work and practices in that her compositions and performances all depend upon the conditions of the performers, the score, and the space. In other words, the experimental apparatus, which Barad defines, following physicist Niels Bohr, as "macroscopic material arrangements through which particular concepts are given definition, to the exclusion of others, and through which particular phenomena with particular determinate physical properties are produced."[438] When following a *Sonic Meditations* score, space, time, embodiment, and causality all take new shapes than had been previously expected. Oliveros defines Quantum Listening as "listening in as many ways as possible simultaneously, while changing and being changed through the listening."[439] It is in and through this practice that subject and object are not solid; they become impermeable entities. They intra-act; they are entangled.

For Heidegger, this entanglement shows up as Dasein always already being constituted by its being-in-the-world. This "in" is not defined in the sense of water being "in" the glass, a spatial sort of orientation; rather, being-in-the-world is a "*unified* phenomenon" and "cannot be broken up into components that may be pieced together."[440] Instead, being-in-the-world needs to be understood as dwelling and grounding. "Ich bin" ["I am"] means I dwell."[441]

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[438] Barad, *Meeting the Universe Halfway*, 142.
[439] Oliveros, "Quantum Listening," 74.
[440] Heidegger, *Being and Time*, 53-54.
[441] Ibid., 55.

Conclusion

In her essay "Quantum Listening," Oliveros argues against the scopic regime, pointing out that even though we hear "repeatedly that we live in a 'visually oriented society'," it is "the ear [that] tells the eye where to look."[442] We are physically rocked, penetrated by sound. We can discern what is behind us, something that our eyes can't do. Our bodies exist in the round; we feel from all sides. Oliveros' work is meant to be experienced and performed holistically; the work is not set apart from the world, it is part of an ever-evolving process of creation. In his chapter "Sound the Abyss of Otherness," William Osborne argues that this orientation towards creation helps us to see music anew:

> Oliveros moves us away from thinking of music in terms of an idealized aesthetic object in the form of a composition, to an understanding of music as a process of creative cognition in an ever-changing, unfathomable world. We leave behind concepts of artistic experience as a given set of aesthetic principles, concepts, rules, perceptions, or critical evaluations, and move toward artistic experience as something intangible, something constantly transforming in time, something that can be listened to but never fully defined.[443]

When we practice Deep Listening, we recognize the world as process, the function of *khora*, as the sheltering mother of cosmic *poiēsis*, taking place within the circle of awareness. *Khora*, arrived at through intuition, proceeds through intuition as do Oliveros' practices of Deep Listening and Sonic Meditation. As stated above, Osborne claims that the concepts of Deep Listening include "the development of empathy through listening, the creation of nonhierarchical social relationships in music making, the expanded use of intuitive forms of internal and external awareness, and

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[442] Oliveros, "Quantum Listening," 80.
[443] Osborne, "Sounding the Abyss of Otherness," 72.

new understandings of sensuality and the body."[444] Significantly, these are concepts aligned with the feminine. In mystical traditions, the energy of the feminine is characterized as receptive, fluid, and feeling. These descriptors all apply to Oliveros' approach and the resulting works. In being receptive, the listener/performer melts into the sonosphere:

> Deep Listening dissolves subject/object dichotomies into a process of transformation and growth which allows Mind and Nature to reach for each other. Deep Listening's self-reflective discernment thus seems to show how we might move toward an authenticity and truth that are something more than culturally conditioned biases.[445]

Just as I described in the previous chapter about the probabilities of the electron's possibility, listening in/as the quantum field encourages us to discover all the layers of reality/realities. Oliveros indeed states that "Quantum listening is listening to more than one reality simultaneously."[446] This is a creative act, which is open to every human animal, and perhaps non-human animals. In her scores, Oliveros inspires and invites us all to participate in cosmic *poiēsis*. This is paramount for Oliveros since she regards "creativity as fundamental to human dignity" and believes that "helping others to be creative is an essential part of the artist's work."[447] What is significant in this approach to artistic creativity is that the listener is encouraged to be open for transformation as well. Quantum Listening is not just about all the possible ways to listen. It is also about how in listening we are "changing and being changed through the listening."[448]

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[444] Ibid., 69.
[445] Ibid., 82.
[446] Oliveros, "Quantum Listening," 74.
[447] Osborne, "Sounding the Abyss of Otherness," 69
[448] Oliveros, "Quantum Listening," 74

Chapter 4. Installation Art in/as the Quantum Field: Joyce Hinterding's *Aeriology*

The Hertzian landscape of signals and the more familiar geographic landscape are now too intertwined that our concept of reality is really a conflation of the two.
—José Luis de Vicente and Honor Harger[449]

It is not given that we are simply at home, in ourselves, in our lives, in our world.
—Thomas Rickert[450]

The Self, who is to be realized by the purified mind and the illumined consciousness, whose form is light, whose thoughts are true; who like the ether, remains pure and unattached; from whom proceed all other works, all desires, all odors, all tastes; who pervades all, who is beyond the senses, and in whom there is fullness of joy forever—he is my very Self, dwelling within the lotus of my heart.
—Chandogya, The Upanishads[451]

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[449] José Luis de Vicente and Honor Harger, "There, but Invisible: Exploring the Contours of "Invisible Fields," in *Invisible Fields: Geographies of Radio Waves*, 9. Accessed at https://issuu.com/actar/docs/invisiblefields/12

[450] Thomas Rickert, *Ambient Rhetoric: The Attunements of Rhetorical Being* (Pittsburgh: University of Pittsburgh Press, 2013), 8.

[451] "Chandogya," in *The Upanishads: Breath of the Eternal*, trans. Swami Prabhavanda and Frederick Manchester (New York and Scarborough, Ontario: New American Library, 1957), 64.

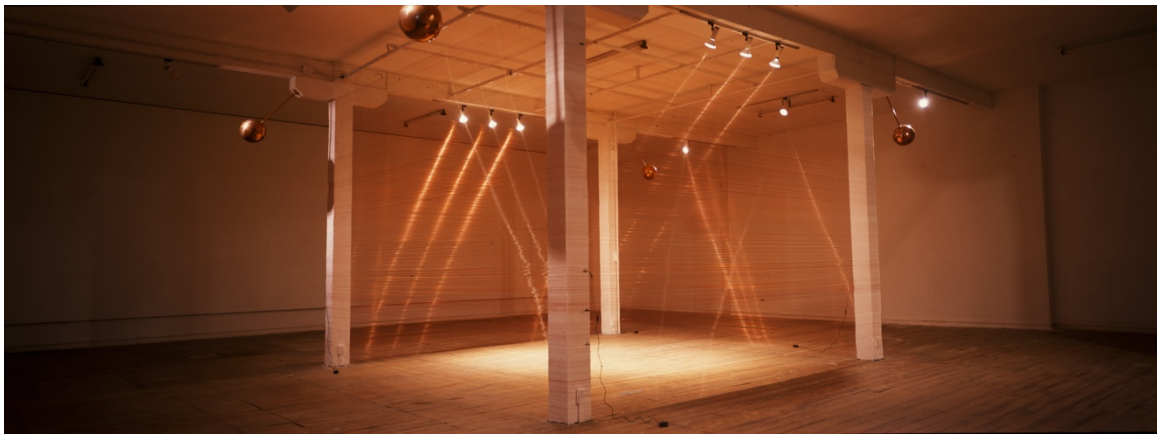

Figure 7. Joyce Hinterding, installation view of *Aeriology* at Artspace Auckland New Zealand, 1995. Photo: Artspace Auckland. Image courtesy the artist and Sarah Cottier Gallery Sydney.

Copper wires wrap marble columns, glistening and reflecting the chapel's light. What appears as a membrane of copper pulsates with energy, emitting a drone while surrounded by statues of the Madonna and the Crucifix. On the floor is an oscilloscope, an electronic device that looks like a small cathode ray tube TV but its screen displays fluctuations of electrical voltage. The wave form scrolls across the screen. Transduced through the copper wiring, what had been imperceptible electromagnetic waves become audible and visible. Situated in the Kunstmuseum Moritzburgh in Halle (Saale), Germany during Radio Revolten: International Festival of Radio Art, is an iteration of Australian artist Joyce Hinterding's *Aeriology*. The energetics of the Moritzburg Gothic vault vibrate; its foundational pillars becoming-antenna.

In the description published in Radio Revolten's newsprint catalogue, "Wie klingt der Äther?: Joyce Hinterding baut Antennenskulpturen" ["What does the aether sound like?: Joyce Hinterding's antenna sculpture"], Tina Klatte writes about

the descent of the celestial aether to earth. What had been the place of gods and light is now grounded, quite literally, in the materiality of the apparatus, the radio:

> Der Äther ist der blaue Himmel, hier sitzen die Götter und das Licht, so erzählt es die griechische Mythologie. Mit der Erfindung des Rundfunks hat sich der Äther auf die Erde begeben und trägt unhörbar das Hörbare vom Sender zum Empfänger." [The aether is the blue sky, here sits the gods and light, so says Greek mythology. With the invention of radio broadcasting, the aether has fallen to earth and is inaudibly carrying the audible from sender to receiver].[452]

Does this aether that descends from the heavens have to be entirely used up by the electromagnetic spectrum? How do the spatiotemporal contours of *Aeriology* sketch out an otherworldly physics that upsets a sculptural status quo? I argue that Hinterding's *Aeriology* provides us with an opportunity to generate a new heuristic tool for viewing and analyzing installation art that takes into account the complex nature of space, matter, and meaning. Taking *Aeriology* as a case study, this chapter proposes that we consider works of art as temporary manifestations in and of the quantum field. In addressing the tenets of Quantum Field Theory (QFT), which conceptualizes the world as fields wherein discrete objects are the "result" of specific excitations of the fields, this chapter considers the material and immaterial conditions of the work of art as constituents of the fields' assemblage. However, we would be remiss to "scientize" the installation without bringing to bear the phenomenological experience of the work and the ways in which its im/material-semiotics come into play. In a way, this chapter proposes an update to Rosalind Krauss' influential essay "Sculpture in the Expanded Field" by renegotiating what

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[452] Tina Klatte, "Wie klingt der Äther?: Joyce Hinterding baut Antennenskulpturen," in *Radio Revolten: Internationales Radiokunst-Festival* (Halle(Saale): Radio Revolten, 2016), 6.

"the field" in fact is. In proffering the complexity of spacetime to new sculpture and installation practices, we make room for a robust philosophical discussion of the work of art, its origin, and what it does.

Works like Hinterding's, those that delineate space using the electromagnetic spectrum, make apparent to us that we are always already bathed in the phenomenon of electromagnetism. What I seek to show is how this phenomenon which has always pervaded our existence connects to *khora.* I argue that *khora* emerges in recent physics research through Quantum Field Theory, disclosing itself as the fundamental wet-nurse of becoming that somehow is and can be named as such while remaining elusive to categorization.

Hinterding's Electromagnetism: The She of Nature

Humans have continuously devised narratives to describe the origin and nature of the universe with each interpretation providing its own starting point and way of explaining how the beings and objects that inhabit our world either are or aren't connected to each other. Some accounts take up the relationship between what is seen and unseen or existence and essence, both ways of attempting to understand what it means to live (and die) in a world. One of the concepts that appears throughout philosophy, mystical traditions, and physics is a connecting substance that provides a continuous universe, the one that we perceive as a lived stream of experience. This concept appears in different terminologies, and emerging as *ether*, it provided a physical explanation for how the world as we know it came to be experienced as it is. Today, *ether* evokes a more poetic vision, an ethereal plane.

Or, the word is used to describe the intangible world of radio and telecommunications more broadly. Regardless of its usage, *ether* serves as the connecting medium—between people, technologies, realms, matter. This project considers *ether* in its multiple meanings and positions, and the concept/phenomenon forces us to accept intuitive and experiential knowledge. In a sense, this project attempts to deal with existence: are we connected, part of something whole? Or are we floating in space, lost, alone? How does ether come to bear on *khora*?

Joe Milutis recounts the conceptual history of ether in his book *Ether: The Nothing that Connects Everything*. Part physical concept, part metaphysical realm, now part ambiguous digital domain, ether stands in for all things technical, speculative, and spiritual. He states that "[w]hat is clear about the ether is that it is a mediating substance between technology, science, and spiritualism, and the historical relations between these three terms determine its perfume. Far from timeless, the ether is a placeholder of sorts, expressing these relations as they shift and transform, century after century."[453] This dissertation re-enlists ether to describe the intangible relations through/in/of spacetime that are always already in motion when the radio transmitter is turned on. What this project does not do is focus on the relationship between contemporaneous formations of wireless communications with Spiritualism.[454] Rather, it seeks a more primordial definition

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[453] Joe Milutis, *Ether: The Nothing That Connects Everything* (Minneapolis: University of Minnesota Press, 2006), xi.

[454] For a discussion of the relationship between wirelessness and Spiritualism, see John Durham Peters, *Speaking into the Air: A History of the Idea of Communication* (Chicago and London: University of Chicago Press, 1999).

of ether that enables theories of the beyond to emerge. Following Peter Forrest's propositions in his *The Necessary Structure of the All-pervading Aether: Discrete or Continuous? Simple of Symmetric?,* this project relies on intuition, which provides a different kind of knowledge that is no less important in the development of concrete knowledge. As Forrest claims in his justification of intuition, his "assertion could be thought of as faith—faith in human reasoning powers."[455] In a sense, my project straddles the supposedly divided worlds of faith and science, materialism and semiotics, matter and meaning. However, as I will show, these realms are not separate.

Starting from the ancients, ether described the elastic and quasi-material substrate that pervaded the universe. In the sacred text *Upanishads*, for example, the ether is what is woven into the fabric of life, it is the primal cause of the universe.[456] We can also think of ether as the energy of Qi. It is the energy that is always already there. It is Spirit. Sir Edmund Whittaker's extensive study on ether traces the early history of the transition of ether as philosophical concept to a physical one. For the Greeks, aether, as *αἰθήρ* came to signify a physical place—"the blue sky or upper air"[457]—simultaneously with the "notion of a medium filling the interplanetary void."[458] Centuries later, aether remained a concept in classical physics, though

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[455] Peter Forrest, *The Necessary Structure of the All-pervading Aether: Discrete or Continuous? Simple or Symmetric?* (Frankfurt: Ontos Verlag, 2012), 23. In this assertion Forrest encourages metaphysicians to be metaphysicians encouraging them to "Come out of the closet!"
[456] *Brihadaranyaka*, *The Upanishads*, 97, 100.
[457] Sir Edmund Whittaker, *A History of the Theories of Aether and Electricity: The Classical Theories* (New York: Philosophical Library, 1951), 5-6.
[458] Whittaker, *A History of the Theories of Aether and Electricity*, 6.

divorced from spiritual underpinnings. For Descartes, ether, as plenum was an assemblage of particles that were in constant motion, exchanging places with each other continuously.[459] One of the problems with this formulation, however, was that if the entirety of space was filled, how is it that a particle could move at all since there would be no empty space to move into? As a solution, Descartes postulated that "the movement of a single particle of the aether involved the motion of an entire closed chain of particles."[460] In other words, isolated movement is impossible; movement occurs within the context of a total material situation. Isaac Newton's theory of gravity operates exactly opposite Descartes. Newton's theory allowed for action to happen at a distance with no intermediary, though Newton himself was not satisfied with this seeming "absurdity."[461]

In 1862 physicist James Clerk Maxwell began to sketch out equations that would explain the relationship between electricity and magnetism, and in 1864 published his paper "A Dynamical Theory of the Electromagnetic Field."[462] The theory he proposed required the "luminiferous aether," the medium in which light waves could propagate. However, in 1881, Albert A. Michelson and Edward W. Morley undertook experiments meant to measure the speed of the ethereal wind, but failed to find the "cosmic wind itself."[463] These "ether-drift" experiments of 1881 and 1887 were published in 1887, dispelling the theory of the luminiferous aether.

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[459] Frank Wilczek, *The Lightness of Being: Mass, Ether, and the Unification of Forces* (New York: Basic Books, 2008), 77.
[460] Whittaker, *A History of the Theories of Aether and Electricity*, 6.
[461] Wilczek, *The Lightness of Being*, 77.
[462] For the purposes of brevity, I will not be addressing the events leading up to this paper, including the preliminary work by Michael Faraday.
[463] Milutis, *Ether*, 36.

Also in 1887, Heinrich Hertz continued Maxwell's theories, demonstrating the existence of an electromagnetic field, thus replacing ether as the elastic medium in which light waves propagated with a proven field.

What is intriguing, however, is that some physicists still held onto the notion of ether. For example, Einstein stated that

> according to the general theory of relativity space is endowed with physical qualities; in this sense, therefore, there exists an ether. According to the general theory of relativity space without ether is unthinkable; for in such space there not only would be no propagation of light, but also no possibility of existence for standards of space and time (measuring-rods and clocks), nor therefore any space-time intervals in the physical sense.[464]

However, ether as the necessary physical concept has to exist outside of scientific measurement. Einstein further states that "this ether may not be thought of as endowed with the quality characteristic of ponderable media, as consisting of parts which may be tracked through time. The idea of motion may not be applied to it."[465]

What does it look like to reinvest in the spiritual nature of ether? How might our views of the world change if we take seriously the energetic connections between all of us? Where would these kinds of inquiries lead us? Into what kind of space?

Joyce Hinterding's Artistic Practice

Australian artist Joyce Hinterding has been exploring the im/materiality of electricity for decades. She began her studies smithing drum sets out of copper,

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[464] Albert Einstein, "Ether and the Theory of Relativity," lecture given May 5, 1920 at the University of Leiden, published in 1922, text found at http://www-groups.dcs.st-and.ac.uk/history/Extras/Einstein_ether.html

[465] Einstein, "Ether and the Theory of Relativity."

brass, and nickel to tap into, as she states in an interview, "the concept of sympathetic resonance—in the way our bodies resonate with the environment."[466] Concerning herself with "electricity we didn't make,"[467] Hinterding brings to the fore all of the energies that pervade our atmosphere, shaping our experience.

Hinterding's installation *Aeriology*, first exhibited in 1995 at Artspace Auckland,[468] is about "listening into the field."[469] For that installation, Hinterding wrapped the gallery's structural pillars with copper magnet wire, transforming the gallery into a "large scale detuned custom built antenna," a resonant space. The length of the antenna, determined by the dimensions of the space in which *Aeriology* is to be installed, but is generally between 15 and 20km, results in resonating to the VLF (very low frequency) range of the radio spectrum. In other words, the length of the copper wire supports the pick-up of natural radio, lightning for example. In the large-scale, room-size installations, the body of the viewer is enveloped by intangible electromagnetic waves, tucked in by an immaterial radio-blanket.

In the 1995 exhibition catalogue for *Aeriology*, Ann Finegan begins her essay with the claim that "[w]e are all antennas, or so someone said or should have said. Receptors which interface between the energies transmitted in the airways and the

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[466] Catharine Lumby, "Joyce Hinterding: Systemic Murmurs," *ART +* TEXT, vol. 46 (Sept 1993), 50.
[467] Lumby, "Joyce Hinterding," 51.
[468] Since its first presentation, it has been installed in 1997 at Artspace Sydney Australia, 1998 by V2_ Lab for the Unstable Media in Rotterdam, 2001 for the 7th Istanbul Biennial, 2008 for the AV Festival in Sunderland, England, and with variations in collaboration with David Haines in 2006 for the collaboration between Japan and Australia, Re:Search, at the Sendai Mediatheque in Japan, 2008 at Breenspace in Sydney, and 2009 at the Royal Institute of Australia for The Science Exchange. See the project's website at http://www.haineshinterding.net/1995/05/06/aeriology/.
[469] AV Festival, "AV Festival 08: Joyce Hinterding: Aeriology," https://www.youtube.com/watch?v=VWDTTyAsBVc (accessed February 8, 2021).

electronic signals filtered down our neurons. We are machines. Machines have merely extended (prosthetics) the machine which we already were."[470] For Finegan, the thrust of *Aeriology* is in its mode of disclosing the technology of radio. She suggests that what is revealed or, as she puts it, "deconcealed," in Hinterding's installation is the "knowledge of the machine."[471] It may not just be that Hinterding puts on display the inner workings of radio, usually "hidden, wrapped up in black boxes," so that we come to know the machine's innards.[472] Rather, in entering the machine, we experience the resonant space we share with that machine as it makes perceptible the electromagnetic spectrum as phenomenon. More apt is how Finegan describes the coiling line of the copper wire and its way of "gathering and reconfiguring energies, turning refuse static to potential by a process of realignment of the subtle bodies of particles."[473] It is in this "gathering" and "reconfiguring" that Hinterding discloses the phenomenon she seeks: electromagnetism.

Douglas Kahn addresses Hinterding's work in his book *Earth Sound Earth Signal* stating that her conceptualization and use of the antenna "evokes a quantum cosmos where even the most inert object is a beehive of activity but also keeps reality terrestrially tied to a ground of lived electromagnetism."[474] In Hinterding's installations, this cosmos is literally grounded, as in electrically grounded. It is also grounded in the body, through the body. Hinterding's work is concerned with how

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[470] Ann Finegan, "Aeriology: Joyce Hinterding," in *Aeriology: Joyce Hinterding* (Auckland, Australia: Artspace, 1995), 1.
[471] Ibid., 2.
[472] Ibid., 7.
[473] Ibid., 2.
[474] Douglas Kahn, *Earth Sound Earth Signal*, 214.

there is "an electrical presence in the body" and that "there is a natural electrical environment" outside of our manufacturing.[475] Our bodies are awash in electromagnetic interactions. Nuclear physicist Lawrence Fagg describes in his book *Electromagnetism: Nature's Force That Shapes Our Lives* how everything in this universe is made possible by electromagnetism. He describes, for example, how "electrochemical processes that do the work in the photosynthesis of plants and algae by harvesting sunlight's electromagnetic energy in order to conduct their metabolic reactions."[476] Like plants, human animals are carbon-based, and as Fagg says about the carbon atom: "99.97% of its mass is concentrated in the nucleus at its center and occupies some one trillionth of its volume. The rest of the volume consists of six electrons of very small mass and trillions of force-carrying virtual photons that keep the electrons in their orbits."[477] This means that most of our own bodies are "immersed in an ocean of unceasing photonic undercurrents that fill the vast majority of the world's space. In fact we are part of the ocean."[478] What Hinterding gives the audience member is a chance to swim in this ocean.

Aeriology does not require being plugged into an electrical outlet to power its speakers; the installation harnesses accumulated ambient energy to power itself.[479] This ambient energy has gone by many names throughout the centuries—pneuma,

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[475] Joyce Hinterding, interview with Josephine Bosma, https://nettime.org/Lists-Archives/nettime-l-9808/msg00074.html (accessed October 3, 2016) and quoted in Kahn, *Earth Sound Earth Signal*, 242.
[476] Lawrence Fagg, *Electromagnetism: Nature's Force That Shapes Our Lives* (Nottingham: Nottingham University Press, 2011), 17.
[477] Ibid., 23.
[478] Ibid.
[479] Kahn, *Earth Sound Earth Signal*, 248.

aether, guiding-field—before physicists settled on electromagnetic field. *Aeriology* as an intervention into this field challenges well-known schemas categorizing different sculpture practices since the 1960s. It forces us to reconsider what we mean by field and how artwork is situated within it.

Rosalind Krauss, "Sculpture in the Expanded Field

Art critic Rosalind Krauss' influential essay "Sculpture in the Expanded Field" was first published in the journal *October* in 1979. The purpose of the article was to develop a new schema that would, and could, address new sculptural practices that did not correspond to traditional definitions of sculpture. Krauss argues that it has been criticism's tendency to make the new "comfortable by being made familiar" through "knead[ing] and stretch[ing]" the historical definition of sculpture to encapsulate these new works, thus "mitigat[ing] [their] difference."[480] She states that "we are comforted by this perception of sameness, this strategy for reducing anything foreign in either time or space, to what we already know and are."[481]

For Krauss, sculpture is a "historically bounded category and not a universal one" with "its own internal logic."[482] She describes how sculpture came to be the negation of the monument, thus ushering in the modernist category of sculpture. However, the problem is that since the late 1960s, artists had "entered a situation the logical conditions of which can no longer be described as modernist."[483] These

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[480] Rosalind Krauss, "Sculpture in the Expanded Field," *October* 8 (Spring 1979), 31.
[481] Krauss, "Sculpture in the Expanded Field," 31.
[482] Ibid., 33.
[483] Ibid., 41.

works, which artists started to produce in the 1960s, were not discrete three-dimensional objects placed on pedestals. Rather, the works took the form of rooms, photographic documentation of walks, built or molded forms in outdoor settings. Krauss argues that this was a moment of rupture. It was the emergence of the postmodern, whose domain is characterized by this expanded field contrary to modernism which relied upon and demanded "the purity and separateness of the various mediums."[484] The previously defined internal logic of modernist sculpture was complicated by a "relation to the logical operations on a set of cultural terms, for which any medium—photography, books, lines on walls, mirrors, or sculpture itself—might be used."[485]

Important for the purposes of this chapter is Krauss' literal and figurative use of the "field." Not only do some of the works actually exist in fields, for example Mary Miss' *Perimeters/Pavillions/Decoys* (1978) and Richard Long's *Untitled* (1969), but the term "field" evokes an open arena of possibilities. However, for Krauss, this field is bounded by certain limitations: "the field provides for both an expanded but finite set of related positions for a given artist to occupy and explore, and for an organization of work that is not dictated by the conditions of a particular medium."[486] What I want to propose is a reinvestment in the field itself. The schematic that Krauss diagrams relies on a specific configuration of space and time that positions artworks in a space, whether that be a gallery or environment. What I

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[484] Ibid., 41-2. Recall Michael Fried's criticism of Minimalist sculpture/literalist art laid out in his 1967 article "Art and Objecthood" published in *Artforum*. Michael Fried, "Art and Objecthood," *Artforum* (Summer 1967): 12-23.
[485] Ibid., 42.
[486] Ibid., 42-3.

would like to explore instead is the co-constitution of artwork and spacetime, wherein the one can never be separate and apart from the other. The field, as we generally understand it, designates a coherent space, place, or set of conditions. But, what happens when we consider the field anew, outside of our everyday, known experience of it?

Redefining the Field

For Heidegger, the work of art is a particular setting to work. He states in his essay "The Origin of the Work of Art that "[t]o be a work means to set up a world."[487] Additionally, "in setting up a world, the work sets forth the earth."[488] These terms, world and earth, do not denote our common, everyday understanding of these terms. World is not the mere accumulation or aggregation of things in our environment. To describe all the things we encounter in the world, we are already presupposing what world is. In asking "what is world?," it becomes a question of "which world?," but the question is not meant to address any particular world, but rather, "the worldliness of world in general."[489] The definition of world that Heidegger uses most frequently designates "that 'in which' a factical Dasein 'lives' as Dasein. Here world has a pre-ontological, existentiell meaning. There are various possibilities here: world can mean the 'public' world of the we of one's "own" and nearest (domestic) surrounding world."[490] Furthermore, earth is "not to be

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[487] Heidegger, "The Origin of the Work of Art," 170.
[488] Ibid., 172.
[489] Heidegger, *Being and Time*, 64.
[490] Ibid., 65.

associated with the idea of a mass of matter deposited somewhere, or with the merely astronomical idea of a planet."[491] Rather, earth is what provides the very possibility for world to become world. It is the ground of world.

Within Krauss' schematic, we find the setting to work of the work. It is through the work that we discover world, earth, and work. For example, Robert Smithson's *Spiral Jetty* (1969-70), which Krauss identifies as a marked site, opens up the landscape as landscape for us. Bruce Nauman's *Live-Taped Video Corridor* (1967-8), as Kraussian axiomatic structure, produces a hallway as a specific structure which is to be navigated in particular ways. The artist's body, performing the corridor, generates the corridor as a specific space.[492] When experiencing *Aeriology*, I do not participate in a logics game of "if this, then not that" of Krauss' diagrammatic design. Perhaps according to Krauss, Hinterding's installation would be an axiomatic structure, that which is somewhere between architecture and not-architecture. This kind of work is "a process of mapping the axiomatic features of the architectural experience—the abstract conditions of openness and closure—onto the reality of a given space."[493] However, *Aeriology* does not illuminate that which is self-evident. In fact, the work brings into relief that which is not evident about the specific architecture.

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[491] Heidegger, "The Origin of the Work of Art," 168.
[492] Krauss, "Sculpture in the Expanded Field," 41.
[493] Ibid.

For decades, Hinterding's has been examining "phenomenological absence"[494] and "immaterial matter."[495] In her manipulation of the imperceptible, she renders it audible and haptic for the viewer. Ambient electricity buzzes and tingles. The invisible workings of electromagnetism, which are all-pervasive, come into perceptibility through Hinterding's work. In Heidegger's essay, he describes how the material of the work comes to shine in the work instead of "disappear[ing] into usefulness" as it does with a tool in which material recedes, is used up by the tool's function. In other words, with the tool, the material that makes up the tool is transmuted into the tool. But using the example of a Greek temple, he argues that the work of art does not do this; rather, the (art)temple-work "does not cause the material to disappear, but rather causes it to come forth for the very first time and to come into the open region of the work's world. The rock comes to bear and rest and so first becomes rock; metals come to glitter and shimmer, colors to glow, tones to sing, the word to say."[496] In this way, Hinterding's *Aeriology* brings forth the ambient electricity we generally do not experience. The charge of electricity charges. But if we were, for example, to rationalize the electromagnetic buzz of the

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[494] Pam Hansford, "Joyce Hinterding: Siphon; Conjuring on the Electrical Grid," in Australian Perspecta, (Sydney: Art Gallery of New South Wales, 1991), 54, http://www.haineshinterding.net/Pubs/Perspecta_91/files/assets/basic-html/index.html#3 (accessed February 8, 2021). Published in conjunction with the exhibition "Perspecta," shown at the Art Gallery of New South Wales. Curated by Victoria Lynn.

[495] Patrice Sharkey, "Joyce Hinterding," in *Artists Proof #1* (Clayton VIC, Australia: Monash University Museum of Art, 2012), 30.

[496] Heidegger, "The Origin of the Work of Art," 171.

work, attempt to reduce it to its measurements, the work would no longer be the work.[497]

In other works, Hinterding uses other methods to engage electromagnetism to produce co-resonance. In a brief essay accompanying Hinterding's work *SoundWave: Induction Drawings* (2012) in the catalogue *Artists Proof #1*, Patrice Sharkey writes that "Hinterding makes us aware of the vast array of ambient energy that swathes us, all the while testing the limits—and expanded possibilities—of representation."[498] This ambient energy Sharkey is discussing may be the Cosmic Microwave Background (CMB) that emerged three hundred thousand years after the Big Bang. According to Fagg, this is the EMI's "first distinctive mark on the universe."[499] Discovered by Arno Penzias and Robert Wilson in 1965, the CMB is very low-energy electromagnetic radiation of which the "entire universe is bathed."[500] Against this background, on our own planet, electromagnetism is at work in the molecular interactions in all matter including plants, animals, us, and inanimate matter to visible light and chemical reactions, telecommunications, computers, the heat of the sun, and more. EMI is necessary for life to function and keep going. In the case of Hinterding's *Aeriology*, using Barad's terms, the work materializes in its intra-action with the surrounding atmosphere in/of which it is situated; without this intra-action the work does not become the work. In this becoming, the work reveals the always already pervading electromagnetic

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[497] Ibid., 172.
[498] Patrice Sharkey, "Joyce Hinterding," 30.
[499] Lawrence Fagg, *Electromagnetism and the Sacred: At the Frontier of Spirit and Matter*, 124.
[500] Ibid.

spectrum, or as Liminal Product writes in *ArtByte*, that "em-orb" [meaning, the orb of the electromagnetic spectrum] is the "network of cells permeating the atmosphere, wrapping us in a new atmosphere of communications."[501]

For most of our everyday experience, we tend not to notice the web of electricity in which we live and exist. Until our phones break down, we don't notice them. Until our internet connection peters out, we don't realize the material and immaterial mechanisms of the web at work. The physicality of the imperceptible escapes us at every turn. Pam Hansford writes that

> [a]lthough we are totally immersed in electronic culture, and depend upon it to an extraordinary degree, we are generally unaware of the underlying nature of ordinary utilitarian structures. We know these things work only because they function; the flash of light and the flicking of a switch requires a leap of faith, and any experience of the electrical phenomenon which makes it all possible is essentially absent.[502]

Hinterding's installation work circumscribes a circle of relationship that is a happening between technological devices, the atmosphere, architecture, and human bodies. In her essay "A Philosophonics of Space: Sound, Futurity, and the End of the World," Frances Dyson discusses the use of the term "radiance" to describe the happening of sound. She writes that the trope of radiance serves as a "bridge between sound as an individual, organic phenomenon present in the minutiae of the world and sound spread out across the vast expanse of imaginable and fictive space."[503] Not only does radiance function as this bridge between the listener and

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[501] Liminal Product, "Wrapture: Liminal Product Gets All Tangled Up in Joyce Hinterding's Art, Hinterding's Aeriology," *Artbyte* (Sept-Oct 2000), 82. Accessed at http://www.haineshinterding.net/1995/05/06/aeriology/ on December 20, 2020.
[502] Pam Hansford, "Joyce Hinterding," 54.
[503] Frances Dyson, "A Philosophonics of Space: Sound, Futurity, and the End of the World," ISEA Conference proceedings, (Helsinki: University of Art and Design Helsinki, 1994), 74,

the sound, but, as Dyson claims, it "offers the security of the object, long held as the foundation of being and knowledge."[504] Sidestepping radiance and radiation, many transmission artists, including practitioner and theorist Anna Friz, propose resonance as a counter. As opposed to radiance, which evokes a uni-directional movement of information from sender to receiver or the center of power to the periphery, resonance "directs awareness to an experience of co-presence within immersive conditions in which vibrations take place."[505] In prioritizing resonance, we are able to connect ourselves within the circle of transmission. Inside the circle, we are all experiencing the same material and immaterial vibrations of sound and electromagnetism.

In his article "Descartes's Resonant Subject," Veit Erlmann argues that resonance has conflicting definitions in philosophy; for some it "smack[s] of magic" while for others resonance is the dark space of stillness in which the philosopher philosophizes.[506] Because of these dissonant attitudes towards resonance, Erlmann set out to "revisit the Cartesian project in the hope that it might shed new light on contemporary debates about the precarious interrelations among aurality, cognition, subjectivity, and embodiment and their significance within sound studies and feminist theory."[507] He claims that *resonance* is particularly suited to address materiality, subjectivity, and meaning because resonance "calls into question the

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http://isea-archives.org/docs/1994/catalogue/ISEA94_catalogue.pdf (accessed February 8, 2021).

[504] Ibid.

[505] Anna Friz, "Transmission Art in the Present Tense," *PAJ: A Journal of Performance and Art*, vol. 31, no. 3 (Sept 2009), 49.

[506] Erlmann, "Descartes's Resonant Subject," 12.

[507] Ibid. Erlmann notes that Descartes' early work concentrated on sound.

notion that the nature of things resides in their essence and that this essence can be exhausted by a sign, a discourse, a logos." Instead, "an account of something such as resonance must therefore situate itself in a kind of echo chamber together with other things—signs, discourses, institutions, and practices."[508] In other words, resonance exceeds linguistic signification and cannot be isolated. Resonance is excess, energetically overflowing itself. The boundaries of the resonant subject surround and emanate like an aura field. And like auras, there are multiple energy centers.

Ether, *Khora*, Matrix, Void

Hinterding shows us that empty, passive, receptive spaces are productive, generative. The void is somehow full. Writing on vacuums, Barad considers these supposedly empty spaces from a quantum physics perspective, distinct from classical physics, stating that

> [f]rom the point of view of classical physics, the vacuum has no matter and no energy. But the quantum principle of ontological indeterminacy calls the existence of such a zero-energy, zero-matter state into question, or rather, makes it into a question with no decidable answer. Not a settled matter, or rather, no matter. And if the energy of the vacuum is not determinately zero, it isn't determinately empty. In fact, this indeterminacy is responsible not only for the void not being nothing (while not being something), but it may in fact be the source of all that is, a womb that births existence.[509]

This womb space of the vacuum, the void, is akin to the *khora*, the empty/full (non)space of becoming. Physicist Michele Barone argues in his 2004 article "The Vacuum as Ether in the Last Century" that the "concept of a relativistic ether" has

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[508] Ibid.
[509] Barad, *What Is the Measure of Nothingness?*, 9.

been "identified with a vacuum state [and] is being used by an increasing number of researchers."[510] This follows from the framework of Quantum Field Theory which describes all physical entities as fields, wherein "the photon is a manifestation of the electromagnetic field, the electron is the manifestation of the electron field and so on."[511] Barone states that "it is impossible for the electrical and magnetic field [to] be zero at [the] same time."[512] This is significant because this means that the vacuum is "subject to fluctuations" and "cannot be considered a static and empty entity as in classical physics, but it is a complex and dynamic one."[513] This positing of fields and the fluctuations of the vacuum has brought the ether back as a legitimate possibility offering three potential options for the current day ether: Higgs Field, Cosmic Background Radiation (CBR)—also known as Cosmic Microwave Background (CMB)—and Quintessence.[514]

Conclusion

In this chapter, I have sought to elucidate the complexity of transmission art from its very core: its use of electromagnetism. Perhaps similar to the emphasis modernist painters such as Paul Cézanne placed on making clear the materiality of a painting, the support underneath the illusion of a picture, Hinterding reveals the phenomenon of the work itself. However, it would be remiss to say that the

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[510] Michele Barone, "The Vaccuum as Ether in the Last Century," *Foundations of Physics*, vol. 34, no. 12 (Dec 2004), 1973.
[511] Ibid., 1974.
[512] Ibid.
[513] Ibid.
[514] For the purposes of brevity, I will not be expanding upon each of these possibilities. I only provide them here to show how the ether is not over and done with.

conceptual underpinnings are the same with Hinterding as with the modernist painter. What sets them apart from each other is how the subject is considered—either the viewer or the artist. For the modernist painter, the artist and the viewer are separate from the autonomous and self-referential work of art. For Hinterding, the work is in relationship with the artist, viewer, and environment—none is isolated from the other. Instead, the work serves as the site of coming back home to oneself; it gathers up the world for us to sink into and come into presence. Here, in the seemingly empty space circumscribed by wiring, khora reveals herself as the "site" of becoming.

Chapter 5. More from the Field: Three Transmission Artists[515]

Pirate writing is an act of thievery where I reconstitute my self on the basis of seizing the tools to mark the world that has marked me, a world at every turn mediated, affecting my self-perceptions and perceptions of others.

—Kim Sawchuk[516]

The cosmic loneliness that knows no connection with others and the suspicion that the world is an airy figment waiting to vanish with the coming madness, revolution, or apocalypse are defining modern moods.

—John Durham Peters[517]

Come here, I want you.

—Alexander Graham Bell[518]

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[515] Sections of this chapter are drawn from articles I published in *ART PAPERS* and on *Bad At Sports*. Meredith Kooi, "The Chorus at Dawn: An aesthetics of the tweet," *ART PAPERS* 41.03 (Fall 2017), 40-6; Meredith Kooi, "Radio Somebodies," *ART PAPERS* 40.02 (Mar/Apr 2016), 42-44; Meredith Kooi, "Suspended Radiophonic Breath Terrains: Anna Friz and Coppice at Tritriangle," *Bad At Sports* (Jul 25, 2013), http://badatsports.com/2013/suspended-radiophonic-breath-terrains-anna-friz-and-coppice-at-tritriangle/.

[516] Kim Sawchuk, "Pirate Writing: Radiophonic Strategies for Feminist Techno-Perverts" in *Radio Rethink: Art, Sound, and Transmission*, eds. Daina Augaitis and Dan Lander (Banff: Walter Phillips Gallery & The Banff Centre for the Arts, 1994), 206.

[517] John Durham Peters, *Speaking into the Air: A History of the Idea of Communication* (Chicago: University of Chicago Press, 1999), 179.

[518] First telephone call made on March 10, 1876 from Alexander Graham Bell to his assistant Thomas A. Watson.

Figure 8. Performance shot of Meredith Kooi from Meredith Kooi and Mason Brown, *in/discrete in/discreet transmissions*, 2014. Photo: David Matysiak. Image courtesy the artists.

We turn on the radio, scan the channels, find a station, and tune in. The radio voice asks us to keep the dial locked in place. Driving through mountains, a station comes into clarity; it comes and goes. Sometimes, scrolling up or down a frequency helps a channel emerge from the fuzz. We can call this process of tuning, detuning, and retuning, one of attuning. The antenna and my hand on the radio dial constitute a single operation. My body is interstitial tissue; perhaps bridging the not-yet-audible with its sonification. What is always already in and of ether waves moves in its constant potential of being experienced. We move through this quantum world with antenna tuning.

For Heidegger, our being is always in a process of tuning, or attuning. He argues that Dasein is characterized by always already being tuned into a certain

mood; this is being's fundamental attunement. "[W]e slide over from one to another or slip into bad moods," he writes—a process perhaps similar to the scanning of the radio dial.[519] When Dasein attempts to evade its fundamental mood, tries to disengage it, or to not notice it, "the there is itself disclosed,"[520] just as the thing we would like to forget doesn't stop invading our thoughts; it exerts its presence with force. It is in the spaces between sounds, between stations, amid the static and fuzz, that we find radio and discover what it means to listen. Transmission art provides us with an opportunity to tune in, to practice how we attune to our being-in-the-world. We are revealed to ourselves at the fringes of our being.

In this chapter, I provide readings of works by three contemporary practitioners of transmission art: Japanese Tetsuo Kogawa, Canadian Ann Friz, and New Zealander Sally Ann McIntyre. Each of these artists have made significant contributions to the field of transmission art with their writings and artistic practices. Their works focus on the phenomenon of the electromagnetic spectrum and the ways in which it facilitates connection to others, provides a desire and dream-space, and serves as a tool for ecological restoration. They disclose the electromagnetic spectrum as not only a physical phenomenon, but also culturally and socially specific in its positioning. They expose the particularities of this phenomenon to the viewer through their performances, installations, and research-based projects.

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[519] Martin Heidegger, *Being and Time*, 131.
[520] Ibid.

Tetsuo Kogawa: Micro-Democracies & Proximity

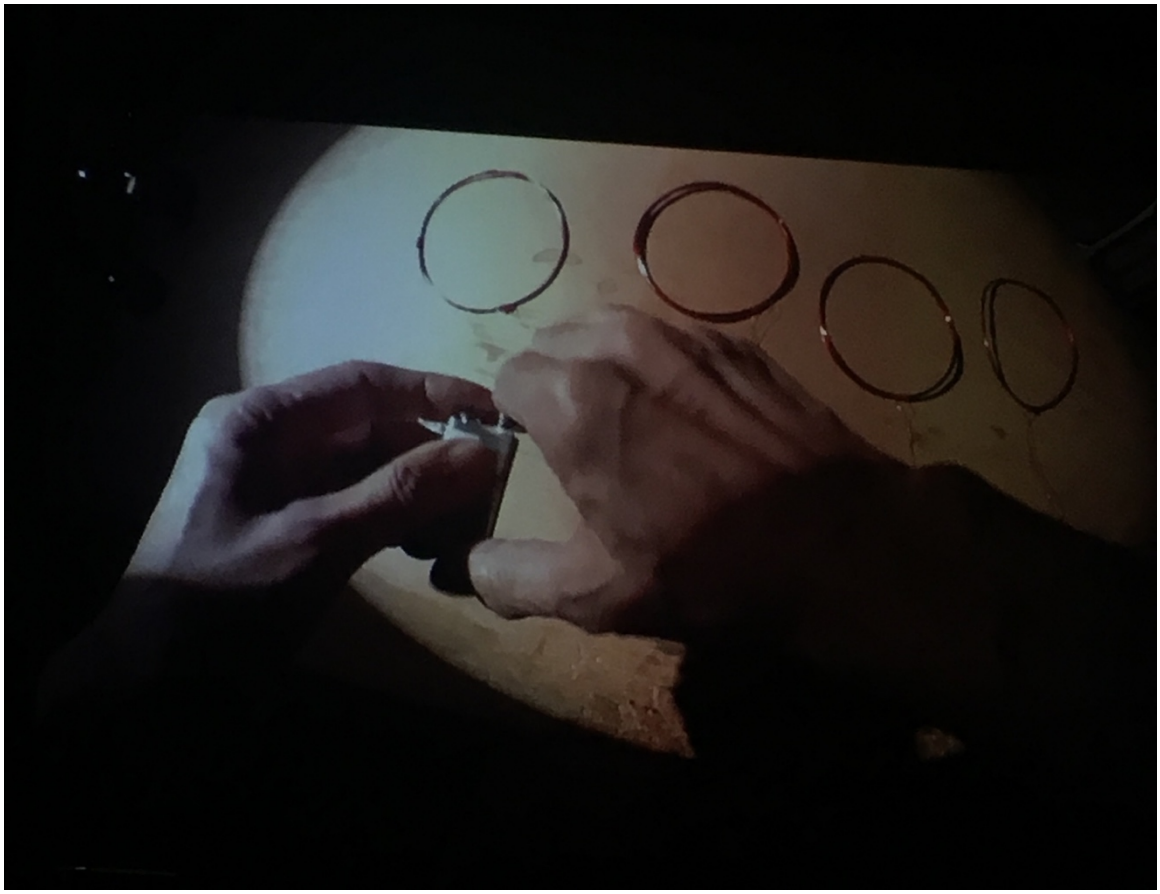

Figure 9. Tetsuo Kogawa, performance still of *CONCILIATION OF SFERICS*, 2016. Image courtesy the artist.

In 2016, I witnessed Tetsuo Kogawa's performance *CONCILIATION OF SFERICS*, which brought the invisible, and largely imperceptible, realm of the electromagnetic spectrum into perception through the interactions, interruptions, and interferences occurring between and amongst the artist and the multiple devices he was using. This work was performed via live stream from his home country, Japan, on October 28, 2016 at the Radio Revolten International Radio Art Festival in Halle (Saale), Germany.[521] In this performance from afar, the screen

[521] In October 2016, the second Radio Revolten International Radio Art Festival presented 30 days of programming, including a symposium titled "Radio Space is the Place," of which I

displayed a projection of Kogawa's hands and small devices—"all band" transmitters covering radio frequencies 500MHz to 80 or 100MHz—which produced chirps and clicks, pops and hisses when their signals crossed paths.[522] During the performance, mediated through Kogawa's flesh, these devices encountered one another, called out to each other.

After the performance, talking to fellow festival participant Sally Ann McIntyre referred to these devices' clicks and pops as birds twittering, cheeping, and peeping to one another. It is not uncommon for radio and transmission artists to turn to the vocabulary of birdsong to describe the sounding out of these devices and the ways in which they "talk" to each other. Because when our phone pings or our smoke detector chirps, it is the result of a complex system of social relations, economics, technology, and natural phenomena. Birds share with our handheld devices a communicative strategy of reciprocity that begs for these animals and these gadgets to be thought together, which McIntyre explicitly does and will be discussed below. This connection comes from the capacity of radio to put smaller entities in communication with larger ones.

Radio artist and theorist Gregory Whitehead claims in his essay "Out of the Dark: Notes on the Nobodies of Radio Art" that radio broadcast is "an intricate game of position, a game that unfolds among far-flung bodies, for the most part unknown

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was a roundtable discussant. This iteration of the festival came ten years after the first which also took place in Halle (Saale). The 2016 Festival's Executive Director was Knut Aufermann, and was curated by Anna Friz, Sarah Washington, Ralf Wendt, and Elisabeth Zimmermann. For more info, visit http://radiorevolten.net/en/category/intro/.

[522] Tetsuo Kogawa, "Tetsuo Kogawa's radioart works: October 28, 2016," *Polymorphous Space*, https://anarchy.translocal.jp/radioart/tetsuo_radioartperformance.html (accessed January 17, 2020).

to each other."[523] Anna Friz, a prominent radio artist and theorist, also discussed in this chapter, expands upon this notion of this game by specifying that the bodies in question aren't *nobodies*, but instead are embodied *somebodies*. For Friz, what is key to the possibility and potential of transmission art is the "transceptive approach," contrary to an approach that privileges radiation, the broadcast going out from a stable, defined center of power. Instead, "transception" is "not only a statement ('I am'), but also an orientation towards active, engaged listening; a question asked, however conditionally (who's there')? Transmission is understood not only as a radial description of space, but as a circle of relationship."[524] Radio, in this form, as accessible, permeable, and transceptive, has the capacity to forge connections in its broadcast radius. Do these bodies necessarily need to be "far-flung" and "unknown" to each other? Does radio inherently mean unseen, unknown, and unfelt? Can the radio host and the listener sit in proximity to each other?

Influenced by Félix Guattari's work with the free radio movement in Italy in the 1970s, Kogawa has been working with low-powered radio transmitters for decades. In 1982, with his students at Wako University in Tokyo, Kogawa set up the on-campus Radio Polybucket, which in 1983 evolved into the off-campus mini-FM station Radio Home Run. At the time, many cities in Japan had only one, state-controlled, FM radio station. In Tokyo, there were only two FM and six AM channels, which included three operated by NHK, the national Japanese broadcasting

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[523] Gregory Whitehead, "Out of the Dark: Notes on the Nobodies of Radio Art," in *Wireless Imagination: Sound, Radio, and the Avant-Garde*, eds. Douglas Kahn and Gregory Whitehead (Cambridge, MA and London: The MIT Press, 1992), 254.
[524] Anna Friz, "Transmission Art in the Present Tense," *PAJ: Journal of Performance and Art* 93 (Sept 2009), 46.

company.[525] Utilizing the transmitters from low-powered devices such as toys, including remote-controlled cars, Kogawa realized he could take advantage of Japanese Radio Law, which states that "a station whose broadcasting wave is in a very low power needs no licenses," with low power meaning "below 15 microvolts per meter at the distance of 100 meters from the transmitter."[526] Although small, these transmitters could reach up to 20,000 residents within a densely populated 0.3-mile radius in Tokyo. Kogawa observes how Radio Home Run and other mini-FM stations have a "centripetal function" as opposed to "mass media, whose broadcasting function is centrifugal."[527] This description means that instead of always seeking increasingly higher-powered technologies to reach farther to gain more listeners spread across space, which is the main goal of commercial and public radio alike, mini-FM is concerned with bringing people together into proximity with each other, into relation with one another. Kogawa's Radio Home Run was a deliberate small scale effort intended to create community and transform listeners into radio members and speakers.

In many of Kogawa's writings, he encourages readers to build their own transmitters, strike out into the vast sea of electromagnetic waves themselves. This call is akin to playwright Bertolt Brecht's 1932 suggestion that instead of radio being

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[525] Tetsuo Kogawa, "Free Radio in Japan: The Mini FM Book," *Radiotext(e)*, eds. Neil Strauss and Dave Mandl (New York: Semiotext(e), 1993), 91.
[526] Tetsuo Kogawa, "Free Radio in Japan," 93 and Tetsuo Kogawa, "Toward Polymorphous Radio," in *Radio Re-Think: Arts, Sound and Transmission*, eds. Daina Augaitis and Dan Lander (Banff: The Banff Centre for the Arts, 1994), 286-289. You can also find these essays on his website at https://anarchy.translocal.jp/non-japanese/1993radiotext.html and https://anarchy.translocal.jp/non-japanese/radiorethink.html.
[527] Kogawa, "Free Radio in Japan," 95.

"purely an apparatus for distribution, for sharing out," it should be used for communication, "let[ting] the listener speak as well as hear … to bring him into a relationship instead of isolating him."[528] For Kogawa, artists should not be content with the "modernist 'division of labor' of means and contents."[529] Rather, he argues that "[a]s long as art shares the origin *techne* with *technology*, art should intervene into the technology itself."[530] In his tutorial essay "How to build a micro transmitter," Kogawa states that he established his website to help others gain access to the tools of transmission, which is not always easily available "because transmission technology is esotericized."[531] To challenge this feeling of secrecy, Kogawa provides diagrams and schemata for "the simplest FM radio transmitter," which requires simple components that can be purchased cheaply. In doing so, Kogawa opens the field for the lay practitioner; one need not have a degree in physics or electrical engineering to participate in building these tools of communication.

These projects that hack consumer electronics for other purposes, (i.e., transmitting) are largely anti-capitalist and, I argue, feminist in their ethos. These projects are intent on controlling one's own means of production, a goal shared by the Riot Grrrl movement, contemporaries in the US. In the *Riot Grrrl Manifesto*, the collective writes that the movement is happening

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[528] Bertolt Brecht, "The Radio as an Apparatus of Communication," in *Brecht on Theatre: The Development of an Aesthetic*, ed. and trans. John Willett (New York: Hill and Wang, 1992), 52.
[529] Tetsuo Kogawa, "Micro Television and how to build the most simplest TV transmitter," *Polymorphous Space*, http://anarchy.translocal.jp/microtv/index.html (accessed June 19, 2018).
[530] Ibid.
[531] Tetsuo Kogawa, "How to build a micro transmitter," *Polymorphous Space*, https://anarchy.translocal.jp/radio/micro/howtotx.html (accessed June 19, 2018).

> BECAUSE us girls crave records and books and fanzines that speak to US that WE feel included in and can understand in our own ways. BECAUSE we wanna make it easier for girls to see/hear each other's work so that we can share strategies and criticize-applaud each other. BECAUSE we must take over the means of production in order to create our own moanings. BECAUSE viewing our work as being connected to our girlfriends-politics-real lives is essential if we are gonna figure out how [what] we are doing impacts, reflects, perpetuates, or DISRUPTS the status quo.[532]

Many women in the field of radio, either practitioners or theorists or both, describe the embodied nature of radio, bringing it down from its immaterial thought-scape into the physical world. Ellen Waterman, Frances Dyson, and Anna Friz all discuss the importance of questioning whose radio body this is.

Drawing on the monumental work of Susan Bordo, who considers the body as a site of discourse, and Judith Butler's work on the performative nature of gender, Waterman sets out to address "the performative force of the body in radio" in her essay "Radio Bodies: Disclosure, Performance, Resonance."[533] She begins her essay by contrasting the usual, status quo way of discussing radio with a radical reinvestment in radio's materiality. She writes that "[r]adio art has often been discursively presented in terms of the disembodied, limitless territory of the 'wireless imagination.' In contrast, I want to explore the performative force of radio bodies: bodies in and out of the studio, bodies improvising and collaborating, noisy bodies and authoritative bodies and especially gendered bodies."[534] Throughout the essay, Waterman asks about agency—for example, who is on the radio and what is

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[532] Kathleen Hanna, "Riot Grrrl Manifesto," *Bikini Kill Zine 2* (1991), can be found on http://onewarart.org/riot_grrrl_manifesto.htm (accessed June 19, 2018).
[533] Ellen Waterman, "Radio Bodies: Disclosure, Performance, Resonance," in *Radio Territories*, ed. Erik Granly Jensen and Brandon LaBelle (Los Angeles and Copenhagen: Errant Bodies Press, 2007), 123.
[534] Ibid., 119.

the work *doing*? She particularly takes to task the "project of constructing a 'pre-history' of radio art that is driven by primarily masculinist narratives of avant-gardism and technology."[535] Looking to Frances Dyson's essay "The Genealogy of the Radio Voice" (which I discuss further below), Waterman presents the work of three women radio artists, including herself, to show how these practices, which "encourag[e] flux ("the serendipity of the production process—occurring when one improvises in the studio or collaborates with friends") and "rumor" ("noise […] talk-back, participation radio, pirate radio"),[536] "perform as subversive feminine counterpart[s] to masculinist mainstream radio."[537] These practices, which focus on the radio subject as a body that "resonates in wireless space," provides ground for the materiality of radio.

Flux, noise, the local—these are the conditions of radio, which are oftentimes ignored. Throughout Kogawa's artistic and theoretical practice, the three are all at play. The Temporary Autonomous Zones[538] that Kogawa creates through hacked electronics provide us with spaces of play and transformation. Behind this polymorphous space, as Kogawa likes to call it, the potentiality of *khora* is in effect.

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[535] Ibid., 120.
[536] Frances Dyson, "The Genealogy of the Radio Voice," in *Radio Rethink: Art, Sound, and Transmission*, 183 quoted in Waterman, "Radio Bodies," 123.
[537] Waterman, "Radio Bodies," 123.
[538] Hakim Bey, *T.A.Z.: The Temporary Autonomous Zone, Ontological Anarchy, Poetic Terrorism*, 2nd Edition (Brooklyn: Autonomedia, 2003).

Anna Friz: Desiring Distance & Longing Language

The voice comes through on the radio. The graininess accentuated over the FM or AM dials. Fading in and out. Crescendo and decrescendo. A rising and falling of intonations and significations. I always feel radio voices in my body even when I don't understand what they are saying.

How concrete and discrete is the radio voice? Who has the authority to speak on the radio, over the radio? Frances Dyson traces the origins of the radio voice back to Western culture's guidelines for "proper speech" in her essay "The Genealogy of the Radio Voice." She writes that this speech is "authoritative, meaningful, gendered as masculine, and representative of a particular worldview."[539] This means that other voices often tend to get cut out, excluded. Canadian artist Anna Friz challenges these assumptions and proscriptions about the radio voice in her work. She connects the particular voice to its particular body, and makes use of what normally is discarded from "normal" radio broadcasts: the sounds of the body—its lip smacks, breath, coughs, etc. Coming to the table with all of its bodily tics, the radio voice is patently embodied in Friz's work. We don't stop at the human body's embodiment in Friz's work, though. We are also asked to bring into the fold the technological device itself. Not only does the radio device have its own particular embodiment, we are co-creating radio with it. No longer is the device separate from me; we work together as entities to produce the phenomenon of radio.

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[539] Frances Dyson, "The Genealogy of the Radio Voice," in *Radio Rethink: Art, Sound, and Transmission*, ed. Daina Augaitis and Dan Lander (Banff: Walter Phillips Gallery & The Banff Centre for the Arts, 1994), 167.

Friz proposes radio as a resonant medium that creates embodied co-presence. She writes that "the broadcast voice is not 'severed' or fundamentally 'alienated' from the body, but is characterized by its indexical relationship to both the body that produces it and the technology that amplifies and transmits it."[540] In her essay "Becoming Radio" in the compendium *Re-Inventing Radio: Aspects of Radio as Art* produced in part by the long-running art radio station in Vienna Kunstradio, she describes the elasticity and materiality of radio—it "is not a static medium"—in order to propose an "embodied radio practice," which she calls "becoming-radio."[541] Aligning micro-broadcasting to Deleuze and Guattari's "becoming minor,"[542] Friz connects micro events to the bodies that are involved and engaged in them. As opposed to the oft-considered dead and/or disembodied radio voice, she argues that "[w]e are not confronted with the voices of the dead, but the traces of the living, whether or not they are still alive."[543]

In the space of Chicago DIY gallery Tritriangle on May 25, 2013, tiny blueish-silvery lights floating in air illuminate 82 small silver radios suspended from the ceiling, a cloud of radios. In one corner of the space is blue light. In two other

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[540] Anna Friz, "Re-Enchanting Radio," *Cinema Journal*, vol. 48, no. 1 (Fall 2008), 143.
[541] Anna Friz, "Becoming Radio," in *Re-Inventing Radio: Aspects of Radio as Art*, ed. Heidi Grundmann et al. (Frankfurt: Revolver, 2008), 87, 88.
[542] "Becoming-minor" is a concept developed by Gilles Deleuze and Félix Guattari in their book on Franz Kafka's literature, *Kafka: Toward a Minor Literature*. To be minor means that there is a deterritorialization of language (16), politics is not just engaged, but is shot through the entirety of the work (17), and value is determined/created/constituted by the collective (17). What this means for Friz's conception of radio, specifically micro-broadcasting, is that radio is in a deterritorializing relationship to the mainstream codification and use of it. It is contingent, made up of a coalition or collective, and is self-reflexive of the political nature of the technology from the jump. Gilles Deleuze and Félix Guattari, *Kafka: Toward a Minor Literature*, trans. Dana Pollan (Minneapolis: University of Minnesota Press, 1986).
[543] Ibid., 101.

corners, soft yellow-gold emanates. The blue corner holds an accordion, harmonica, chair, mixer, some other pieces of sound equipment, and three hand-built radios by the Chicago-based inventor George Kagan. Two radio transmitters installed near the ceiling send signals out, each inhabiting a different frequency. The 82 suspended radios receive these transmissions. The radios, hovering at different levels around my head, emit gentle coos of an accordion-played melody, breath, and radio static.

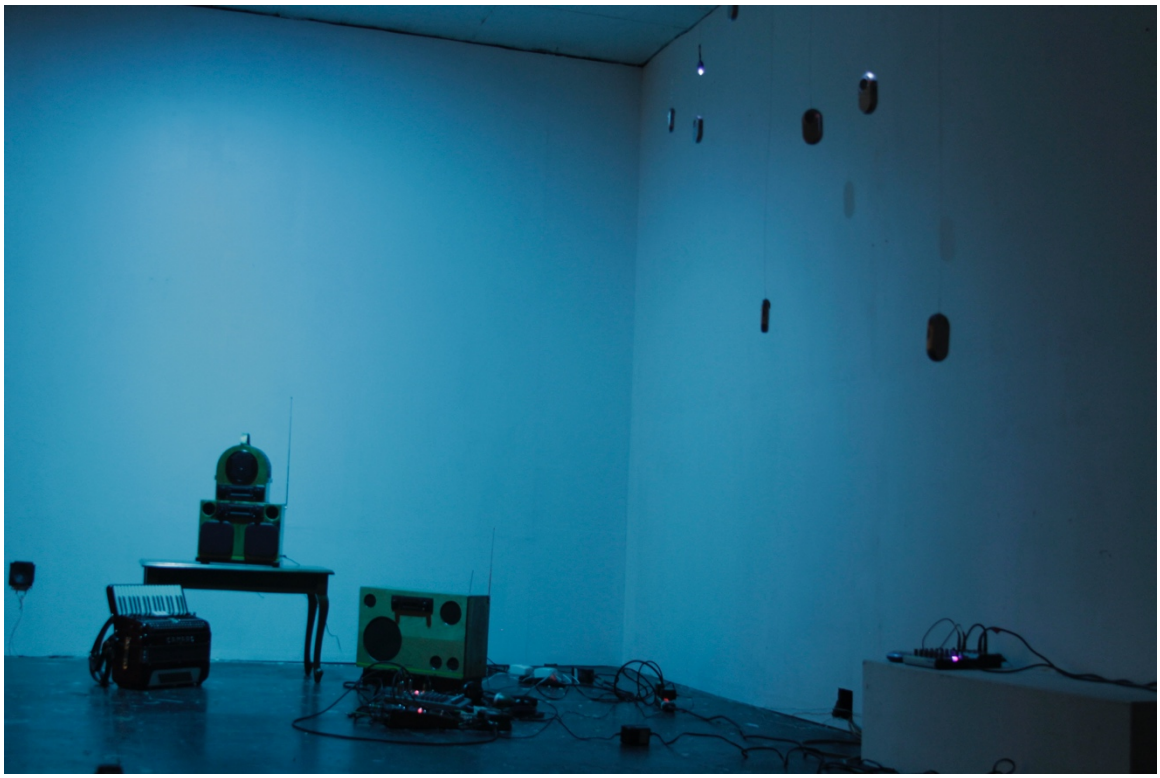

Figure 10. Installation view of Anna Friz, *Nocturne*, 2013. Tritriangle, May 25, 2013. *Photo: Amanda Gutierrez.* Image courtesy the artist.

At some point during the evening, while the floating radios picked up the transmission of an accordion-played melody, Friz picked up the accordion and began to play the same phrase that was being transmitted through the air. The recordings emanating from the tiny radios and the live instrument in the installation mingled together in a sea of sound and light. When the recorded melody ended, Friz used the

live accordion with its bellows to create a drone, filling the space. At one point, Friz stood up, put the accordion down, turned on the Kagan-built radios, picked up the harmonica, and began to play the instrument, sending it through the transmitters to the radios filling the space above my head.

The performance I describe above was *Nocturne*, a section of an iteration of Friz's radiophonic installations she began producing in 2006 with *You are far from us*, a project she has been transforming since its premiere at the first Radio Revolten at Ärtzejaus in Halle (Saale), Germany. The first presentation of the work consisted of four transmitters, 50 radios, and between five and ten hand-crank Grundig® radios, and focused on the human condition in a state of emergency and the ways in which it is both created and transmitted through radio. In her work statement, Friz asks: "What nearly inaudible signals, transmitted in moments of intensity or crisis—what do people seek to transmit, in a moment between the intake of breath and the breath held, waiting, in tension?"[544] As for the specificities of radio broadcasting, she states that "[b]uilt on breath and other bodily exclamations typically absent from regular radio broadcasts, the radios operate at the limit of their capacity to transmit emotion."[545] The radio is a performing entity itself. Ettinger might say that these works are an example of "*wit(h)nessing*: witnessing while resonating with an-Other in a trans-subjective encounter-event."[546] We are together with these bodily voices and the devices that make their soundings possible.

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[544] Anna Friz, "Work Statement," *You are far from us*, http://nicelittlestatic.com/sound-radio-artworks/you-are-far-from-us/ (accessed June 8, 2013).
[545] ibid.
[546] Ettinger, "Matrixial Trans-subjectivity," 220.

This interest in the radio as performer is something Friz has been working with for years, an evolution of her earlier work that conceived of the radio as a sort of house with people living inside it.[547] She describes how for her, "the voices emanating from the radio were the voices of the little people who lived inside. Turn on the radio, the little people begin to talk, change the station and they change their voices. [She] imagined the radio people waiting inside while the radio was off, ever ready to perform at the click of the dial."[548] Today, Friz's concept of the radio doesn't require tiny inhabitants; the radio itself is the performer. However, it would be too simple to say that this is a mere anthropomorphizing of the device. Radios experience their own precarity, perhaps in a similar way to us. They tune into frequencies and then drift off, floating and locking into a new one; as humans, our attention is always shifting and being directed towards different things.

Friz describes the radios of the installation as sleeping in this suspended floating cloud, experiencing REM cycles, taking in the day and processing it through dreams. The intent of the installation and the performance is on "stilling the breath and relaxing [the radios]."[549] Friz emphasizes that her choice to keep the gallery mainly in the dark, privileging the auditory over the visual, helps the listener "focus attention on moving through space" and enables the listener to recognize that she is a sensing body.[550] The stilling of the breath and the radios' broadcast drives home

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[547] Anna Friz, "Re-Enchanting Radio," 141.
[548] Anna Friz, Work Statement, *Who are the people inside your radio*, http://nicelittlestatic.com/sound-radio-artworks-who-are-the-people-in-your-radio (accessed June 8, 2013).
[549] Anna Friz, interview by author, Chicago, IL, June 8, 2013.
[550] Ibid.

this recognition. When limiting one sense, other senses heighten. The viewer/listener is no longer dependent on the two orbs situated in the front of her head to guide her through space. Instead, the audio experience creates spatial relationships that enable the viewer to navigate the space at her own leisure.

This navigational drifting relates to the radios' own way of drifting. She describes how the radios in the installation have a tendency to drift from their channels, a precarious physical situation not unlike how human and nonhuman animal bodies are subject to their environments and situations.[551] The radios in the installation are in relationship with one another, sometimes mediated by the multiple radio transmitters that populate the ceiling of the space. Experiencing the phenomenon of capture effect,[552] the radios detune. For Friz, this detuning is not necessarily a problem of interference, since the notion of interference corresponds to modern theories of communication which depend on fidelity to a message and a one-way direction of sender to receiver. Rather, Friz is interested in exploring "fields of influence," which do not mark a deficiency or breakdown; imperfection and fickleness is not at issue here. Instead the tuning into different frequencies seems to reflect human and nonhuman animal choices to take a turn, go down a different path. The suspension of the inhale,[553] creates the space in which life is lived, with all of its precarity.

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[551] Ibid.
[552] Capture effect refers to the phenomenon in FM radio reception that only the stronger of the two signals broadcast on the same frequency will be demodulated, or picked up recovered.
[553] Friz describes the inhalation as suspension. Anna Friz, interview by author, Chicago, IL, June 8, 2013.

Friz created an environment in which the audience and the devices could all breathe together, exchanging exhalations and inhalations, actualizing a cloud of respiration. Focusing on the breath allows the viewer to recognize that we are all constantly exchanging our bodily material with the world. This continual state of exchange shows us that the molecules in our own bodies are not static and do not always belong to us; these molecules are only finding themselves within us for a passing moment in time. The breath does not belong to the self.[554] It enters and exits of its own accord. In inhabits the space of the lungs for brief periods and the same molecules and particles may never enter again.

Friz's work argues that radio technology is in fact embodied, that it holds within it bodily traces. She further argues that radio's embodiment may perhaps allow us to overcome distance between bodies (as in Gregory Whitehead's "far flung bodies"). In her work, she materializes radio's embodiment through voice, breath, corporeality, and emotion. For Friz, breath and radio are intimately linked; she even describes how breath and radio static share the same frequency range.[555] The Stoic *pneuma*—"the physical field which is the carrier of all specific properties of material bodies"—pervades Friz's *Nocturne*.[556] These traces of the living are embodied in the breath and voice, the air that exchanges in the lungs with the ever present *pneuma*. *Pneuma*, what would seem as the most immaterial element, has a corporeality to it, a dynamic process.

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[554] Meredith Kooi, "Aristophanes' Hiccups and Relational Spasms," given at "Location/Location" symposium organized for *Field Static: A Group Show About the Object*, Co-Prosperity Sphere, Chicago, IL, June 6, 2012.
[555] Interview with Anna Friz.
[556] Samuel Sambursky, *Physics of the Stoics* (London: Rutledge and Kegan Paul, 1959), 21-22.

Sally Ann McIntyre: Calls of Conscience & Transmitting Loss

On the first Sunday in May each year, the International Dawn Chorus Day organization celebrates the ecological phenomenon that is the ensemble of birdsong which greets the beginning of a new day, coordinating events occurring around the world (more than 80 countries have participated since 1984).[557] Coinciding with International Dawn Chorus Day is SoundCamp, a series of outdoor listening events that take place in conjunction with Reveil, a 24-hour broadcast and live stream that traverses the globe, picking up broadcasts of the sounds of daybreak at different stops.[558] We can refer to two types of the dawn chorus phenomena here, of course one comes from birds; the other is electromagnetic. Adding to the sounds of natural atmospherics, or, sferics,[559] which produce whistling or whooshing sounds that

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[557] Henry Porter, "To be alone in the dawn chorus reminds us how precious life is," *The Guardian* (May 4, 2013), https://www.theguardian.com/commentisfree/2013/may/04/dawn-chorus-thing-of-beauty.

[558] For Soundcamp and its project Reveil, see www.soundtent.org_soundcamp_reveil.html. For an index of recordings, see www.soundtent.org/reveil/index.html#.

[559] The terms whistler, radio atmospheric, and sferic describe naturally occurring electromagnetic waves that originate in lightning strikes. These waves, of generally VLF (very low frequency) on the radio spectrum, propagate through the ionosphere that spans from 48-965km above the Earth's surface, thus existing alongside/within other spheres including the top of the stratosphere, mesosphere, thermosphere, and exosphere. The ionosphere is an important mediator between the Sun and the Earth; in this fluctuating zone (day and night affect the thickness and make-up of it), the Sun's radiation loosens molecular bonds, creating positively charged ions.
Douglas Kahn describes how starting in 1876, Thomas Watson, assistant of Alexander Graham Bell, tuned into natural radio off-the-clock, becoming possibly, according to Kahn, the first person to hear radio. Listening at night, Watson heard whistlers coming in through the telephone line which was in fact acting as a long-wave antenna. Kahn later on describes composer Alvin Lucier's failed attempt to incorporate whistlers in a live performance which was precipitated by his piece *Whistlers*, which has since been taken out of his catalogue, that was a live filtering of a Cook Laboratories LP of atmospherics.
https://www.nasa.gov/mission_pages/sunearth/science/atmosphere-layers2.html
http://solar-center.stanford.edu/SID/activities/ionosphere.html. Douglas Kahn, *Earth Sound Earth Signal*: Energies and Earth Magnitude in the Arts (Berkeley: University of California Press, 2013).

scholars have classified on a scale from musical to nonmusical, the electromagnetic dawn chorus' pops, clicks, twitterings, and chirps resemble birdsong, albeit with hisses and whistles.[560] With the right devices, namely VLF (very low frequency) antennas, radio practitioners can "pick up" these radio waves in the 0–10 kHz range.[561]

These celebrations stand in morbid contrast to the modern phenomenon of the silent dawn: a vast amount of literature links the lack of a dawn chorus to the devastation of bird populations, thanks to all manner of human activity—flight collisions, pesticide use, pollution, even pet cats—spanning Europe, China, and the US.[562] We have come to associate our own lives with the habits of birds: the rooster's crow tells us to get up; the canary that dies in the coal mine warns us that the path is filled with toxic gas; in Shakespeare, Romeo knew it was time to leave Juliet's side when he heard the lark's song. If the birds no longer speak, how will we heed their calls?

Rachel Carson begins her 1962 *Silent Spring* with a chapter called "A Fable for Tomorrow," in which she describes how "a strange blight" crept over a town in the

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[560] Douglas Kahn, *Earth Sound Earth Signal*, 80.
[561] G.M. Allcock, "A Study of the Audio-frequency Radio Phenomenon known as 'Dawn Chorus,'" Australian Journal of Physics vol. 10, no. 2 (1957): 286–297.
[562] Susan Milius, "Cats kill more than one billion birds each year," ScienceNews (January 29, 2013), https://www.sciencenews.org/article/cats-kill-more-one-billion-birds-each-year; Jonathan Silvertown, "A silent spring in China: The dawn chorus in Beijing comes from caged birds," New Scientist (July 1, 1989), https://www.newscientist.com/article/mg12316715-300-a-silent-spring-in-china-the-dawn-chorus-in-beijing-comes-from-caged-birds-pollution-covers-cities-with-smog-chinas-drive-to-protect-the-environment-may-have-come-too-late; Stuart Winter, "The dawn chorus is dying out as bird numbers decrease," Express (May 5, 2013), www.express.co.uk/news/uk/397195/The-dawn-chorus-is-dying-out-as-bird-numbers-decrease.

heart of America, a town that could be any town, imbuing the previously lush environment with a strange, lifeless stillness.[563] She writes:

> The birds, for example—where had they gone? Many people spoke of them, puzzled and disturbed. The feeding stations in the backyards were deserted. The few birds seen anywhere were moribund; they trembled violently and could not fly. It was a spring without voices. On the mornings that had once throbbed with the dawn chorus of robins, catbirds, doves, jays, wrens, and scores of other bird voices there was now no sound; only silence lay over the fields and woods and marsh.[564]

Silent Spring was Carson's attempt to explain "[w]hat has already silenced the voices of spring in countless towns in America."[565] Not surprisingly, she discovers that this silence was the result of human interference with the environment: a "white granular powder" that covers the landscape is revealed to be DDT, a pesticide developed by the military and used to suppress mosquitos and other critters; this chemical, as we now know, also thinned birds' eggshells, making it nearly impossible for the embryo to make it full term. The spring's silence was the by-product of a postwar military-industrial colonization of natural life, of biota.

The ongoing World Soundscape Project (WSP), founded by R. Murray Schafer in the late 1960s, is also concerned with the study and preservation of the sounds of nature, and laid the foundation for the field of acoustic ecology.[566] The WSP emerged from a course Schafer taught at Simon Fraser University about noise pollution—the sounds of traffic, machinery, sirens, and so on that make up the soundscape of our increasingly urbanized lives—and was fueled by the researcher's personal distaste

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[563] Rachel Carson, *Silent Spring* (New York: Houghton Mifflin, 1962), 1–2.
[564] Ibid., 2.
[565] Ibid., 3.
[566] Acoustic ecology is the field that studies the intertwined ecologies or systems of sounds and their environments.

for Vancouver's rapidly urbanizing soundscape, which he describes as being at the "apex of vulgarity."[567] He writes that humans no longer listen carefully in this new world of noise, which we have learned to block out. Asking "what sounds do we want to preserve, encourage, multiply?,"[568] Schafer set out to find and record "pure" sounds of nature—ones devoid of industry and technology. In recent years the WSP has been heavily critiqued for precisely this moral imperative, particularly by audio and radio artists.[569] Choosing to focus on natural "purity"— a prejudiced and dangerous discourse no matter the field of research—leaves out an important part of the field recording: the very technology that makes it possible at all. Written into the interests of the WSP are definitions of nature and the technological that carry ideologies about an essential divide between the natural world as it should be—as it was created in the past—and all that is categorized as human corruptions of a kind of Eden. These divides no longer serve us.

Artist Sally Ann McIntyre has been processing the chirpings and silencings of birds since 2009, beginning with Radio d'Oiseaux, a solar-powered radio station for New Zealand's native bird species. This ongoing project now exists under the moniker of Radio Cegeste, McIntyre's site-responsive micro-radio platform that uses transmission- and research-based processes to bring together studies in sound,

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[567] R. Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World*, 3.
[568] Ibid., 4.
[569] See Mitchell Akiyama and Vincent Andrisani in "Unsettling the World Soundscape Project: Soundscapes of Canada and the Politics of Self-Recognition," *Sounding Out!* (August 20, 2015), https://soundstudiesblog.com/2015/08/20/unsettling-the-world-soundscape-project-soundscapes-of-canada-and-the-politics-of-self-recognition.

ecology (transmission, acoustic, and environmental), history, and memory.[570] McIntyre has historically been drawn to birdsong as a point of focus. Her *how to explain radio to a dead huia* (2011), for instance, placed radios in the forest of the Orokonui Ecosanctuary on New Zealand's South Island. As the devices sounded out recordings of bird calls, they became contributing members of the habitat's existing sonic chorus.

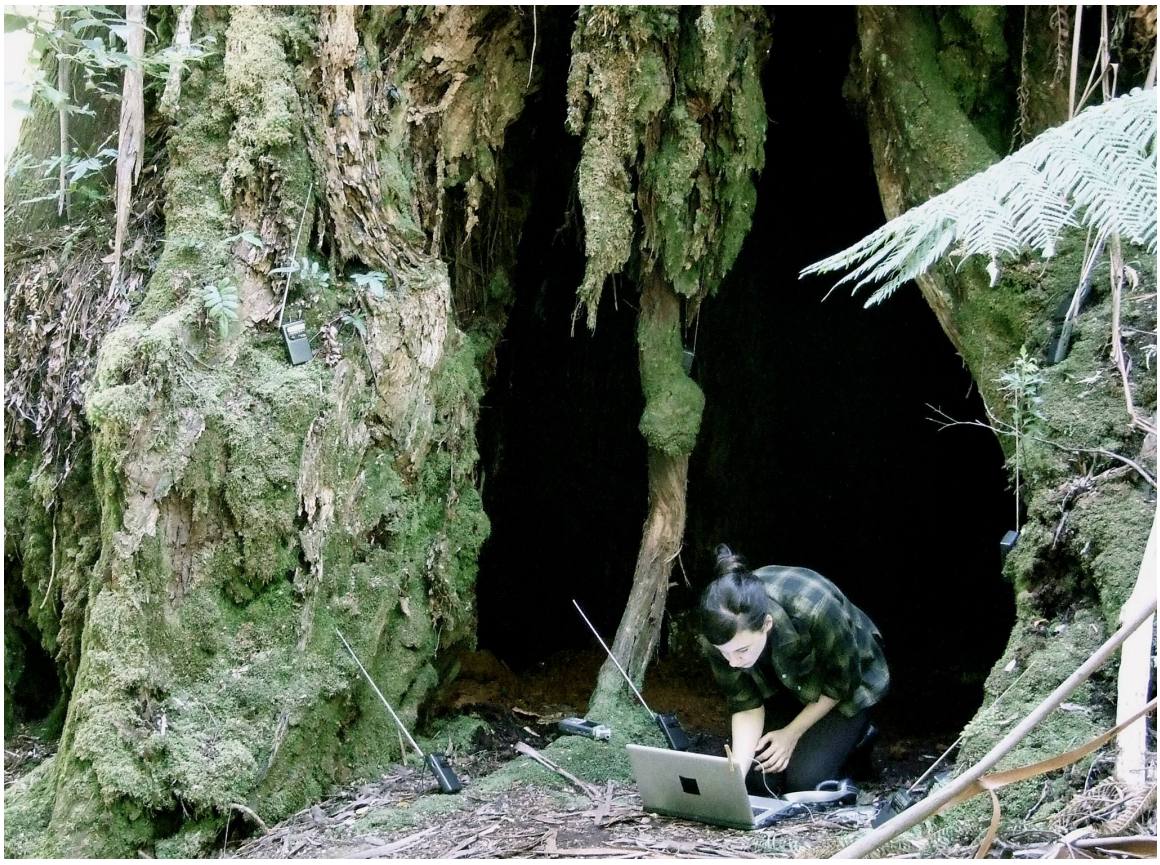

Figure 11. Sally Ann McIntyre, *how to explain radio to a dead huia*, 2011. Image courtesy the artist.

One bird—with a perplexing story—has particularly informed McIntyre's endeavors: the South Island kōkako. In 2007, this New Zealand bird was officially

[570] For McIntyre's radio d'Oiseaux, see her May 11, 2009 post "environmental radio: radio d'Oiseaux" on her website, http://radiocegeste.blogspot.com/2009/05/radio-d-oiseaux.html (accessed February 7, 2021).

declared extinct, as there had been no reported encounters with the species since 1967. However, in late 2013, the Ornithological Society of New Zealand accepted claims of sightings, reclassifying the bird's status to "data deficient."[571] This bird, affectionately (or mythopoetically) nicknamed the "grey ghost," is the subject of an installation McIntyre produced for *Das Große Rauschen: The Metamorphosis of Radio*, an exhibition curated by Anna Friz for the 2016 Radio Revolten. Titled *study for a data deficient species (grey ghost transmission)* (2016), the work presents field recordings of the kōkako by ecologist Rhys Buckingham, whose findings played a major role in the reclassification. Yet, McIntyre notes in her artist's statement that Buckingham's fragmented recordings, which total only a minute and 26 seconds, fail to capture the haunting beauty of the bird's call. They are as "[i]nsubstantial and compelling as a blurry photograph of bigfoot," she writes, and thus reveal the limitations and contradictions of the field recording as "evidence," and the shortcomings of recording technologies in their ability to provide a transparent—or in Schafer's terms, "pure"—document. As McIntyre suggests, such materials point toward "the fiction of the total 'natural archive.'"[572]

It is perhaps a cliché to say that our viewing of nature is always already shot through with elements of culture—the anthropological version of the Heisenberg uncertainty principle. We are part of the world we are using our tools to record,

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[571] Jamie Morton, "'Extinct' South Island kokako could still be alive," New Zealand Herald, (Nov. 27, 2013), www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11163639 (accessed February 7, 2021).
[572] Sally Ann McIntyre, "'Das Große Rauschen: the Metamorphosis of Radio' at Radio Revolten Zentrale, Halle," Radio Celeste 104.5 (Sept. 24, 2016), http://radiocegeste.blogspot.com/2016/09/das-groe-rauschen-metamorphosis-of.html.

research, and experiment with; we have only what Donna Haraway has called "natureculture." As she wrote in her 1984 "A Cyborg Manifesto," "nature and culture are reworked; the one can no longer be the resource for the appropriation or incorporation by the other … the boundary between human and animal is thoroughly breached."[573] Further, we cannot say that we are separate from the machine—"We are all chimeras," she adds, "theorized and fabricated hybrids of machine and organism; in short, we are cyborgs."[574]

Because the referent for McIntyre is in many cases elusive or extinct, her projects necessitate the use of technologies both analogue and digital. Presented in Halle alongside *study for a data deficient species (grey ghost transmission)* was *collected silences for lord rothschild #1–4* (2010–2012), a work comprising an archive of cassette tapes McIntyre created by mixing environmental field recordings with electronic voice phenomena (EVP)—sounds of electronic recordings interpreted by enthusiasts as the voices of spirits. In collaboration with James Gilberd of the New Zealand Strange Occurrences Society—a group specializing in the documentation of paranormal phenomena—McIntyre produced a "sound archive of recorded silences"[575] of the calls of four extinct native New Zealand birds in the collections of the National Museum of New Zealand's Te Papa Tongarewa. These birds had become extinct mainly because of the environmental destruction that came with the presence of British colonial powers, which, in addition to the oppression of the Maori people and the repurposing of land for agricultural

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[573] Donna Haraway, *Simians, Cyborgs, and Women*, 151.
[574] Ibid., 150.
[575] McIntyre, "Das Große Rauschen"

economic purposes, brought with it a scientific tradition of collecting and categorizing floral and faunal specimens. In 2012, McIntyre transmitted these recordings while she was an artist-in-residence on the eco-sanctuary of Kapiti Island. There, two of the birds in *collected silences*, the laughing owl and the huia, were supposed to have taken refuge, but they did not survive, and their bodies are now specimens under glass. Accordingly, McIntyre's island transmission project did not include receivers to audify the FM waves—like the birds themselves, their ghostly calls never joined the sound- or landscape. The transmission, according to McIntyre's statement, became "a dead (or perhaps a deaf) letter, in its failure to find even a signal in the hundred years of dead air since these colonial extinctions."[576]

McIntyre's *Collected Huia Notations (like shells on the shore when the sea of living memory has receded)* (2015) also reflects upon the image of the colonial archive. This work responds to musical notations made in the late 1800s that attempted to transcribe the song of the now-extinct huia bird. Crucial to the history of these documents is that some of these notations are in fact transcriptions of vocalizations that Maori would perform to attract the birds.[577] For McIntyre, charting the sounds of birds is a means of documenting relationships between living beings, and how beings connect to their various environments, their historical narratives, and of course, their technological devices.

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[576] Ibid.

[577] Sally Ann McIntyre, "Collected Huia Notations (like shells on the shore when the sea of living memory has receded)," Radio Celeste 104.5 (Feb 2, 2015), http://radiocegeste.blogspot.com/2015/02/collected-huia-notations-like-shells-on.html.

It is important to remember that the act of recording is an embodied experience. To record something is to be there with something. The resulting recording is determined by the conditions of that interaction between the device, the subject (in terms too simplistic, the object being recorded), the field recordist, the weather, and the specific configuration in time and space that produced that recording session. Hildegard Westerkamp, a prominent composer and field recordist who was also a major player in both the founding of WSP and the World Forum for Acoustic Ecology, argues that what is most important about field recording is that we understand our "situatedness" in time and space. According to Westerkamp, if we are serious about understanding our particular position while recording, editing, and disseminating audio materials, we are more likely to avoid the danger of commodifying natural, cultural, and historical ecologies—of corrupting the artifact and turning it into just "another product, a CD with yet more amazing sounds ... sounds that have been frozen into a repetitive format and medium and have been imported into our soundscape."[578] Commenting on Radio New Zealand's long-standing practice of broadcasting birdcalls,[579] McIntyre has stated that simply playing nature sounds over the radio is neither productive nor radical as a use of radiospace to consider nature's relationship to culture; instead, she describes the superficial inclusion of the bird calls at the end of the Morning Report as an example

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[578] Hildegard Westerkamp, "Speaking from inside the soundscape" (paper presented at Hör Upp! Stockholm Hey Listen! Conference on Acoustic Ecology, June 8–13, 1998), https://www.hildegardwesterkamp.ca/writings/writingsby/?post_id=10&title=speaking-from-inside-the-soundscape (accessed February 18, 2021).

[579] Radio New Zealand has been broadcasting birdcalls as part of its morning program since February 6, 1974. See "40 years of bird calls," Radio New Zealand (February 6, 2014), www.radionz.co.nz/news/national/235343/40-years-of-bird-calls.

of the same objectification "reiterated in cultural terms by the replay of songs sent to radio stations by record companies."[580] In order to dig into the language of birds, the area's acoustic ecology, and the meaning of its technological reproduction and transmission, she suggests that "we might learn from talking to the animals"—a sentiment reminiscent of Haraway's synthesis of nature and culture, suggestive of the possibility of a radio-enabled dialogue with birds, a reciprocal communicative relationship far more nuanced than the aural voyeurism inherent to the recording made and replayed without context.[581] "Talking to animals" such as McIntyre's extinct birds using radio transmission dissolves the boundaries between human and nonhuman worlds; perhaps it even transcends historical time.[582]

McIntyre's oeuvre of birdsong is not concerned with merely mimicking gone and forgotten birds. Rather, her broadcasts reveal the worlds of these birds, their essential being within it, through the technologies that have both destroyed these animals and brought them back from the dead. In a sense, McIntyre's practice does just what Heidegger claims a work does: "To be a work means to set up a world."[583] When, in works such as *collected silences for lord rothschild #1–4*, McIntyre interposes various recordings back onto themselves—onto their past, and onto their environment—she begins to convey birds' being-in-the-world, revealing their

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[580] Cecilia Novero, "Birds on Air: Sally Ann McIntyre's Radio Art," *Antennae: The Journal of Nature in Visual Culture* 27 (2013), 33.
[581] Ibid., 20–22.
[582] See also Haraway's book *When Species Meet* (Minneapolis and London: University of Minnesota Press, 2008).
[583] Heidegger, "The Origin of the Work of Art," 170.

destruction through colonialism's modern technological enframing. McIntyre once stated in an interview that

> artistic recourse to newer technology has also broken down that very boundary between there and here, rather producing a listener who is potentially placed dynamically within the—equally dynamic—environment itself. Dynamism contrasts with the idea of a fixed nature that Schafer, furthermore, describes as uninhabited by humans, as if there could actually be a way of listening without inhabiting, without embodiment.[584]

The artist explains that, with her performative work, she is "building small ecologies, non-linear conversations between media, which work together as ecosystems."[585] To listen, is to be there or have been there. When McIntyre records the forest and plays it back to itself, she is there with it. McIntyre's works are simultaneously here and not-here, now and then, physical and intangible, audible and inaudible; the uncanny sonic and ethereal worlds she creates are ones marked by death and disappearance, strangeness and silence, disquiet and discomfort we can feel in our bodies.

Addressing McIntyre's *Collected Huia Transcriptions* in his article "Dead Silence: Ecological Silencing and Environmentally Engaged Sound Art," Dugal McKinnon writes that "negatively magnified through the audible presence of living birds, is the silence of the extinct Huia."[586] In the event of transmission, artists working in this medium bring otherwise elusive beings—often, phantoms—into the spaces we inhabit. Emerging out of, from, and into the electromagnetic spectrum, radio and transmission art allows us to experience being as both material and immaterial; it is the all-encompassing electromagnetic spectrum that makes

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[584] Novero, "Birds on Air," 37.
[585] Ibid., 36.
[586] Dugal McKinnon, "Dead Silence: Ecological Silencing and Environmentally Engaged Sound Art," *Leonardo Music Journal* 23 (2013): 73.

possible our perceptions and communications. Our bodies are surrounded by this phenomenon, which carries our tweets. We are swaddled by and cooed to by the calls of birds from the past; they sing of the present and the future.

Ettinger's framework of the matrixial trans-subjectivity prioritizes relationships amongst and between us. For her, this attention paid to the other is what produces an ethics. She writes that "[b]ecoming responsible for traces of the other as if they were mine is a matrixial ethical move."[587] What this means is that I am not just seeing the other over there from over here. Rather, I am intimately engaged with the other; the other resides in me.

Conclusion

What I have sought to show in this chapter is how the varied practices and approaches of contemporary transmission artists illuminate the nature of the electromagnetic spectrum. The artists that I focused on here share a certain theoretical proposition: that radio is an embodied player that is part of a broader ecology. In other words, the radio is not merely a device that translates the information carried by the electromagnetic spectrum into a sensible message, although it does indeed do this. Radio participates in an economy, or ecology, of meaning-making practices and embodied relationships.

[587] Ettinger, "Matrixial Trans-subjectivity," 221.

Chapter 7. Conclusion: I Am a Quantum Listening Being

[I]t's nice to talk like everybody else, to say the sun rises, when everybody knows it's only a manner of speaking. To reach, not the point where one no longer says I, but the point where it is no longer of any importance whether one says I. We are no longer ourselves. Each will know his own. We have been aided, inspired, multiplied.
—Gilles Deleuze and Félix Guattari[588]

As a lump of salt when thrown into water melts away and the lump cannot be taken out, but wherever we taste the water is salty, even so, O Maitreyi, the individual self, dissolved, is the Eternal—pure consciousness, infinite and transcendent.
—Brihadaranyaka, Upanishads[589]

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588 Deleuze and Guattari, *A Thousand Plateaus,* 3.
589 "Brihadaranyaka," in *The Upanishads: Breath of the Eternal*, trans. Swami Prabhavanda and Frederick Manchester (New York and Scarborough, Ontario: New American Library, 1957), 88.

Figure 12. Installation view of Meredith Kooi, *summer swan songs,* 2017. Courtesy the artist.

In the prayer of St. Francis of Assisi we pray that we "may seek rather to comfort than to be comforted," and furthermore that "where there are shadows, I may bring light." With these words, we pledge ourselves to helping others find peace and truth. But, how do we do this? Creating art may be one way. Artists show us new possibilities—for how we live, what we know, and what we all mean to each other and the world. Sometimes, by challenging us, the artist opens up new doors and windows for us to walk through and perceive the world. Other times, the artist provides us with pleasurable experiences, reminding us of the world's beauty and the potential for healing, which encourages us to have faith in the world, trust the universe. Furnishing us with new experiences, artists and their works elicit a need

to wander and roam expanses of disciplines, schools of thought, and seemingly isolated sets of knowledges.

Throughout this dissertation, I have sought to show how these light, sound, and transmission artists supply us with aesthetic experiences that awaken our being-in-the-world. In using waves—sound and electromagnetic—these works call into question the very being of our world itself. The fundamental aspects of our experience—time, light, space—are enstranged, and thus we are gifted with new perspectives.

The other main point I hoped to get across was the integral feminine nature of being and becoming. From the perspective of a specific Western history of ideas, the feminine has been relegated to the passive position; she passively receives the imprint of the Father. What I sought to show in this project was that feminine receptivity is itself active and generative; she is participant, not subordinate servant. This sort of participant feminine is found in Eastern traditions—the yin to the yang, for example—but also in the cracks in the foundation of philosophy, psychoanalysis, and science. Plato's *Timaeus* provides us with *khora*, the primordial mother. She encourages us to think beyond the limits of the phallogocentric dialectic. She sets us on a course to experimentation and processes of creation.

Through this journey, it has always been important to continuously come back to the body. The body is what grounds and is also the channel through and with which I experience the world. Even though I may be off in immaterial territory, it is always my embodied experience that roots me to the earth and world. My body is immersed in sound and electromagnetic waves; they permeate and pervade my

bodily being. Different frequencies resonate in my internal organs, eardrums, and eyes. My skin registers the vibrations. Not unlike the swaddling of an infant, the invisible world cocoons me. From this space of open enclosure, truth is disclosed to me.

Places for Further Research

In many ways, this project is just a beginning, just scratching the surface. Each of the chapters could be expanded upon. For example, Turrell's Roden Crater long-going project and his Skyspaces warrant their own chapters. Another chapter could be written on his and Oliveros' meditation practices and the ways in which they illuminate both secular and spiritual experiences of our embodiment and being in space-time. Additionally, more space and consideration can be given to the multiple facets of Hinterding, Kogawa, Friz, and McIntyre's projects; though these artists all work in transmission, they are not in any way the same.

The aspect that received the least amount of attention, but has been growing in prominence, is the spiritual nature of this mode of enquiry. How this project engages with mystical traditions of both the East and the West deserves much more space of contemplation. Here, the connections are only touched upon briefly and hinted at through the use of epigraphs, which were meant to provide the reader with a certain atmosphere in which to situate their reading.

As practices and processes change, so too has this project. Being impermanent, it will shift again in approaching future horizons.

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