# Vocal Artefacts:

# A Sonic Imagination of the Human Microphone

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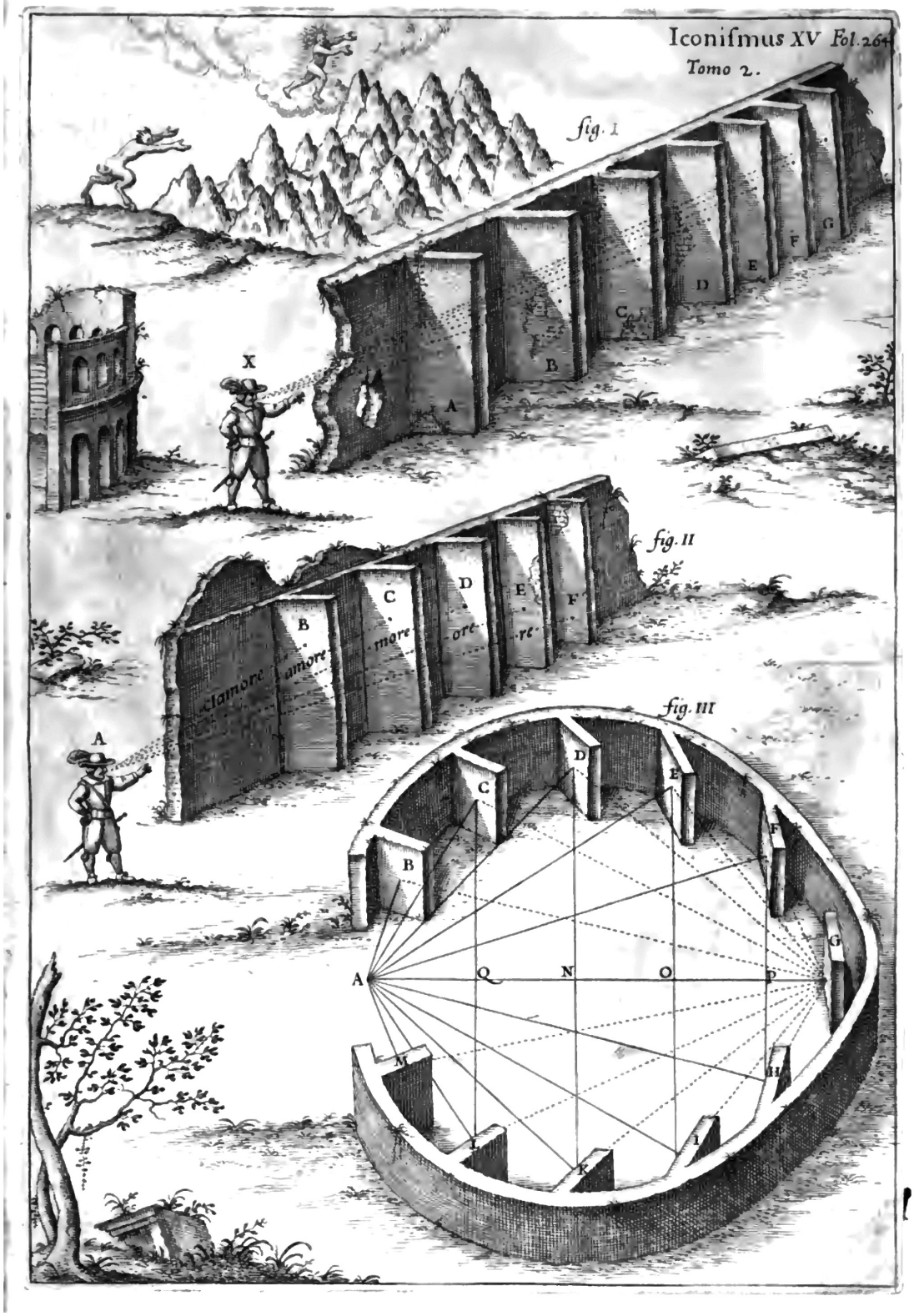


***Frontispiece***. Athanasius Kircher's echo experiments from *Musurgia Universalis,* 1650.

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Sharon Phelan

March 2021

# ***Table of Contents***


***List of Figures*** *7*
***Abstract*** *9*
***Acknowledgements*** *10*
***1. Prelude: A Throat-Clearing Gesture*** *11*
*1.1. Vocal Artefacts* *12*
*1.2. Research Question* *15*
*1.3. Portfolio Contents* *16*
***2. Point of Entry: Mic Check, Mic Check*** *19*
*2.1. Introduction* *20*
*2.2. Cornel West* *22*
*2.3. Slavoj Žižek* *28*
*2.4. Judith Butler* *31*
*2.5. Philip Glass* *32*
*2.6. Summary* *34*
***3. Contextual Review: A Sonic Imagination*** *37*
*3.1. Introduction* *38*
*3.2. Sound Out* *39*
*3.3. Sound Studies* *49*
*3.4. Sonic Imaginations* *58*
*3.5. Sonic-Political Acts* *69*
*3.6. Summary* *74*
***4. Methodology: An Aesthetics of Resistance*** *76*
*4.1. Introduction* *77*
*4.2. Aesthetics of Resistance* *78*
*4.3. Art as Enquiry* *83*
*4.4. Summary* *91*
***5. Interval: A Note on Method*** *93*
***6. Vocal Artefacts Part I: Echoes on Echoes*** *96*
*6.1. Ekhe* *97*
*6.2. Artificial Echoes* *102*
*6.3. Frozen Echoes* *112*
*6.4. Échométrie* *113*
*6.5. Echeia* *115*
*6.6. Echo* *119*
*6.7. Anechoic* *121*
***7. Vocal Artefacts Part II: Fearless Speech*** *123*
*7.1. Technologies of Voice* *124*
*7.2. Spatial Reach* *125*
*7.3. Lungs of the City* *129*
*7.4. Acoustic Communities* *131*
*7.5. Parrhesia I* *133*

*7.6. A Politics of Listening* *137*
*7.7. Parrhesia II* *141*

***8. Vocal Artefacts Part III: Virtual Sculptures*** ***151***
*8.1. Introduction* *152*
*8.2. At the Threshold* *153*
*8.3. Red Ink* *154*
*8.4. Echo Encounters* *155*
*8.5. Muted Revolutions* *156*
*8.6. Self Other Echo* *157*

***9. Coda: A Sonic Continuum*** ***158***
***Appendices*** ***167***
*i. Uniform Resource Locator* *167*
*ii. Script for At the Threshold* *168*
*iii. Map for Red Ink* *169*
*iv. Instrument for Echo Encounters* *170*
*v. Sequence for Muted Revolutions* *171*
*vi. Score for Self Other Echo* *172*
*vii. Support Documentation* *173*
*viii. Biographical Note* *208*
*ix. Research Outcomes* *208*

***Bibliography*** ***210***

# *List of Figures*

***Frontispiece***. Kircher, Athanasius. 1650. A plate showing Kircher's various echo experiments, from *Musurgia Univesalis*. [online image]. Available from: http://socks-studio.com/2012/06/28/athanasius-kircher-sj-musurgia-universalis-1650/kircher-2-269-musurgia-universalis [accessed 17 October 2016]. ***2***

***Figure 1.*** Mic check being called at Occupy Wall Street, Zuccotti Park, 2011. [online image] Available from: https://en.wikipedia.org/wiki/Occupy_Wall_Street#/media/File:Day_14_Occupy_Wall_Street_September_30_2011_Shankbone_2.JPG. [accessed 30 August 2018]. ***19***

***Figure 2.*** ARLA at Occupy LA, 2011. [online image] https://www.elanamann.com/project/arla [accessed 30 August 2018]. ***46***

***Figure 3.*** Young, Samson. 2015. Documentation from Young's visit to a bell archive for his artistic research *For Whom the Bell Tolls*. [online image]. Available from: https://www.thismusicisfalse.com/#/for-whom-the-bell-tolls. [accessed 10 June 2018]. ***83***

***Figure 4***. Abu Hamdan, Lawrence. 2018. Still from Abu Hamdan's performance-video installation *Walled Unwalled.* [online image]. Available from: http://lawrenceabuhamdan.com/walled-unwalled. [accessed 20 March 2021]. ***85***

***Figure 5***. Niemeyer, Oscar. 1964. Under the concrete dome of *House of the Worker,* Paris. [online image]. Available from: https://en.wikiarquitectura.com/building/french-communist-party-headquarters. [accessed 30 August 2018]. ***99***

***Figure 6.*** Kircher, Athanasius. 1650. Illustration depicting acoustic mechanisms for eavesdropping, from *Musurgia Universalis*. [online image]. Available from: https://commons.wikimedia.org/wiki/File:Kircher,_A.,_%22Phonurgia_nova...%22,_eavesdropping_Wellcome_L0025675.jpg [accessed 24 March 2018]. ***103***

***Figure 7.*** Edison, Thomas. An example of a Edison's cylinder record with the slogan 'Echo all over the World'. [online image]. Available from: https://en.wikipedia.org/wiki/File:Edisongoldmoulded.jpg. [accessed 1 March, 2018). ***107***

***Figure 8.*** Nevarez, Angel, and Valerie Tevere, 2014. Installation view of *What we might have heard in the future* at Casino Luxembourg. [online image]. Available from: http://www.nevareztevere.info/projects/future.html [accessed 30 August 2018]. ***139***

***Figure 9.*** Abu Hamdan, Lawrence. 2012. Installation view of *The Whole Truth* at Tate Modern. [online image]. Available from http://lawrenceabuhamdan.com/thewholetruth/ [accessed 24 March 2018]. ***144***

***Figure 10.*** Phelan, Sharon. *At the Threshold* (∞) [captured frame]. ***149***

***Figure 11.*** Phelan, Sharon. *Red Ink* (∞) [captured frame]. ***150***

***Figure 12.*** Phelan, Sharon. *Echo Encounters* (∞)[captured frame]. ***151***

***Figure 13.*** Phelan, Sharon. *Muted Revolutions* (∞) [captured frame]. ***152***

***Figure 14***. Phelan, Sharon. *Self Other Echo* (∞) [captured frame]. ***153***

***Figure 15.*** Jenkins, Malcolm. 2018. Captured frame of video from Malcolm Jenkins' silent protest. [screengrab]. Available from: https://www.theguardian.com/sport/2018/jun/06/malcolm-jenkins-signs-silence-nfl-protest-movement. [accessed 28 August 2018]. ***159***

# *Abstract*

This thesis (*Vocal Artefacts*) presents a body of artistic research and practice inspired by the event of the human microphone at Occupy Wall Street, Zuccotti Park, in the autumn of 2011. *Vocal Artefacts* conceives of the human microphone as a novel, reciprocal and embodied mode of protest — a sonic phenomenon, reflective of the cultural, social and economic shifts that lead to its emergence. The question that the research seeks to address is whether the process developed at Occupy Wall Street constitutes what Jonathan Sterne calls a 'sonic imagination' — an aesthetic concept towards creative and critical thinking about sound. If so, can a sonic imagination contribute towards artistic research discourse? To this end, the research situates the process of the human microphone in relation to the emerging field of sound studies. A further development of the research seeks to reflexively theorise the event of the human microphone as a site of critical creative research. The affinity between political resistance and art as artistic research was first introduced by Peter Weiss in his novel *The Aesthetics of Resistance*. Expanding on this connection, Hito Steyerl observes that the foundations of artistic research 'are tied to social or revolutionary movements, or to moments of crisis and reform'. Following this paradigm, the research undertaken explores the social technology of the human microphone as an aesthetics of resistance. These two loci — sound studies and aesthetics of resistance — prompt further queries related to acts of collective voicing, political forms of listening, technologies of voice, and the relational properties of sound. *Vocal Artefacts* is composed of two sections: there is a written component to contextualise the artistic research, followed by an artistic (im)material enquiry. The latter incorporates chapters organised around the sonic figures of echo, parrhesia and prosopopoeia, offering a re-thinking of the relationship between voice and speech by foregrounding the voice as a sonic instrument with relational and unique properties. These sonic figures inform a series of virtual sculptures presented as a digital portfolio. The virtual sculptures explore past sites of radical potential while creating news sites through artistic means. Collectively, these art works attend to the reverberations of the human microphone through an act of sonic imagination, and attempt to reclaim art as a site of thinking and knowledge production.

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Over the years I have been sustained by incredible family and friends. To my friends who have encouraged me relentlessly, thank you. I am deeply grateful to my brother, Dean Phelan, whose considered composure has helped me through many challenges; and to the inspirational Frank Buckley, with his long-standing commitment to both the arts and politics. I dedicate this thesis to the memory of Eileen Buckley — *ní bheidh ár leithéidí ann arís*.

Last but not least, to my parents, Patrick Phelan and Merlinda Avenido, who celebrated my love of the arts at an early age and have done so ever since; and to my partner, John Buckley, whose intellect and boundless energy have kept me afloat throughout. I thank him, above all, for encouraging me to keep listening to the waves while looking out towards the horizon.

# *1. Prelude: A Throat-Clearing Gesture*

‘MOUTH: . . . the whole being . . . hanging on its words. . ’.[1]
– *Samuel Beckett*

[1] Samuel Beckett, *Not I* (London: Faber & Faber, 1973), 11.

## *1.1. Vocal Artefacts*

By way of an introduction, this chapter acts as a throat-clearing gesture — a vocal artefact to instigate the *search* of this research. As the curtain rises in his play *Not I*, Samuel Beckett gives us the image of an isolated and disembodied speaking mouth which fills the textual space with her imaginations and ruminations. Beckett captures, with fascination, the strange materiality of the voice: a voice in motion, composed through a process of production, transmission and reception as it moves from unintelligibility to being '… out … into this world …'[2] The voice, writes Steven Connor, 'is a straining of the air … The air is battered, stretched, percussed when there is sound. The voice never simply appears, but is expressed, its shape formed out of resistance'.[3]

This thesis is an attempt to create an analytic space for the practice of artistic research.[4] Emerging from an initial engagement with the human microphone — a sonic phenomenon activated during Occupy Wall Street in the autumn of 2011 — the thesis brings together an interdisciplinary body of work that facilitates a 'sonic imagination'.[5] In the introduction to his foundational anthology *The Sound Studies Reader*, Jonathan Sterne writes:

> *Sonic imagination* is a deliberately synaesthetic neologism — it is about sound but occupies an ambiguous position between sound culture and a space of contemplation outside it. Sonic imaginations are necessarily plural, recursive, reflexive, driven to represent, refigure and redescribe. They are fascinated by

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[2] Samuel Beckett, *Not I* (London: Faber & Faber, 1973), 6.

[3] "The Strains of the Voice," Steven Connor (website), accessed October 5, 2020, http://stevenconnor.com/strains.html.

[4] Artistic research is, what Henk Slager calls, *delta-research* : 'A "modus operandi" characterized, on the one hand, by the literalness of the notion of delta, i.e. creating novel, significant connections. Yet, on the other hand, referring to a fourth "discipline" (next to the alpha, beta, and gamma disciplines) by a research method not determined a priori by any established scientific paradigm or model of representation; an undefinable discipline as "nameless science," directed towards generating flexible constructions, multiplicities, and new reflexive zones'. See: Henk Slager, *The Pleasure of Research* (Germany: Hatje Cantz Verlag, 2015), 76.

[5] Jonathan Sterne, *The Sound Studies Reader* (New York: Routledge, 2012).

> sound but driven to fashion some new intellectual facility to make sense of some part of the sonic world.[6]

Following Sterne, whose sonic imagination foregrounds sound as a fundamentally human and social concern,[7] the thesis begins with the process of the human microphone as its point of entry. While it is recognised that the human microphone has rich resonances with sonic practices of protest movements in the recent past — such as antiphonal forms of call-and-response[8] — it is argued that the human microphone's unique significance lies in its location at the heart of a vital experiment in direct democracy.[9] Writing about his experiences at Occupy Wall Street, Ben Lerner describes the process of the human microphone as a form of speech that 'constitutes an attempt to unmake an utterly bankrupt public discourse so as to refresh the materials out of which a new social world might be constructed'.[10] His observations point to the human microphone as a novel form of speech that facilitated the imagining of a social alternative. It is by thinking reflexively *through,* and listening *with* this sonic phenomenon that I seek a deeper engagement with art's sensibilities.

Integral to this thesis is a proposition that is also an intervention: to reclaim art as a site of thinking and knowledge production. *Reclaiming Artistic Research* by Lucy Cotter, is a book that articulates 'the specificity and singularity of artistic thinking'.[11] Through a series of interviews with practicing artists, Cotter seeks out the artistic significance of art's relationship to knowledge. Taking inspiration from Cotter, my approach towards this artistic research

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[6] Ibid., 5.

[7] Sterne considers sound as a category defined in relation to ideas of the human, as distinct from approaches to sound with a focus on non-human lifeforms, sound on other planets, or underwater sound, for example. See: Jonathan Sterne, *The Sound Studies Reader* (New York: Routledge, 2012), 5.

[8] For example, in his book *Black Prophetic Fire,* Cornel West describes the rhetorical and musical dimensions of key figures in the Black freedom movement, where call-and-response is central, in a communal context, to creating a sense of agency, self-confidence, and self-respect — all 'preconditions for the creation of new realities'. See: Cornel West, *Black Prophetic Fire* (Massachusetts: Beacon Press, 2014), 48.

[9] Direct Democracy was the watchword of the Occupy movement. Emerging from anarchist thinking, it was advanced in direct opposition to the perceived failures of the prevailing system of representative democracy. See: David Graeber, "Occupy and anarchism's gift of democracy." *The Guardian,* November 15, 2011, https://www.theguardian.com/commentisfree/cifamerica/2011/nov/15/occupy-anarchism-gift-democracy.

[10] Ben Lerner, "A note on the human microphone," *Critical Quarterly* 2, Vol 54, (July 2012), 67.

[11] Lucy Cotter, *Reclaiming Artistic Research* (Berlin: Hatje Cantz Verlag, 2019), 18.

recalls an ‘aesthetics of resistance’.[12] I suggest that there is a link between the process of the human microphone and artistic research as a mode of enquiry. Both processes are embodied re-workings and reclamations of resistance.

*Vocal Artefacts* is composed of two sections: there is a written component to contextualise the artistic research, followed by an artistic (im)material enquiry.[13] The former includes a literature review of the field of sound studies and a methodology drawing on current concepts of artistic research. The latter incorporates chapters — studies in listening, or field recordings[14] — organised around the sonic figures of echo,[15] parrhesia,[16] and prosopopoeia.[17] These *vocal artefacts* present a re-thinking of the relationship between voice and speech, by shifting the focus from a strictly logocentric understanding of speech to a foregrounding of the voice as a sonic instrument with relational and unique properties. Through a consideration of a range of historical moments, cultural histories, theoretical writings, artworks and

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[12] I draw on Hito Steyerl’s proposition in her essay “Aesthetics of Resistance? Artistic Research as Discipline and Conflict,” *maHkuzine* 8 (2010).

[13] Rather than making a distinction between research based works and art works, ‘artistic (im)material enquiry’ encompasses the use of materialised and dematerialised knowledge and artefacts from diverse fields, while also alluding to the immateriality of sound and the virtual.

[14] I draw on Stephen Benson and Will Montgomery’s expanded definition of writing as encrypted sound, also known as the field recording. See: Stephen Benson and Will Montgomery, *Writing the Field Recording* (Edinburgh: Edinburgh University Press, 2018).

[15] Echo derives from the Greek word *eche*, meaning “sound”. From acoustical echo to mythical Echo, throughout this thesis I have sought out different figures and behaviours of echo in order to trace the ‘voice that breaks from its source to become something greater, more powerful and suggestive, a sound no longer bound to the earth. That is to say, the echo is a sound that comes back to haunt, returning as transformed through its diffusion and ultimate regrouping into an altogether different expression’. See: Brandon LaBelle, *Acoustic Territories* (New York: Bloomsbury, 2010), 15.

[16] The word *parrhesia* is ordinarily translated into English as “free speech”. My understanding of parrhesia derives from Michel Foucault’s lecture series, *Fearless Speech,* where he outlines the meanings and the evolution of the classical Greek word *parrhesia* and its relationship with the changing practices of truth-telling in education and public life. In the context of artistic research, parrhesia has further resonance with the artist as a producer of discourse — where the voice of the artist takes on both a philosophical and political position. See: Michel Foucault, *Fearless Speech* (Los Angeles: Semiotext(e), 2001).

[17] Prosopopoeia is a figure of speech that derives from the Greek *prosopon poien*, meaning “to confer a mask or a face”. It refers to the mediated speech of inanimate objects, often in relation to the field of forensis, which involves ‘the animation of material objects and the gathering of political collectives’ in a forum. Modes of *prosopopoeia* include coins, statues, weapons, data, images and even rivers or states. See: Eyal Weitzman, *Forensis: The Architecture of Public Truth* (Berlin: Sternberg Press, 2014), 9.

literature; a contemporary reading of the vocal sphere is established. Echo and parrhesia inform a series of virtual sculptures presented as prosopopoeia. These virtual sculptures explore past sites of radical potential for knowledge production while creating new sites through artistic means. The voice, the park, a shell, a site erased, all leave echoes in their wake.[18]

## *1.2. Research Question*

The central question of this thesis is reflexively drawn out from the event of the human microphone, yielding an interdisciplinary approach towards praxis that takes on the character of theory and asks the following:

How does the process of the human microphone constitute a sonic imagination that can contribute to artistic research as an aesthetics of resistance?

To answer this question, *Vocal Artefacts* mobilises current thinking on artistic research in order to understand the phenomenon of the human microphone in terms of an aesthetics of resistance, and documents a body of work that responds to the initial sonic encounter.

In order to address the research question, it is necessary to understand the following:

- What is the human microphone?
- What is a sonic imagination?
- How might we arrive at a particular category of artistic research that functions as an aesthetics of resistance?
- How might this model of artistic research be deployed in an exploration of the themes and concerns raised throughout?

[18] Here, I am referring to the virtual sculptures in Chapter 8 of this thesis: *Vocal Artefacts Part III.*

## *1.3. Portfolio Contents*

The accompanying online portfolio contains a collection of digital artworks. These are presented in multiple formats for better distribution for examination purposes. It must be stressed that the virtual sculptures are cross platform works. Here they are presented as an archive in the realm of sonic fiction. However, I have performed live versions of the works in performance settings and further envision them as large format works that would be presented in a black box gallery with multichannel/ spatial audio surround sound, in order for their durational resonant qualities to be better comprehended.

The online portfolio is available at the following website: **www.vocalartefacts.info**

It includes the following sections:

1. Vocal Artefacts MacOS

2. Vocal Artefacts Windows

3. Video Documentation

The first two sections hold the standalone software presentation of *Vocal Artefacts*. The software must be downloaded to your computer or laptop to play. Choose the relevant folder depending on your computer (Mac or Windows). Once downloaded, launch the main application. (Windows users should open the folder and select the executable Vocal Artefacts Windows.exe). The first screen will introduce a menu where you can view each of the virtual sculptures. Each of the artworks are interactive 3D scenes (mouse and keyboard) accompanied by spatialised 3D soundscapes, therefore listening through headphones or an amplified stereo sound-system with a subwoofer is preferred. Listening through laptop or computer speakers, while possible, is not recommended. It should also be noted that the software renders 3D geometry in real-time, and will need a dedicated graphics card. If your

computer does not have a dedicated graphics card, it is advisable to watch the video documentation of the works. Included in the Video Documentation section of the website are HD videos for each of the works. These serve as documentation that is representative of the software experience, if your computer struggles to play the application. You will notice a very low redraw frame rate if your computer is struggling.

Each of the works in the portfolio, listed below, are evolving durational works of indefinite length. This is indicated by the infinity symbol (∞), a mathematical symbol representing the concept of infinity. In this case, infinity alludes to the ongoing reverberations of each vocal artefact.

***At the Threshold*** (∞)

Imagine a sonic artefact arriving from an unknown space and time. *At the Threshold* takes the listener on a journey through the dichotomous architecture of a conch shell, encountering acoustic anomalies told through feedback loops, field recordings and a constructed chorus of the artist's own voice and that of a digital surrogate at various stages of machine learning.

***Red Ink*** (∞)

Part portrait and part premonition, *Red Ink* is a work caught between two timescales. As a "Mic Check" unfolds at Zuccotti Park, a growing resonant feedback loop starts to envelope the proceedings. *Red Ink* attunes itself to the *longue dureé* of the legacy of Occupy Wall Street — the tone of our times.

***Echo Encounters*** (∞)

*Echo Encounters* is set in Athanasius Kircher's reconstruction of a Vitruviun theatre, where mythic bronze echo-vases resonate in sonic continuum.

***Muted Revolutions*** (∞)

What is the relationship between a roundabout and a revolution? Drawing resonance from the roundabout revolutions of the Arab Spring, *Muted Revolutions* depicts an enemy of the state reduced to a pile of bones in an act of *damnatio memoriae*.

***Self Other Echo*** (∞)

*Self Other Echo* is composed of a spoken and written text circling Echo. “I always return to echo, or is it that echo returns to me?” Echo represents and re-presents sound. To recall Echo’s disembodied voice is to re-orient towards other possibilities and other ways of knowing that are often out of sight.

# *2. Point of Entry: Mic Check, Mic Check*

> 'Something in the world forces us to think. This something is an object not of recognition but of a fundamental encounter'.[19]
> – *Gilles Deleuze*

[19] Gilles Deleuze, *Difference and Repetition* (London: Continuum, 2004), 176.

## *2.1. Introduction*

On a balmy autumn night in New York, a speaker prepares to address the crowd at Occupy Wall Street (OWS) in Zuccotti Park at the heart of the financial district in lower Manhattan. She calls the assembled crowd to silence with the now iconic call "Mic Check, Mic Check," to which the gathered crowd immediately echo "Mic Check!" in response, before falling into silence. She proceeds to organise her speech into short bursts in order to maintain a rhythm that can be reproduced by hundreds of people in waves across the camp. The people duly respond and repeat every word in unison, concentrically outwards from the speaker in a 'citational chain',[20] and in the process transform themselves 'into an instrument'[21] — a human microphone.


***Figure 1***. Mic check being called at Occupy Wall Street, Zuccotti Park.

[20] I cite Brandon LaBelle who uses this phrase to describe other forms of ritualised speech. See: Brandon LaBelle, *Lexicon of the Mouth: Poetics and Politics of Voice and the Oral Imaginary* (New York and London: Bloomsbury, 2014), 160.

[21] I cite Francis Dyson who uses this phrase to describe the human microphone. See: Frances Dyson, *The Tone of Our Times: Sound, Sense, Economy and Ecology* (Cambridge and London: MIT Press, 2014), 149.

Of the many innovative political experiments in direct democracy that evolved at OWS, subsequently practiced and honed at the hundreds of other occupations of public space across the US and the world, the now famous human microphone, also called the people's microphone, was probably the most iconic (echoic).[22] Initially used as a defensive tactic born of practical necessity in response to a ban on electrical amplification devices and battery-powered megaphones, the human microphone became a tool for the active creation of a space for collective listening and political formation.[23] It provided the human voice the freedom of expression it is supposedly guaranteed in a liberal democracy.

One of the many reasons OWS sprung up was as a response to a US Supreme Court ruling that effectively conferred freedom of speech rights to corporations.[24] The Citizens United ruling of 2010 handed the largest megaphone in human history — the apparatus of modern media and the power and reach over the electorate that it confers — over to the corporate interests that could in effect buy future elections. The ruling unleashed a torrent of political campaign contributions, drowning out the individual voter's voice. The Occupy movement provided an alternative participatory form of the democratic process, distanced from powerful financial networks dominating the political field. The human microphone pointed towards the possibility of a new means for individuals to engage with reciprocal communication at a time when institutional politics and the media were continuing to operate in the interest of corporations and finance.

One of the fundamental aspects of the human microphone is the active engagement required between the speaker and the crowd. There is no room for distracted listening. Equally important is the consequence of the exacting relationship *between* the speaker and the crowd.

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[22] To contrast icon, a visual after-image, with echo: the reflected sound.

[23] Dyson has noted that the restrictions during OWS may not have been primarily concerned with controlling 'the sound or the loudness of sound being produced, but rather the status that amplification gave to their speech. The voice, amplified, coming from a loudspeaker, directly confronts the role and monopoly of the media…' See: Dyson, *The Tone of Our Times: Sound, Sense, Economy and Ecology,* 150.

[24] In an article by Jamie Raskin for *The Nation*, he describes a *Citizen United* era where a corporatist ideology has overtaken Supreme Court jurisprudence. See: Jamie Raskin, "'Citizens United' and the Corporate Court," *The Nation*, September 13, 2012, https://www.thenation.com/article/citizens-united-and-corporate-court/.

Rambling polemic is not an option. Precision in language is key. If the speaker drifts and breaks with the respondents, the repetitions dissolve into incoherence and the clearly defined echo becomes chaotic reverberation. In this case, a participant must intervene and re-establish the connection with a call to "Mic Check!" — a method for re-tuning the reciprocity of the exchange.

## *2.2. Cornel West*

Over the course of the Occupy movement the human microphone was used by activists, theorists, musicians and philosophers. Philip Glass,[25] Judith Butler,[26] Cornel West,[27] and Slavoj Žižek[28] all took part in the early days of the movement. West — a public intellectual, philosopher, professor, and civil rights activist — took to the process of the human microphone with ease, speaking with the rhythm, cadence and rhetorical skills of the 'black prophetic tradition'.[29] His use of the human microphone is significant. A long-standing advocate for the re-activation of the prophetic tradition — exemplified by figures such as Frederick Douglass, James Baldwin, Malcolm X, and Ida B. Wells, to name a few — West has written extensively on Afro-American prophetic practices and their lineage from black churches, to black womanist practices, to black socialist thought and action.[30] In his book *Prophetic Fragments*, West writes: 'Black churches permitted and promoted the kinetic orality of Afro-Americans — the fluid and protean power of the Word in speech and song

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[25] Atiq Zabinski, "12.01.11 Occupy Lincoln Center -- Philip Glass Supports #OWS," YouTube video, 5:36, accessed March 19, 2018, https://www.youtube.com/watch?v=P6gLJRs-TuA.

[26] Smabiner, "Judith Butler at Occupy Wall Street," YouTube video, 3:39, accessed March 19, 2018, https://www.youtube.com/watch?v=JVpoOdz1AKQ.

[27] NewYorkRawVideos, "Cornel West, Occupy Wall St, Sept 27, 2011 (Day 11)," YouTube video, 4:01, accessed March 19, 2018, https://www.youtube.com/watch?v=fJbS5N-hzqs.

[28] BeneVerba, "Slavoj Žižek at OWS, Oct 9, 2011 [Full Edition with English subtitles]," YouTube video, 18:08, accessed March 19, 2018, https://www.youtube.com/watch?v=vdwF3j1F2pg.

[29] Cornel West, *Black Prophetic Fire* (Massachusetts: Beacon Press, 2014), 4.

[30] Cornel West, *Prophetic Fragments* (Michigan: Wm. B. Eerdamns Publishing Co. 1993), 42.

along with the rich Africanisms such as antiphonality (call-and-response), polyrhythms, syncopation and repetition […]'[31] These musical modes of speech are obvious precedents to the communication paradigm of the human microphone. The form of call-and-response being the most direct in regard to its use throughout the long history of protest movements — from the Civil Rights marches in the segregated states of the southern US, to the global anti war movement and student protests of 1968.

The anthropologist and activist David Graeber writes, at the very inception of OWS, that the human microphone is part of the ongoing project of creative political formation:

> Small-a anarchists such as myself were at the core of the anti-nuclear movement in the '70s and the global justice movement between 1998-2001, and over the years, we have put much of our creative energy into developing forms of egalitarian political process that actually work. I should emphasize that this is not just an anarchist project. Actually, the development of consensus process, which is probably the movement's greatest accomplishment, emerges just as much from the tradition of radical feminism, and draws on spiritual traditions from Native American to Quakerism. This is where the whole exotic language of the movement comes from: facilitation, "the people's microphone," spokescouncils, blocks; though in the case of Occupy Wall Street, augmented and transformed by the experience of General Assembly movements across the Mediterranean.[32]

In the earliest days of OWS, before the event of the human microphone, call-and-response was used to amplify the plight of Troy Davis in the hours before his execution by the state of Georgia — as described by the poet and writer Michael Nardone in 'We Are the Amp: A Poetics of the Human Microphone'.[33] His essay is a historical survey of the human microphone at OWS, establishing a timeline of the emergence of the instrument beginning on 17 September 2011 — at the start of protests at Zuccotti Park — and ending on 19 November

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[31] Ibid., 43.

[32] David Graeber, "On playing by the rules – the strange success of #OccupyWallStreet," Open Democracy, published October 20, 2011a, https://www.opendemocracy.net/ourkingdom/david-graeber/on-playing-by-rules-%E2%80%93-strange-success-of-occupywallstreet.

[33] Michael Nardonne, "We are the Amp: A Poetics of the Human Microphone," in *Public Poetics*, eds. Bart Vautour, Erin Wunker, Travis V. Mason, Christl Verduyn (Waterloo: Wilfrid Laurier Univ. Press, 2015).

2011, just a few days after the enforced closure of the park.[34] Drawing from 'texts, videos, and images compiled from social media sites, digital repositories, and other online sources',[35] Nardone identifies various iterations of the human microphone in a linear fashion. Here is his account of one of the key moments leading to the emergence of the human microphone:

> […] on the evening of 20 September, the only spoken words to reach an amplitude loud enough to cross the space of Zuccotti Park were ones spoken in a call-and-answer unison. Two voices shouted: "They say death row!" A crowd voice responded: "We say hell no!" Two voices: "Death Row!" Crowd voice: "Hell No." Following this repetition, an individual voice called out: "We Are," and a crowd voice replied: "Troy Davis." In this collective articulation of a single voice — in the figurative embodiment of a We in the individual Troy Davis, and the literal embodiment of individuated, multivocal speech voiced in collective unison — we have one of the first annunciations of a vocalic body in the Occupy movement.[36]

In this particular call-and-response event, Nardone has pointed out one of the main characteristics of the human microphone, which is the transformation of the collective voice into what is called 'a vocalic body' — a concept derived from Steven Connor in his writings on ventriloquism.[37] In his book *Dumbstruck: A Cultural History of Ventriloquism*, Connor explains the concept as follows: 'The principle of the vocalic body is simple. Voices are produced by bodies: but can also themselves produce bodies. The vocalic body is the idea — which can take the form of dream, fantasy, ideal, theological doctrine, or hallucination — of a surrogate or secondary body, a projection of a new way of having or being a body, formed and sustained out of the autonomous operations of the voice'.[38]

In the following days, the human microphone slowly begins to emerge with 'audible frustration and impatience'.[39] Speakers grappled with the phrasing of their speech in order for

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[34] Ibid. 290.

[35] Ibid. 290..

[36] Ibid. 292.

[37] Steven Connor, *Dumbstruck: A Cultural History of Ventriloquism*. (New York: Oxford University Press, 2000).

[38] Ibid., 35.

[39] Nardonne, "We are the Amp: A Poetics of the Human Microphone," 296.

other individuals, acting as solitary amplifiers, to repeat and deliver the information across the park in a manner similar to historical town criers relaying the news. This was not a case of a vocalic body made of voices repeating words in unison, but a vocal baton being passed along the crowd as others listened in. It wasn't until, as Nardone writes, 'a man who called himself Radio Raheem, self-described as "one of the pioneers of the conscious hip-hop movement," stood before the assembly'.[40] Radio Raheem cupped his hands around his mouth and declared "Mic Check!", which a large crowd repeated enthusiastically, before he proceeded to shout:

> (Crowd repeats each line)
>
> 'We don't need
>
> an amplifier
>
> We are
>
> the amp!'[41]

Radio Raheem is the alias for Rodney Rahim Deas — a community organiser and poet.[42] His intervention at OWS marked 'a new form of communicative exchange',[43] and within just one week the human microphone had developed to the point where the media were starting to pay attention to this emerging phenomenon. It should be noted that, while there is little written of the evidence of the call to "Mic Check!" prior to Zuccotti Park, according to NPR's Carrie Kahn, 'Occupiers weren't the first to use these techniques. Consensus-building and the people's mic were heard during the anti-nuclear rallies of the 1980s and later on at the anti-

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[40] Ibid.

[41] WingsTwoSpirit, 'Radio Raheem - September 21st General Assembly - Day 5,' YouTube video, 2:34, accessed June 10 2018, https://www.youtube.com/watch?v=ISZm_o2567Y.

[42] Rodney Rahim Deas was the basis for the character 'Radio Raheem' in Spike Lee's 1989 film *Do the Right Thing*. The character of Radio Raheem is known for carrying a boombox around Brooklyn, blasting the song 'Fight the Power' by Public Enemy, the lyrics to which include: 'Our freedom of speech is freedom of death, we got to fight the powers that be!'

[43] Nardonne, "We are the Amp: A Poetics of the Human Microphone," 293.

globalization protests in the 1990s'.[44] Sasha Costanza-Chock, co-founder of the Occupy Research Unit, has noted that the use of the human microphone is evident in *This Is What Democracy Looks Like* — a documentary about the anti-globalisation protests in Seattle in 1999 that shut down the WTO ministerial conference.[45] Constanza-Chock writes: 'In the film's dramatic closing scene, several hundred people are assembled in solidarity with arrestees inside the King County jail. The People's Mic is used to announce that the protests have played a key role in ending the trade negotiations; veteran Chicago Seven activist Tom Hayden then uses the technique to share a prefigurative prose poem'.[46] Perhaps the human microphone has an even longer history than these accounts. David Graeber writes:

> No one was quite sure where the People's Mic had originally come from. It was already a familiar tool to many California activists by the time of the WTO actions in Seattle in November 1999. In a way, it's kind of remarkable that it hasn't been attested long before — it's a perfect solution to an obvious problem that people in large assemblies must have faced time and time again for thousands of years. Perhaps it was widely used in earlier periods of human history but was simply never remarked on because its use was considered self-evident.[47]

The current iteration of the human microphone, with its collective voicing of "We Are the Amp!" and "Mic Check!", directly points to OWS as having produced a practice that reflects contemporary society's relationship with technology and power. More specifically, in a post-digital era, it is a tool for the human voice — as opposed to the voice of corporate media — to be heard within a democratic process. By creating a space for reciprocal communication and collective listening, the emergence of the human microphone at OWS points towards a new form of political speech that consists of a contemporary vocalic body as well as a contemporary 'vocalic space' — the latter is another pertinent concept that Steven Connor has

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[44] Carrie Kahn, "Battle Cry: Occupy's Messaging Tactics Catch On," *All Things Considered*, December 6, 2011, podcast, MP3 audio, 4:08, https://www.npr.org/2011/12/06/142999617/battle-cry-occupys-messaging-tactics-catch-on?t=1532092853747.

[45] Sasha Costanza-Chock "Mic Check! Media Cultures and the Occupy Movement," *Social Movement Studies: Journal of Social, Cultural and Political Protest* (2012): 7, Routledge.

[46]Ibid.

[47] David Graeber , *The Democracy Project: A History, a Crisis, a Movement* (UK: Penguin), 2013, 50.

described in his writings on ventriloquism.[48] Connor writes: 'Vocalic space signifies the ways in which the voice is held both to operate in, and itself to articulate, different conceptions of space, as well as to enact the different relations between the body, community, time, and divinity'.[49] Cornel West's mic check on 27 September 2011 encompasses this very concept. His speech moves from the local, to the universal, and ends on the spiritual:

> (Crowd repeats each line)
>
> There is a sweet spirit in this place.
>
> I hope you can feel the love and inspiration,
>
> of those Sly Stone called "everyday people",
>
> who take a stand with great courage
>
> and compassion,
>
> because we oppose
>
> the greed of Wall Street oligarchs,
>
> and corporate plutocrats,
>
> who squeeze the democratic juices
>
> out of this country,
>
> and other places around the world.
>
> […]
>
> I want to thank you; it's a blessing to be a small part of this magnificent gathering.

[48] Connor, *Dumbstruck: A Cultural History of Ventriloquism.*

[49] Ibid., 12.

This is the General Assembly consecrated by your witness, and your body, and your mind.[50]

West's mic check was an incarnation of both the spirit of the people and the spirit of politics.

## *2.3. Slavoj Žižek*

A week after Cornel West's mic check, another well-known philosopher and public intellectual took to the human microphone. On 9 October 2011, Slavoj Žižek stood before the crowd at Zuccotti Park and called out "Mic Check!" The following is an excerpt which forms the crux of his argument:

(Crowd repeats each line)

[…] So what are we doing here?

Let me tell you a wonderful old joke from Communist times.

A guy was sent from East Germany to work in Siberia.

He knew his mail will be read by censors,

so he told his friends:

"Let's establish a code.

If a letter you will get from me is written in blue ink,

it is true what I say.

If it is written in red ink,

it is false."

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[50] NewYorkRawVideos, "Cornel West, Occupy Wall St, Sept 27, 2011 (Day 11)," YouTube video, 4:01, accessed March 19, 2018, https://www.youtube.com/watch?v=fJbS5N-hzqs.

After a month, his friends get a first letter.

Everything is in blue.

It says, this letter:

“Everything is wonderful here.

Stores are full of good food.

Movie theatres show good films from the West.

Apartments are large and luxurious.

The only thing you cannot buy

is red ink.”

(crowd laughs)

This is how we live.

We have all the freedoms we want.

But what we are missing is red ink:

the language to articulate our non-freedom.

The way we are taught to speak about freedom,

the war on terror and so on,

falsifies freedom.

And this is what you are doing here.

You are giving all of us red ink.

(crowd applauds)

There is a danger.

Don’t fall in love with yourselves.

We have a nice time here.

But remember, carnivals come cheap.

What matters is the day after,

when we will have to return to normal lives.

Will there be any changes then?

I don’t want you to remember these days,

you know, like “Oh, we were young, it was beautiful.”

Remember that our basic message is,

“We are allowed to think about alternatives.”

If the taboo is broken,

we do not live in the best possible world.

But there is a long road ahead.

There are truly difficult questions

that confront us.

We know what we do not want.

But what *do* we want?

What social organisation can replace capitalism?

What type of *new* leaders do we want? […][51]

At times, Žižek’s sentences would be too long for the crowd to repeat, and "Mic Check!” would be shouted by someone in the crowd to re-establish the connection. Forced to reign in

[51] BeneVerba, “Slavoj Žižek at OWS, Oct 9, 2011 [Full Edition with English subtitles],” YouTube video, 18:08, accessed March 19, 2018, https://www.youtube.com/watch?v=vdwF3j1F2pg.

his excesses through the process of the human microphone, Žižek's participation at OWS has left us with one of his most cogent arguments. When referring to the unavailability of red ink, Žižek is describing the lack of a language, and tools, to imagine a world without capitalism. In other words, if we, as a society, don't have the means to articulate an alternative way of being beyond capitalism, then there is no way of ever reaching it. However, despite celebrating OWS for being the red ink, Žižek's mic check also came with a warning: that the occupiers must not fall in love with themselves, but should think carefully about how to sustain the movement in the days and years after the event has passed. His mic check was an elaboration on the often quoted idea that, 'it is easier to imagine the end of the world than to imagine the end of capitalism'.[52]

## *2.4. Judith Butler*

Later that month, on 23 October 2011, the philosopher Judith Butler — known for her writings on gender, performance, and the body — echoed Žižek's critique of the dominant order: 'If the right to shelter, food, and employment are impossible demands, then we demand the impossible. If it is impossible to demand that those who profit from the recession redistribute their wealth and cease their greed, then yes, we demand the impossible'.[53] Butler later articulates the need to corporeally invest in a better future, referring specifically to the relationship between the body, the voice, and democracy. The following is a condensed excerpt of her delivery:

> It matters that as bodies we arrive together in public, that we are assembling in public; we are coming together as bodies in alliance in the street and in the square. As bodies we suffer, we require shelter and food, and as bodies we require one another and desire one another. So this is a politics of the public body, the requirements of the body, its movement and voice. We would not be

[52] Frederic Jameson, "Future City," in *New Left Review,* 21, (May - June 2003). 76.

[53] Léopold Lambert, "Judith Butler to the Occupy Movement," in *The Funambulist Pamphlets 5: Occupy Wall Street,* ed. Léopold Lambert (Brooklyn: Punctum, 2013), 52-55.

> here if elected officials were representing the popular will. We stand apart from the electoral process and its complicities with exploitation. We sit and stand and move and speak, as we can, as the popular will, the one that electoral democracy has forgotten and abandoned. But we are here, and remain here, enacting the phrase, "We the People."[54]

Butler's use of the mic check brought the politics of the body into dialogue with the body politic.

Within just a few weeks, the human microphone had evolved into an effective tool for communication, bringing people together to speak and listen in public space despite enforced regulations to subdue the human voice. Its potential as a new means of engaging in the democratic process only continued to expand, spreading to other locations beyond Zuccotti Park where there were no amplification prohibitions in place.[55]

## *2.5. Philip Glass*

On 1 December 2011, the night of the final performance of his opera *Satyagraha* at Lincoln Centre in New York, the composer Philip Glass called out "Mic Check!" on the front steps of the building. Integrating the citational chain of the human microphone into his speech, Glass read the last stanza of his opera three times, in keeping with his predilection for repetitious structures:

> (Crowd repeats each line)
>
> Mic Check,
>
> Mic Check,
>
> Mic Check.

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[54] Ibid.

[55] For example, it was used during Occupy Dame Street in Dublin, Ireland. See: Trade Union TV, "Occupy Dame Street March 22 October 2011," YouTube video, 4:56, accessed August 1, 2018, https://youtu.be/oswydZkR7b8.

When righteousness

withers away

and evil

rules the land,

we come into being,

age after age,

and take visible shape,

and move,

a man among men

for the protection of good,

thrusting back evil,

and setting virtue

on her seat again.

(Repeats three times).[56]

The opera has many poetic resonances with OWS. *Satyagraha* translates to 'dedication to the truth',[57] and is based on a text from the Bhagavad Gita — an ancient Hindu scripture. Like *Einstein on the Beach* and *Akhnaten*, *Satyagraha* is one of Glass's 'portrait' operas.[58] In this opera, he explores the legacy of Mahatma Ghandi. The stanza read by Glass — which he translated from Sanskrit for the human microphone — is from the libretto of 'Evening Song', heard in the third act. Each act of *Satyagraha* represents a key historic figure: the writer Leo

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[56] Alexrossny, 'Philip Glass at Occupy Wall Street Protest,' YouTube video, 5:16, accessed March 19, 2018, https://www.youtube.com/watch?v=MUXI3O8SAaQ&t=3s&ab_channel=alexrossny.

[57] "Satyagraha", Philip Glass (website), accessed March 3, 2018, https://philipglass.com/compositions/satyagraha/.

[58] "The Portrait Trilogy," Philip Glass (website), accessed March 3, 2018, http://philipglass.com/glassnotes/the-trilogy/.

Tolstoy in Act I, the poet and musician Rabindranath Tagore in Act II, and civil rights activist Martin Luther King in Act III. Each of these individuals — representing the past, present, and future, respectively — were advocates for non-violent resistance and political action. When writing the opera, Glass was inspired by Ghandi's time spent in South Africa between 1893 and 1914, where he was involved in non-violent civil disobedience and passive resistance as a 'reaction to discriminatory governmental measures aimed against the Indian portion of the population, such as the deprivation of voting rights'.[59] Watching footage of Glass's mic check, filmed by the music critic Alex Ross, the mantric effect of the human microphone is striking.[60] *Mantra,* deriving from Sanskrit, and meaning 'a thought behind speech or ritual action, its symbolic or articulate utterance'.[61] Glass's take on the process of the human microphone embodied his philosophical and political statement, not only in its message, but through the very medium in which it was delivered. His use of the human microphone highlighted the instrument as a tool for non-violent sonic resistance, in this case, 'in order to challenge the ruthless nexus of power and wealth', and to reclaim 'public space and common dignity'.[62]

## *2.6. Summary*

In the aftermath of the breakup of the Occupy camps across the US, the human microphone became a tool in the arsenal of activists everywhere. If Karl Rove — President George W. Bush's former chief strategist — was invited on to college campus, he was met with a "Mic Check!" from the audience.[63] President Obama was mic checked during election hustings in

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[59] "Satyagraha," Philip Glass (website), accessed March 3, 2018, http://philipglass.com/films/satyagraha/.

[60] Alexrossny, 'Philip Glass at Occupy Wall Street protest,' Youtube video, 5:16, accessed March 19, 2018, https://www.youtube.com/watch?v=MUXI3O8SAaQ.

[61] Oxford English Dictionary Online, s.v. "Mantra," accessed March 3, 2018, www-oed-com.

[62] "Occupy Satyagraha at Lincoln Center," Occupy Museums (website), accessed March 3, 2018, http://occupymuseums.org/index.php/actions/10-occupy-musium-protests.

[63] BmoreOccupiers 'Karl Rove #MIC #CHECK in Baltimore,' YouTube video, 2:19, accessed March 19, 2018, https://www.youtube.com/watch?v=nlko7nweb4k.

New Hampshire,[64] and many evangelists of the Tea Party and the Republican Party found their public appearances hijacked by the human microphone in the months and years after OWS. No one from the political establishment was safe from the rage of a generation for whom indebtedness had become the general condition of life.

As the new economies of the information age subjugate society and nature to financial systems, dissolving the social body into a loose network of dividuals, which in turn become rendered data points to be sampled by the markets, corporations and banks, the human microphone restores collective participation and responsibility in the democratic process. In his essay 'The People's Mic as a Medium in Its Own Right: A Pharmacological Reading', Marco Deseriis aptly describes 'the embodied, slow, and choral nature' of the human microphone as an antidote 'to the disembodied, speedy, and fragmented nature of online communication'.[65] He goes on to write that even though the human microphone 'does not require any technological prosthesis, its use has been popularised in a post-technological society — a society whose communication patterns are informed by information technologies even when they are not directly relying on them'.[66] The art historian Homay King contributes to the paradigm of the human microphone by emphasising how the process 'marks a shift away from the idea that our speech belongs to us, as if it were a commodity, as if when others reiterate it, it is somehow used up or stolen, rather than bolstered and enhanced. The mode is not appropriation, but rather forwarding, reposting, making bigger and better'.[67]

The human microphone was an organic development, emerging out of an accumulation of past histories of voicing in public space and contemporary legislations put in place to subdue the human voice. Operating as a human technology, at once ancient and new, the reflexive mechanism provided the 'red ink' for a multiplicity of voices and visions. The human

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[64] RT 'Video: OWS protesters interrupt Obama's speech,' YouTube video, 1:26, accessed March19, 2018, https://www.youtube.com/watch?v=p7kS3Ic4-lE.

[65] Marco Deseriis, "The People's Mic as a Medium in Its Own Right: A Pharmacological Reading," in *Communication and Critical/Cultural Studies*, Volume 11, Issue 1 (March 2014), 49.

[66] Ibid. 44.

[67] Homay King "Antiphon: Note's on the People's Microphone," in *Journal of Popular Music Studies*, Volume 24, (Issue 2), 239.

microphone provided a new way for people to speak to one another, to listen to one another, and to understand one another. This artistic research seeks to conceptually expand on this encounter with the human microphone; to explore its rhythms that have opened up new ways of experiencing the world; and to listen to and further propagate the instrument's various frequencies.

# *3. Contextual Review: A Sonic Imagination*

> 'Sound is an artefact of the messy and political human sphere'.[68]
> – *Jonathan Sterne*

[68] Jonathan Sterne, *The Audible Past* (Durham: Duke University Press, 2003), 13.

## *3.1. Introduction*

Since the development of the human microphone as a powerful tool for political speech at OWS in late 2011, a diverse range of insightful responses to the phenomenon have been written from a multitude of perspectives and disciplines.[69] This chapter seeks to situate the human microphone within a broader theoretical context, before drawing focus on the field of sound studies — a discursive, emergent, interdisciplinary field, succinctly described by James Lavender as having the goal 'to make sound thinkable, *at last*'. [70] This belated engagement with sound as a figure of knowledge is perhaps due to its dynamic nature. In his book *Sound Ideas,* Aden Evens writes: *'*One cannot subject sound to a persistent observation; rather, one can only listen and then, maybe, listen again. […] We articulate more effectively the fixed image than the dynamic sound'.[71] What the field of sound studies offers is a 'deep listening' to culture, providing what Les Back and Michael Bull describe as a particular path 'of understanding the world through the sonic'.[72]

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[69] See, for example: Hannah Chadeayne Appel, "The People's Microphone," *SocialText*, July 22, 2018, https://socialtextjournal.org/dispatches_from_an_occupation_the_peoples_microphone/; Marco Deseriis, "The People's Mic as a Medium in Its Own Right: A Pharmacological Reading," *Communication and Critical/Cultural Studies*, Volume 11, Issue 1 (March 2014); Chris Garces, "Occupy Wall Street, Open Ethnography and the Uncivilized Slot," *iNtergraph Journal*, July, 10, 2018, http://intergraph-journal.net/enhanced/vol3issue2/3.html; Homay King "Antiphon: Note's on the People's Microphone," *Journal of Popular Music Studies*, Volume 24, (Issue 2); Ben Lerner, "A note on the human microphone," *Critical Quarterly* 2, Vol 54, (July 2012); Michael Nardone, "We are the Amp: A Poetics of the Human Microphone," in *Public Poetics*, eds. Bart Vautour, Erin Wunker, Travis V. Mason, Christl Verduyn (Waterloo: Wilfrid Laurier Univ. Press, 2015).

[70] James Lavender, "Introduction: Sounding / Thinking," *Parallax* 23, no. 3 (2017): 246.

[71] Aden Evens, *Sound Ideas: Music, Machines, and Experience* (Minneapolis: University of Minnesota Press), 2005, viii.

[72] Michael Bull and Les Back, "Into Sound … Once More with Feeling," in *The Auditory Culture Reader 2nd Edition,* ed. Michael Bull and Les Back (London: Bloomsbury), 2016, 1.

I begin this chapter by surveying the wider field of analysis on the human microphone, drawing from anthropology,[73] poetry,[74] media studies,[75] and artistic practice.[76] From there, I explore developments in the field of sound studies in order to establish the significance of sound as a site for creative research. This is followed by looking more closely at particular ways of knowing sound that are integral to contemporary sonic practices. I also examine some of the contentious philosophical debates within the discourse of sound studies and indicate new thinking that attempts to re-map the field by taking into account previously excluded voices. Finally, the last section of this chapter addresses the perception of a social and political turn in art practice, emerging from critical and activist writings of the late nineties and first decade of the twenty-first century. Here, the articulation of politics has the potential to critically contextualise the artistic dimension of the research.

## *3.2. Sound Out*

The earliest accounts to describe the phenomenon of the human microphone emerged from people directly involved with Occupy Wall Street (OWS) — people who held ground and blogged about various aspects of the movement as it unfolded at Zuccotti Park. Many of these accounts were by anthropologists engaged in ethnographic writing. David Graeber — one of OWS's most prominent initiators and spokespersons — describes ethnographic writing as 'the kind that aims to describe the contours of a social and conceptual universe in a way that is at once theoretically informed, but not, in itself, simply designed to advocate a single argument or theory'.[77] Following this strategy, anthropologist Hannah Chadeayne Appel offers an early

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[73] See, for example: Chadeayne Appel, "The People's Microphone;" Garces, "Occupy Wall Street, Open Ethnography and the Uncivilized Slot."

[74] See, for example: Lerner, "A note on the human microphone;" Nardone, "We are the Amp: A Poetics of the Human Microphone."

[75] See, for example: Deseriis, "The People's Mic as a Medium in Its Own Right: A Pharmacological Reading."

[76] See, for example: "The People's Microphony Camerata," Elana Mann (website), accessed June 10, 2018, https://www.elanamann.com/project/peoples-microphony-camerata.

[77] David Graeber, *Direct Action: An Ethnography* (Oakland: AK Press), 2009, vii.

description of how difficult and strenuous taking part in the process of the human microphone could be, on occasion:

> The people's mic is available to anyone in the park at any time, and it becomes both a tool of radical equalization and an embodied ritual of spending time in the movement. […] When particularly large crowds gather — on the weekends or in nightly General Assembly meetings — there can be two and sometimes even three "generations" of amplification, so that the original utterance echoes outward into the far reaches of the crowd. […] Occupy Wall Street aims to show that despite living in a democracy that has been *radically* attenuated by the financialization of everything from our personhood (credit scores) to our citizenship (private campaign finance), we can and will speak back. Our numbers will amplify us if our money will not. And yet at the same time, as an inhabited practice, the people's microphone is *difficult*. It is strenuous and cumbersome, vulnerable to fatigue and a lack of mass participation. An otherwise brief announcement, sent over the people's mic to a large crowd, can take ten minutes or more. Attention spans wane; voices get hoarse; rhythm gets off and instead of a unison echo, people's words get jumbled into a polyphony of partial repetition. And other noises are everywhere.[78]

Despite the competitive sounds of the immediate environment, Appel finds the challenge reflective of the very nature of the democratic process. She writes: 'With its difficulties and aural competitors then, the people's mic seems also to be a lesson in the burdens of direct democracy, a lesson in the obstinacy required for intentional, durable citizenship'.[79] Her description of OWS not only gives us an indication of the sonic environment of Zuccotti Park and its surrounds, but in making a connection between the strain of the voice in both the process of the human microphone and a proactive engagement with democracy, Appel focuses attention on the relationship between sound and agency.

Similarly, the poet Ben Lerner relates the difficulties he experienced with the process of the human microphone. In his account, Lerner describes feeling awkward in his participation and vocalisation:

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[78] Chadeayne Appel, "The People's Microphone."

[79] Ibid.

> I admit that whenever I've participated in the people's mic, my initial reaction is embarrassment. I worry my voice will stand out, be awkwardly conspicuous. Yelling in public makes me acutely aware of my body, that I don't know what to do with it, the same awkwardness I feel when called upon to dance. The form requires speaking very slowly, sentences broken up into easily repeatable units, as if we're learning the rudiments of a foreign grammar. Moreover, it can be anxiety-producing to utter phrases when you aren't sure of the message into which they'll ultimately combine, when you have to discover the meaning in the act of speaking it. As I participate, however, I feel the awkwardness is one sign of the experiment's importance, that I'm learning how to position my body in relation to others in a new kind of space, that I am, indeed, acquiring a language, with all the haltingness and regression that entails. If there's a demand common to the Occupy movements, it's the demand for a new language, which is why demands aren't being issued in the old one. My embarrassment, a feeling of nakedness, indicates to me that the people's mic is a serious site of *poesis*. This form of choral speech constitutes an attempt to unmake an utterly bankrupt public discourse so as to refresh the materials out of which a new social world might be constructed.[80]

Participating in the human microphone, as Lerner observes, is akin to learning a new language, and a way of re-engaging with the idea of community and the public sphere through an act of collective voicing. His experience is a strong indication of the potential for sound to unearth socio-political possibilities.

As the weeks progressed and the process of the human microphone began to propagate further afield through digital means — via YouTube videos and other online media — the reflexive dispatches published online from people on the ground helped distant observers across the world contextualise the phenomenon. It soon became evident that Occupy was less a movement focused on demands, but rather a movement based on what anthropologist Chris Garces has called 'affective communication with strangers'.[81] His comprehensive ethnographic reading of OWS presents ideas on the future of political protest. Garces writes: 'The open ethnographer actively works against the liberal subject's political erasure. If OWS protesters were accorded little or no civil space with which to express their grievances, they

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[80] Lerner, "A note on the human microphone," 67.

[81] Garces, "Occupy Wall Street, Open Ethnography and the Uncivilized Slot."

themselves now seek to transform private-public messages through GA [General Assembly] and other forms of direct action — collective bodily practices that stimulate the coming together of strangers'.[82] His sentiment is shared by *The New Yorker* journalist Hendrick Hertzberg. In his article 'Walk in the Park', Hertzberg describes his experience of OWS in its early days: 'There's something oddly moving about a crowd of smart-phone-addicted, computer-savvy people coöperating to create such an utterly low-tech, strikingly human, curiously tribal means of amplification — a literal loudspeaker. […] Occupy Wall Street is a political project, but it is equally a cri de coeur, an exercise in constructive group dynamics, a release from isolation, resignation, and futility. The process, not the platform, is the point'.[83]

Further afield, Michael Nardone,[84] Homay King,[85] and Marco Deseriis[86] add to the literature from their respective disciplines. In his essay, "We are the Amp: A Poetics of the Human Microphone," Nardone draws on the work of Charles Bernstein, establishing a framework centred around *poetics*. Bernstein defines poetics as 'the continuation of poetry by other means. Just as poetry is the continuation of politics by other means'.[87] In order to establish a poetics of the human microphone, Nardone further elaborates on the writings of poet Michael Davidson. Davidson's critical standpoint provides further support to the notion of the human microphone's socio-political possibilities. In his book *On the Outskirts of Form: Practicing Cultural Poetic*s, Davidson asks 'what poetics might look like when it is based not around individual movements, manifestos, and school but around geopolitical policies that impact not only the production of culture but the definition of what it means to be cosmopolitan, a "citizen of the world"'.[88] According to Nardone, Davidson's overall argument is for a poetics

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[82] Ibid.

[83] Hendrik Hertzberg, "A Walk in the Park," *The New Yorker*, July, 10, 2018, https://www.newyorker.com/magazine/2011/10/17/a-walk-in-the-park.

[84] Nardone, "We are the Amp: A Poetics of the Human Microphone."

[85] King "Antiphon: Note's on the People's Microphone."

[86] Deseriis, "The People's Mic as a Medium in Its Own Right: A Pharmacological Reading."

[87] Charles Bernstein, *A Poetics* (Massachusetts: Harvard University Press, 1992), 160.

[88] It is worth noting that Davidson is speaking of literary movements, manifestos, and schools, in this case, rather than political movements. See: Michael Davidson, *On the Outskirts of Form: Practicing Cultural Poetics* (Middletown: Wesleyan University Press, 2011), 16.

that takes into account subjective positions and relations that are ‘shaped by neoliberal trade policies, transnational capital flows, and the spread of digital information. Alliances exist, certainly, at the level of the nation-state, yet they assemble outside this imaginary, across numerous locales, languages, and cultural perspectives at any site where individuals and collectives confront global capital’.[89] From politics, to poetry, to poetics, Nardone’s essay highlights the human microphone as a crucial new form of sonic disobedience — a poetic form of sonic intervention that encourages ‘emergent publics to form, to accumulate amplitude, and to make their demands resound’.[90]

Homay King’s uptake on the human microphone reflects her background as an art historian and film theorist. Referring to classical Greek theatre and liturgical forms, King’s essay focuses on the human microphone as a speech-act.[91] She describes the human microphone as ‘a kind of speech at once radically new and ancient, evocative of the choruses of Greek drama, the antiphonal cadences of Gregorian chant, and the liturgical call-and-response of certain religious ceremonies’.[92] Chorus, amplification, distortion, reverb and equalisation, are all taken into account through aspects of performance and narrative modes in order to elaborate on the anitphonal nature of the process of the human microphone. King concludes with the remark that the human microphone enacts the very change that it speaks.[93]

Writing form the perspective of media theory and politics, Marco Deseriis identifies an ambivalence at the core of ideas around free speech and democracy.[94] In his essay “The People's Mic as a Medium in Its Own Right: A Pharmacological Reading,” Deseriis returns to an ancient meaning of *medium* as ‘a middle ground that is associated with the public and the common’.[95] Drawing on the concepts of *pharmakon* — ‘an ambivalent term that can signify

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[89] Nardone, “We are the Amp: A Poetics of the Human Microphone,” 305.

[90] Ibid., 307.

[91] King, “Antiphon: Note’s on the People’s Microphone,” 239.

[92] Ibid.

[93] Ibid., 245.

[94] Deseriis, “The People's Mic as a Medium in Its Own Right: A Pharmacological Reading.”

[95] Ibid., 1.

either medicine or poison'[96] — and *parrhesia* — 'the right and obligation to speak freely and to speak the truth'[97] — Deseriis' essay elaborates on the human microphone as 'the embodied manifestation of the ideal principle that all voices should be heard in the same way'.[98] He gives an account of a participant who found herself repeating words that she disagreed with, but continued to take part so that the same opportunity would be afforded to someone whose words might overwrite her negative encounter. For Deseriis, the success of the human microphone doesn't lie in what a person is saying, rather it is by 'repeating every word *as if* its meaning did not matter that people participating in the Mic come to endow the medium of direct democracy with positive qualities of its own'.[99] He relays the experience of *Daily Kos* contributor, Una Spenser, at Zuccotti Park in late September 2011:

> I really had to come to terms with the reality that amplification was not endorsement. I had to wrestle with it. What I came to understand was that by amplifying, in unison, it was not me personally amplifying as a statement of endorsement. It was me embodying a principle of allowing all voices to be heard .[…] By allowing this unappealing voice to be heard in full, I was also signalling to the person who spoke, that he would have to amplify the voices of those with whom he did not agree. He would have to let those voices into his body. We would all embody all of it together and have faith that the full experience would be beneficial.[100]

Deseriis' pharmacological reading emphasises that the human microphone is not a platform but a *process* — one that allows participants to 'reflect upon the conditions of possibility of democratic communication — of communication in an open, unscripted environment'.[101]

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[96] Deseriis draws on Jaques Derrida's description of *pharmakon* from his reading of Plato's Phaedrus in the book *Dissemination.* Ibid., 48.

[97] Deseriis draws on Michel Foucault's description of *parrhesia* in his published collection of lectures, *The Government of Self and Others*. Ibid., 49.

[98] Ibid., 48.

[99] Ibid., 48-49.

[100] Ibid., 46.

[101] Ibid., 50.

Explorations of the sonic practice of the human microphone can also be seen and heard in the form of artistic practice. For example: the composer-theorist Jeremy Woodruff explores the musicality of speech through the combination of musical analysis and composition.[102] His research analyses musical parameters of the tones of voices heard in various instances of the human microphone, which he then transcribes into musical notation. In his PhD dissertation, Woodruff writes: 'The transcription is a structural analysis of the intonation of words as an aesthetic structure in its own right and as such allows other more detailed insights about cognition and social tonality to follow'.[103] In this case, social tonality is explored as a musical parameter consisting of sound, noise, and a listening public.

Artist and author Brandon LaBelle explores the human microphone in a 2013 sound work titled *Rehearsal for a People's Microphone.*[104] The work mimics the process of the human microphone by incorporating the prohibited technology which lead to the phenomenon's emergence. LaBelle's sound work involves a pre-recorded acousmatic mic check, amplified from a sound-system housed in a moving vehicle. Through video documentation we hear LaBelle's voice read a text in short bursts, incorporating names of cities, social spaces of architecture, and descriptions of various actions. The general public hear the sound work emit from the vehicle as it is driven around the city of Sherbrooke in Canada. Throughout the process, fragmented and momentary imagined spaces and actions are constructed.[105] Artist Anna Bromley's *Occupy Karaoke* from 2013 similarly re-enacts the human microphone.[106] Her multimedia installation simulates the process of a speaker and the crowd. Forming part of the stage-like installation is a video depicting the text to be read by a gallery visitor, in order to lead their own mic check. Recordings of a mic check from Occupy Lincoln Centre form the

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[102] Jeremy Woodruff, "A Musical Analysis Of The People's Microphone: Voices And Echoes In Protest And Sound Art," (PhD diss., University of Pittsburgh, 2014).

[103] Ibid., 143.

[104] Sporobole, "Brandon Labelle - Rehearsal for a People's Microphone // ESPACE [IM] MÉDIA 2013," Vimeo video, 1:49, accessed June 9, 2018, https://vimeo.com/77454080.

[105] Ibid.

[106] "Occupy Karaoke," Anna Bromley (website), accessed June 10, 2018, https://www.annabromley.com/occupy-karaoke-2013.html.

chorus where each line, fixed to a tempo, gives the illusion of echoing the gallery visitor's words.[107]

A choral project founded by the artists Elana Mann and Juliana Snapper in 2012, called *The People's Microphony Camerata,* incorporates the deep listening practices of the composer Pauline Oliveros.[108] The choir perform listening exercises and works by Oliveros in order to explore 'radical receptivity through sound, voice, and the body'.[109] Mann and Snapper were previously involved in the research and performance collective ARLA (also known as A Ripe Little Archive), and were active participants in Occupy LA in 2011. Along with the filmmaker Vera Brunner-Sung and choreographer Kristen Smiarowski, the group formed in early 2011 and developed a performance art project that not only incorporated deep listening practices to investigate 'listening, receptivity, and voicing as social and political acts',[110] but also created a space for active listening to occur during protests. In an interview by Maile Colbert, Mann and Snapper describe their 'listening parade',[111] which involved a workshop to create giant paper-mache ears and protest signs with drawings of ears to bring to Occupy LA. Mann found that through 'thinking and researching about social, aesthetic, and political points of listening and voicing […] there was something to be considered about the radical receptivity and the core message of the OWS movement and its global amplification of voices struggling to be heard'.[112] Snapper describes the effect of their performance as follows:

> The simple physical presence of people carrying large paper-mache ears was met with a kind of hungry recognition, recognition of what it meant that we were holding the symbols (giant ears). […] At Occupy LA I was hopeful that there

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[107] Speech Act Re-enactments, "Harry - The Promise of the Golden Door," Vimeo video, 1:34, June 9, 2018, https://vimeo.com/80895334.

[108] "The People's Microphony Camerata", Elana Mann (website), accessed June 10, 2018, https://www.elanamann.com/project/peoples-microphony-camerata.

[109] Ibid.

[110] "ARLA," Elana Mann (website), accessed June 10, 2018, https://www.elanamann.com/project/arla.

[111] Elana Mann, "Radical Listening and the People's Microphony: A Conversation with Elana Mann," interview by Maine Colbert, *Sounding Out!,* March 11, 2013, https://soundstudiesblog.com/2013/03/11/radical-listening-elana-mann-and-the-peoples-microphony/.

[112] Ibid.

> would be a place for listening to voices that had not been heard before and sometimes that happened. Other times people used the space for projecting, not receiving. I think that there needs to be strong voices making themselves heard, but I don't want to lose the other part of that equation, which is those voices being quiet and listening to others, and themselves.[113]

Mann and Snapper's project draws attention to the act of listening *with* others, and by extension highlights the processual, situated and relational properties of the human microphone. The project draws attention to the significance of listening during protest. Listening 'tunes us to the interplay of meaningful layers that constitute the world, bridging the seen and the unseen, foreground and background, things and bodies with animate forcefulness'.[114] As a form of expression, listening is 'an "art of presence," crafting from the body and its place in the world and with others new formations of social becoming'.[115]

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[113] Juliana Snapper, "Radical Listening and the People's Microphony: A Conversation with Elana Mann," interview by Maine Colbert, *Sounding Out!,* March 11, 2013, https://soundstudiesblog.com/2013/03/11/radical-listening-elana-mann-and-the-peoples-microphony/.

[114] Brandon LaBelle, *Sonic Agency: Sound and Emergent Forms of Resistance* (London: Goldsmiths Press, 2018), 161.

[115] Ibid., 162.

***Figure 2.*** Image of ARLA at Occupy LA, 2011.

What these varied examples of writing and artistic practices indicate, is that through the highly evocative nature of the human microphone, sound and listening — and by extension the methods of study that they evoke — have been called into action through diverse discourses. Artistic works, especially those with an activist impulse, have the ability to impact our social and material conditions by defamiliarising and reorganising the local — a process that doesn't involve the delivery of more facts, but as Natalie Loveless writes, one that finds ways through aesthetic encounters and events towards 'new webs of sensorial attunement and nurturance'.[116] It is for this very reason that the field of sound studies has been identified as critically, contextually and conceptually relevant to situating a body of research and artistic practice that draws on the aesthetics of the human microphone. At its most basic description, sound studies combines elements from a diverse range of sources and research practices, and takes 'sound as its analytical point of departure or arrival'.[117] The following section explores

[116] Natalie Loveless, *How to Make Art at the End of the World: A Manifesto for Research-Creation* (Durham: Duke University Press, 2019), 107.

[117] Sterne, *The Sound Studies Reader*, 2.

sound scholarship in more depth with a view to interrogating its potential as an analytical tool to better understand the resonance of the human microphone.

## *3.3. Sound Studies*

In 2005, Michele Hilmes wrote that 'the study of sound, hailed as an "emerging field" for the last hundred years, exhibits a strong tendency to remain that way, always emerging, never emerged'.[118] In her essay, "Is There a Field Called Sound Culture Studies? And Does It Matter?", Hilmes poses the titular questions in light of key readings that emerged in the early 2000s — *The Audible Past: Cultural Origins of Sound Reproduction* by Jonathan Stern,[119] and *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900 to 1930* by Emily Thompson.[120] According to Hilmes, these two tomes have helped redefine the study of sound; a study she once considered 'doomed to a position on the margins of various fields of scholarship, whispering unobtrusively in the background while the main action occurs elsewhere '.[121] Drawing on a literature review stemming from the work of Rick Altman — in particular his book *Sound Theory / Sound Practice,* published in

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[118] Michele Hilmes, "Review: Is There a Field Called Sound Culture Studies? And Does It Matter?" *American Quarterly,* Vol. 57, No. 1 (March, 2005): 249.

[119] Jonathan Sterne, *The Audible Past* (Durham: Duke University Press, 2003).

[120] Emily Thompson, *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900 to 1930* Massachusetts: MIT Press, 2002).

[121] Hilmes, "Review: Is There a Field Called Sound Culture Studies? And Does It Matter?" 249.

1992 — [122] Hilmes charts various traditions of sound studies across cinema,[123] radio,[124] music,[125] recording technology,[126] and finally, art and experimental sound.[127] In light of the noted publications by Sterne and Thompson, Hilmes asserts that by placing sound in 'the physical space of its production and consumption', and by shifting our focus 'to the history of the various ways that sound and hearing have been conceptualised and described and to the development of practices of listening that have developed out of them',[128] the door to sound studies as a field that *matters* has finally opened. This move away from a disciplinary tradition and narrow categorisation is precisely where Sterne and Thomson's approach differs, opening up unique possibilities in the field of sound studies by 'breaking free of the notion

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[122] Hilmes credits Rick Altman as 'professor of cinema and comparative literature at the University of Iowa, author of several seminal studies on sound and with the clearest claim, if anyone deserves it, to the title of godfather of sound studies in the United States'. Ibid., 250. See also: Rick Altman, *Sound Theory/Sound Practice* (New York: Routledge, 1992).

[123] Hilmes argues that analysis in film sound exclusively emphasises 'sound in relation to the visual', which 'limits its usefulness in other fields'. Ibid., 251. For examples of the study of sound and sound representation in cinema, see: Michel Chion, *Audio-Vision* (New York: Columbia University Press, 1994); Donald Crafton, *The Talkies: American Cinemas Transition to Sound, 1926-1931* (Los Angeles: University of California Press, 1997); Sarah Kozloff, *Overhearing Film Dialogue* (Los Angeles: University of California Press, 2000); James Lastra, *Sound Technology and the American Cinema* (New York: Columbia University Press, 2000); and Jeff Smith, *The Sounds of Commerce: Marketing Popular Film Music* (New York: Columbia University Press, 1998).

[124] On sound as a medium of expression in radio, see, for example: William Barlow, *Voice Over: The Making of Black Radio* (Philadelphia: Temple University Press, 1999); and Susan J. Douglas, *Listening ln: Radio and the American Imagination* (New York: Random House, 1999).

[125] On the aural nature of music culture, see, for example: David Brackett, *Interpreting Popular Music* (Berkeley: University of California Press, 2000); George Lipsitz*, Dangerous Crossroads: Popular Music, Postmodernism, and the Poetics of Place* (London: Verso, 1994); and Derek Vaillant, *Sounds of Reform: Progressivism and Music in Chicago, 1873-1935* (Chapel Hill: University of North Carolina Press, 2003).

[126] On the history of recorded sound, see, for example: Michael Chanan, *Repeated Takes: A Short History of Recording and Its Effects on Music* (London: Verso, 1 995); William Howland Kenney, *Recorded Music in American Life: The Phonograph and Popular Memory, 1890-1945* (New York: Oxford University Press, 1999); Andre Millard, A*merica on Record: A History of Recorded Sound* (Cambridge: Cambridge University Press, 1995); and David Morton, *Off the Record: The Technology and Culture of Sound Recording in America* (New Brunswick, N.J.: Rutgers University Press, 2000).

[127] On sound phenomena in art and experimental music, see, for example: Douglas Kahn, *Noise Water Meat: A History of Sound in the Arts* (Cambridge, Mass.: MIT Press, 1999); Douglas Kahn and Gregory Whitehead, *Wireless Imagination: Sound, Radio, and the Avant Garde* (Cambridge, Mass.: MIT Press, 1994); Alan S. Weiss, ed., *Experimental Sound and Radio* (Cambridge, Mass.: MIT Press, 2000); and Daina Augaitis and Dan Lander, eds., R*adio Rethink: Art, Sound and Transmission* (Banff: Walter Phillips Gallery, 1994).

[128] Hilmes, "Review: Is There a Field Called Sound Culture Studies? And Does It Matter?," 252.

that sound is the possession of particular forms of content, such as music, radio, or films, and placing it in the physical space of its production and consumption'.[129] Of particular interest, in this new approach in sound studies, is Jonathan Sterne's emphasis on techniques of listening. In *The Audible Past*, Sterne outlines the concept of 'audile technique', where the word *audile* is used 'to connote hearing and listening as developed and specialised practices, rather than inherent capacities'.[130] He places an emphasis on the changes in social and cultural contexts that produce particular orientations toward listening — an approach that is significant in contextualising the human microphone in the field of sound studies.[131] The human microphone, and it's listening with process, can be seen to have emerged as a novel cultural practice, specific to its social context.

As more practitioners, writers, and researchers engage in different conceptual approaches towards sound studies, the question remains: does sound need a field, and if so, what can the study of sound do? Over the past decade, the significance of sound as a site for scholarship has continued to thrive, proving that 'the sonic turn', as described by Jim Drobnick in his book *Aural Cultures*, is still very much in motion.[132] Although the term sound studies is just one of the many ways of naming the broader canon within the social sciences, arts, and humanities, it is through the numerous anthologies that students and scholars are provided with an entry point to embark on academic auditory explorations.[133] The following edited volumes attest to the significance of this interdisciplinary field: Michael Bull and Les Back's *The Auditory Culture Reader,*[134] now in its second edition; Trevor Pinch and Karin

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[129] Ibid., 257.

[130] Sterne, *The Audible Past*, 96.

[131] Sterne highlights other listening techniques, such as: Barry Truax's ideas on 'listening-in-search', 'listening-in-readiness' and 'background listening'; Steven Feld's 'life-up-over sounding'; and Michel Foucault's conceptual apparatus of 'confession'. Ibid., 97.

[132] Jim Drobnick, "Listening Awry," in *Aural Cultures,* ed. Jim Drobnick (Toronto: YYZ Books, 2004), 10.

[133] Other terms include: aural cultures, sound culture, auditory cultures, acoustic territories, sonic practices, and sonic experience, to name a few.

[134] Michael Bull and Les Back, eds., *The Auditory Culture Reader* (London Bloomsbury Academic, 2004).

Bijsterveld's *The Oxford Handbook of Sound Studies*;[135] Jonathan Sterne's *The Sound Studies Reader*;[136] and Michael Bull's *The Routledge Companion to Sound Studies.*[137] These volumes are symptomatic of an attempt to strategise, make sense of, and draw attention towards sonic perspectives.

In *The Auditory Culture Reader,* Bull and Back follow ethnomusicologist Steven Feld's concept of 'acoustemology' by investigating, in Feld's words, 'the primacy of sound as a modality of knowing and being in the world'.[138] In an essay elaborating on this concept, Feld writes: 'Acoustemology joins acoustics to epistemology to investigate sounding and listening as a knowing-in-action: a knowing-with and knowing-through the audible'.[139] Closely linked to relational ontology and sensory phenomenology, acoustemolgy emerged from Feld's 'ethnographic studies of the sociality of sound in the Bosavi rainforest region of Papua New Guinea',[140] and was an attempt to 'address the sounding worlds of indigenous and emergent global geographies of difference across the divides of species and materials'.[141] Treating their anthology as a 'comparative template' for producing an acoustemology, Bull and Back further propose a methodology of 'deep listening', which involves 'attuning our ears to listen again to the multiple layers of meaning potentially embedded in the same sound'.[142] Their emphasis is on auditory culture as a sensory problem, reflecting on the ways the world is presented when we listen to it, rather than look upon it.[143] In a similar vein, Pinch and Bijsterveld situate sound studies as part of 'sensory studies', which explores the 'relationship between the

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[135] Trevor Pinch and Karin Bijsterveld, *The Oxford Handbook of Sound Studies* (New York: Oxford University Press, 2011).

[136] Sterne, *The Sound Studies Reader*.

[137] Michael Bull, *The Routledge Companion to Sound Studies* (New York: Routledge, 2019).

[138] Steven Feld cited in: Bull and Back, *The Auditory Culture Reader*, 3.

[139] Steven Feld, "Acoustemology," in *Keywords in Sound,* eds., David Novak and Matt Sakakeeny (Durham and London: Duke University Press*,* 2015), 12.

[140] Ibid., 15.

[141] Ibid., 14.

[142] Bull and Back, *The Auditory Culture Reader*, 3. Though not cited by Bull and Back, they are likely referring to the deep listening practices of composer Pauline Oliveros.

[143] Ibid., 4.

material embedding and multi sensory mediation of modern sound'.[144] Their edited volume presents different 'modes of listening' to 'investigate when, how, and under what conditions the ear has contributed to knowledge dynamics in tandem with or instead of the eye'.[145] In contrast, Steven Connor argues that '[s]ound studies did not begin as a branch of sensory studies, but they have increasingly been conceived as such'.[146] For Connor, an acoustemology, or particular way of knowing through sound, is both unattainable and unintelligible, since 'sound is all and always epistemology, and not ontology… Sound is always known as sound knowingly'.[147] Research in the field of sound studies often draws on sensory studies in order to demonstrate what is considered a hierarchy of the senses in Western society, where vision takes on the status of the primary source of knowledge, followed by hearing, smell, touch and taste.[148] This framing of sound and hearing — understood as locked in a struggle for primacy with vision[149] — has resulted in a recurring contention in sound scholarship. In *The Sound Studies Reader,* Sterne draws on previous work in his influential study *The Audible Past* and highlights this contention, which he describes as a problematic dualistic positioning of sound and vision popularised by Walter Ong,[150] and Marshall McLuhan.[151] He identifies this tendency as 'the audiovisual litany' — a litany that has evolved from a theologically based form of reasoning.[152] In *The Sound Studies Reader,* Sterne argues against the Manichean assertions of 'hearing is spherical, vision is directional […] hearing is a primarily temporal sense, vision is a primarily spatial sense',[153] and so on, in a list of binary oppositions that he finds plagues sound studies. The audiovisual litany 'posits

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[144] Pinch and Bijsterveld, *The Oxford Handbook of Sound Studies,* 10.

[145] Ibid., 14.

[146] "Acousmania," Steven Connor (website), accessed October 5, 2020, http://stevenconnor.com/acousmania.html.

[147] Ibid.

[148] See, for example: Constance Classen, *Worlds of Sense: Exploring the Senses in the History and Across Cultures* (New York: Routledge, 1993).

[149] "Acousmania."

[150] Sterne, *The Audible Past*, 16.

[151] Sterne, *The Sound Studies Reader*, 10.

[152] Sterne, *The Audible Past*, 15.

[153] Sterne, *The Sound Studies Reader*, 9

history as something that happens *between* the senses […] where the dominance of one sense by necessity leads to the decline of another sense. But there is no scientific basis for asserting that the use of one sense atrophies another'.[154] In compiling the audiovisual litany, Sterne draws attention to two very distinct positions in Western philosophical thought — a debate far beyond the scope of this thesis. Nevertheless, while valuing the disruption of narratives around 'the so called hegemony of the visual and the privileging of the eye', and the many questions that arise when defining what the object of sound studies puts forward, Sterne makes the case for what he calls a 'sonic imagination', which 'denotes a quality of mind, but not a totality of mind'.[155] In his edited volume, Sterne aims for a 'situated transcendence'[156] that opens the field to people who 'need to position their own thought in relation to different traditions of minding sound depending on the particular problems they confront and their own combination of biography and history'.[157] By avoiding reducing sound studies to the sensorium, and acknowledging the cultural specificity of sound, Sterne's approach towards his anthology is both situated and positioned, leaving room for further interpretation and imagination. It is because of this openness that I revert to Sterne's concept when describing different approaches to knowing sound.

There are many critical paths into sound studies, some more recent and perhaps less ideological, which I will explore in the next section, however from this brief overview of key texts it is clear that the field of sound studies remains 'conceptually fragmented',[158] yet continually captivating. By presenting a few of the field's exemplary efforts on the debate about what sound studies is, what it can do, and how we come to define it, it becomes evident there are other noticeable recurring problems — namely a prevalence of Western-centric narratives, and a minimal presence of female voices in the established canon. Gavin Steingo

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[154] Sterne, *The Audible Past,* 16.

[155] Sterne, *The Sound Studies Reader*, 9.

[156] For Sterne, '[t]ranscendence, after all, is situated transcendence. All universalisms start from somewhere.' See: Jonathan Sterne, "What Do We Want?" "Materiality!" "When Do We Want It?" "Now!" in *Media Technologies Essays on Communication, Materiality, and Society*, eds., Tarleton Gillespie, Pablo J. Boczkowski, and Kirsten A. Foot, (Massachusetts: MIT Press, 2014), 119-128.

[157] Ibid., 10.

[158] Sterne, *The Audible Past,* 4.

and Jim Sykes' edited volume, *Remapping Sound Studies,* is a necessary decolonising gesture.[159] Their anthology aims at redressing the striking omission of perspectives from the global South in sound studies, and of Africa and Asia in particular, in what they have identified as the first wave of sound studies.[160] To put their long overdue anthology in perspective, Steingo and Sykes outline the existing disparity in the field:

> Routledge's four-volume *Sound Studies* anthology — comprising 72 chapters and more than 1,500 pages (Bull 2013) — does not contain a single chapter on Africa or Asia (which together form over half of the world's landmass and currently comprise well over 100 sovereign nation-states). The *Oxford Handbook of Sound Studies* (Pinch and Bijsterveld 2011) contains 23 chapters on topics ranging from Pixar and birdsong to cochlear implants and iPod culture, but Africa and Asia are absent there as well.[161]

This neglect is not due to lack of literature: 'A bibliography for sound in the global South exists; it simply has not been integrated into the sound studies canon, save for a small number of well-known works'.[162] In the introduction to their volume, Steingo and Sykes include a 'hypothetical reader', which 'consists of texts that had already been published when the extant anthologies were being compiled'.[163] When considering these limitations in the established canon, *Remapping Sound Studies* provides a vital terrain towards continued thinking about sound in the twenty-first century.

Outlining their strategies for remapping sound studies, Steingo and Sykes emphasise that their aim is not to transplant existing methods of sound studies onto the global South, but rather to demonstrate how perspectives from other locales can expand on the established Northern-

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[159] Gavin Steingo and Jim Sykes, eds., *Remapping Sound Studies* (Durham: Duke University Press, 2019).

[160] Gavin Steingo and Jim Sykes, "Remapping Sound Studies," *Humanities Futures,* April 15, 2016, https://humanitiesfutures.org/papers/remapping-sound-studies.

[161] Ibid.

[162] Steingo and Sykes, *Remapping Sound Studies,* 6.

[163] See, for example: Charles Hirschkind, "The Ethics of Listening: Cassette-Sermon Audition in Contemporary Egypt," *American Ethnologist* 28, no. 3 (2001): 623–49; Achille Mbembe, "Variations on the Beautiful in Congolese Worlds of Sound," *Politique Africaine* 100 (2005–2006): 71–91; and Rosalind Morris, "The Miner's Ear," *Transition* 98 (2008): 96–115. Ibid., 8-10.

centred field that makes up the current wave.[164] While advocating for decolonisation, they prefer to frame their edited volume as an exercise in remapping, describing it as 'an editorial effort that underscores the silence of the South in research on sound while beginning to map possible avenues for bringing Southern locales more clearly into sonic and auditory awareness'.[165] In a field such as sound studies, the political implications of being silenced has lead to the exclusion of voices on the basis of race, ethnicity, gender, physical ability, culture, nationality, and more. One way to redress this is by listening to, and reading, voices that have been historically silenced or ignored. Dylan Robinson's book *Hungry Listening*, for example, challenges practices and policies of silencing by enacting a resonant theory for Indigenous sound studies.[166] In broadening the scope of the field of sound studies towards non-Western cultures, these authors (Robinson, Steingo and Sykes) unsettle and complicate the marginal (sound studies) with the marginalised (South).[167]

In a similar vein, initiatives such as *Her Noise Archive*;[168] *female:pressure* database;[169] *Women's Audio Mission*;[170] the online publication *Sounding Out!*;[171] and *Resonance: The Journal of Sound Culture;*[172] are not only making concerted efforts towards a more fully representational account of sound histories in relation to gender, but are also encouraging interventions, in the field of sound studies, where critique is directed at structures of power. For example, Editor-in-Chief of *Sounding Out!*, Jennifer Lynn Stoever, has written about

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[164] Ibid., 4.

[165] Ibid., 5.

[166] See: Dylan Robinson, *Hungry Listening* (Minneapolis: University of Minnesota Press, 2020).

[167] Steingo and Sykes write: 'Like "sound," "South" is a nebulous term that oscillates between an empirical category and ideological construct. Ibid. 3.

[168] "Her Noise Archive," Her Noise (website), accessed July 20, 2018, http://hernoise.org.

[169] "About Female Pressure," Female Pressure (website), accessed July 20, 2018, http://femalepressure.net/fempress.html.

[170] "About Women's Audio Mission," Women's Audio Mission (website), accessed July 20, 2018, https://www.womensaudiomission.org/about.

[171] "About Sounding Out!," Sounding Out! (website), accessed July 20, 2018, https://soundstudiesblog.com/sound-studies-blog/mission.

[172] "Resonance: The Journal of Sound and Culture," University of California Press (website), accessed December 15, 2020, https://online.ucpress.edu/res.

the unheard history, in American culture, of the ways race and racism are constructed from sound and maintained through what she terms 'the listening ear'.[173] Her book, *The Sonic Color Line,* takes 'a cultural materialist approach to a series of resonant events between slavery and the end of segregation that reveals race to be fundamental to any historical consideration of U.S. listening practices (and vice versa).[174] Indebted to W.E.B. Du Bois' schema of the visual colour line,[175] Stoever's book charts the process of racialising sound — 'how and why certain bodies are expected to produce, desire, and live amongst particular sounds' — and the listening ear, which functions as a site for surveillance and discipline.[176] Stoever's concepts of the sonic colour line and the listening ear 'provide new critical tools to deconstruct and dismantle "race" via its sonic register'.[177] When taking these recent contributions into account, the value of the field of sound studies and the potential of what the study of sound reveals becomes increasingly apparent. Namely, the unique possibilities of thought inscribed within sound studies refreshes the way we think about what it means to articulate cultural practices and their socio-historical contexts.[178] I have attempted to trace some of the key concepts and perspectives introduced in anthologies of sound studies in order to develop an understanding of the field. In the next section, I further elaborate on particular ways of knowing sound, looking to recent critical debates and creative processes and practices.

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[173] Jennifer Lynn Stoever, *The Sonic Color Line* (New York: New York University Press, 2016).

[174] Ibid., 6.

[175] Stoever references Du Bois' *The Souls of Black Folk* and *Dusk of Dawn.* Ibid., 9.

[176] Ibid., 7.

[177] Ibid., 13.

[178] John Mowitt, *Sounds: The Ambient Humanities* (Oakland: University of California Press, 2015), 13.

## *3.4. Sonic Imaginations*

"Approaching Sound" is an essay by Tara Rodgers,[179] the title of which carries a dual meaning that subtly encapsulates 'the object'[180] of sound studies. On the one hand, there is sound itself, which consists of audible vibrations: 'Sound originates when a body moves back and forth rapidly enough to send a wave coursing through the medium in which it is vibrating. But sound as a sensation must be received by the ear and passed on to the brain, where it can be registered as an event taking place in the world about the listener'.[181] The dynamic propagation of sound waves — vibrations — are complex, relational, interconnected and interdependent 'modes of distancing and control'.[182] Sound *approaches* — the listener — and is registered by 'the ear, brain, and/or other parts of the body'.[183] On the other hand, there are *approaches* to sound that are the deciding factor in how one comes to imagine or know it.[184] Inextricably intertwined, the two inflections of *approaching sound* are the driving force of the continued vitality of sound studies.

When attempting to bear down on sound *itself*, Jonathan Sterne provides the following prompts: 'Does sound refer to a phenomenon out in the world which ears then pick up? Does it refer to a human phenomenon that only exists in relation to the physical world? Or is it something else?… Can we study sounds "in themselves" or as part of a field of vibration that exists in and for itself? Can sound be described separately from the position of the person

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[179] Tara Rodgers, " Approaching Sound," in *The Routledge Companion to Media Studies and Digital Humanities,* ed. Jenterey Sayers (New York: Routledge, 2018), 233-242.

[180] Here, I refer to John Mowitt's remarks, quoted by James Lavender, 'that the 'object' of a given discipline must be understood in two senses: that to which the discipline refers, that 'thing' in the world that it aims to study, on the one hand, and the 'aim or purpose' of the field in question, that which the discipline 'hopes to gain' by turning to this object, on the other'. Lavender further notes that 'the object is never a mere thing in the sense of an inert physical presence, but also implicates 'an unwieldy array of cultural institutions and practices.' See Lavender, "Introduction: Sounding / Thinking," 245.

[181] Stanley Smith Stevens and Fred Warshofsky, cited in Rodgers, "Approaching Sound," 235.

[182] Rodgers, "Approaching Sound," 234.

[183] Ibid., 235.

[184] Sterne, *The Sound Studies Reader,* 7.

who describes it?'[185] Since the object of study — sound — appears to be theoretically indiscernible, James Lavender proposes that sound studies is a meta-theoretical discipline — 'a discipline in which the status of theory itself is at stake'.[186] He writes:

> For sound to become thinkable, it is perhaps the case that thought must become something other than what it has been; at a time when the question of what theory is and what it can do has become of central importance, this ensures that sound studies not only functions as a vital site for theoretical experimentation, a 'test case' to explore the validity and fruitfulness of the latest developments, but, even more importantly, a point at which new innovations and orientations can be developed under the constraint of the case itself. Ultimately, then, if sound studies has a pressing contemporary import, it is to the degree that sound is not merely yet another object for thought, taken in its limiting sense; rather, it is a demand posed to thought by that which it has yet been unable to think.[187]

Perhaps Douglas Kahn explains the phenomenon best as: 'By sound I mean sounds, voices and aurality — all that might fall within or touch on auditive phenomena, whether this involves actual sonic and auditive events, or ideas about sound and listening; sounds actually heard or heard in myth; sounds heard by everyone or imagined by one person alone; or sounds as they fuse with the sensorium as a whole'.[188] In addition, Sterne's concept of a sonic imagination — 'a deliberately synaesthetic neologism' — is 'about sound but occupies an ambiguous position between sound culture and a space of contemplation outside it'.[189] These combined allow us to consider the sonic, the aesthetic, the socio-political, and the imagination of the human microphone. It would also seem that it is a sonic imagination that is required to grapple with Lavender's thought experiment.

Sterne's way of knowing sound is derived from three other aesthetic propositions of imagination. The following breakdown of the neologism is helpful in articulating the specificities of the phrase. In *The Use of Poetry and the Use of Criticism*, T.S. Eliot describes

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[185] Ibid.

[186] James Lavender, "Introduction: Sounding / Thinking," 246.

[187] Ibid.

[188] Kahn, *Noise, Water, Meat: A History of Sound in the Arts*, 3.

[189] Sterne, *The Sound Studies Reader,* 5.

‘auditory imagination’ as ‘the feeling for syllable and rhythm, penetrating far below the conscious levels of thought and feeling, invigorating every word; sinking to the most primitive and forgotten, returning to the origin and bringing something back, seeking the beginning and the end’.[190] Similar to a feedback loop oscillating between experience and knowledge, the auditory imagination ‘fuses the old and obliterated and the trite, the current, and the new and surprising, the most ancient and the most civilized mentality’.[191] Seamus Heaney writes of Eliot’s auditory imagination:

> One of the most precise and suggestive of T.S. Eliot's critical formulations is his notion of what he called ‘the auditory imagination’ […] I presume Eliot was thinking here about the cultural depth-charges latent in certain words and rhythms, that binding secret between words in poetry that delights not just the ear but the whole backward and abysm of mind and body; thinking of the energies beating in and between words that the poet brings into half-deliberate play; thinking of the relationship between the word as pure vocable, as articulate noise, and the word as etymological occurrence, as symptom of human history, memory and attachments.[192]

Sterne’s concept places sound as a specifically human problem, combining Eliot's auditory imagination — where sound and culture connect — with C. Wright Mills’s ‘sociological imagination’ and Anne Balsamo’s ‘technological imagination’.[193] A sociological imagination ‘is based in “the capacity to shift from one perspective to another. […] It is the capacity to range from the most impersonal and remote transformations to the most intimate features of the human self — and to see the relations between the two”’.[194] While a technological imagination is ‘a mindset that enables people to think with technology, to transform what is known into what is possible. This imagination is performative: it improvises within constraints to create something new. It is through the exercise of their technological imaginations that people engage the materiality of the world, creating the conditions for

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[190] T.S. Eliot, *The Use Of Poetry And The Use Of Criticism* (London: Faber and Faber Ltd, 1933), 118-119.

[191] Ibid.

[192] Seamus Heaney, *Preoccupations: Selected Prose, 1968-1978* (London: Faber and Faber Ltd, 1980), 150.

[193] Mills quoted in Sterne, *The Sound Studies Reader*, 6.

[194] Ibid.

future world-making'.[195] For Sterne, a sonic imagination is an approach to sound that reworks and reproduces cultural understanding 'through the development of new narratives, new histories, new technologies, and new alternatives'.[196] If we read the human microphone through this lens, it can be seen that the process is precisely this: an auditory feeling for sound and rhythm; a sociological transposition that coincides with the living exercise of free speech and the democratic process; and a novel technological improvisation created within the constraints of an amplification ban. Furthermore, the human microphone can be described as an aesthetic proposition; a cultural-theoretical construct; and a new technology where the medium functions as the common ground. It embodies a sonic imagination.

Particular ways of knowing sound have been fundamental to the development of creative practices and processes. For example, as Sterne notes: 'Psychoacoustics — the quantitative study of auditory perception — has been integral to the development of almost every major sound technology in the 20th century. If another field of knowledge replaced psychoacoustics in communication engineering, everything from telephones to tape recorders to MP3s would sound, work and mean differently than they do today'.[197] The same can be said for the design of digital media technologies. In a paper on the binaural prehistory of virtual reality, Paul Roquet describes audio technologies as a more direct predecessor to VR head mounted displays, rather than the often mentioned peep box or stereoscope.[198] He writes:

> 'much of the 360-degree immersion promised by VR was first achieved in sound. These sonic precedents for virtual immersion were not lost on some of the central players in VR history. William Gibson's notion of "cyberspace" was inspired in part by his experiences with the Sony Walkman… John Carmack, until recently a leading engineer of the current VR boom as CTO of Oculus,

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[195] Anne Balsamo, *Designing Culture: The Technological Imagination at Work* (Durham & London: Duke University Press, 2011), 6.

[196] Sterne, *The Sound Studies Reader*, 6.

[197] Ibid., 8.

[198] Paul Roquet, "Acoustics of the one person space: headphone listening, detachable ambience, and the binaural prehistory of VR," *Sound Studies* 7, no. 1 (2021): 42.

> continues to describe the VR head-mounted display as "headphones for your eyes".[199]

Other ways of knowing sound take place in what Eleni Ikoniadou describes as 'the zones of transmission between life and death,' listing 'subaquatic, Cthulu-esque, non-human forms of life' as part of a 'vibrational milieu'.[200] These alternative schemas 'go beyond the audiophile anthropocentric angle by rethinking the 'if space' in-between, what we all agree to be the real by *consensus ad idem* (i.e. what is known) and certain more *unreal* dimensions (i.e. non-actualised, or speculative)'.[201] Ikoniadou refers to these as 'sonic fictions', a way of knowing sound defined by Kodwo Eshun of the Otolith Group as 'the convergence of the organization of sound with a fictional system whose fragments gesture towards but fall short of the satisfactions of narrative'.[202] Brought to light in his book, *More Brilliant Than the Sun: Adventures in Sonic Fiction,* Eshun's concept developed out of his writings on afrofuturism and the psychoacoustic fictional spaces of the digital diaspora.[203] He describes the latter as 'a 'webbed network' of computerhythms, machine mythology and conceptechnics which routes, reroutes and criss-crosses the Black Atlantic'.[204] In his essay "Drexciya as Spectre", Eshun elaborates on the concept of sonic fiction by focusing on Drexciya — the Detroit based electronic duo founded by James Stinson and Gerald Donald — bringing together artefacts and processes which speak to historicity and mythology.[205] He writes:

> A sonic fiction is assembled from track subtitles, the instructions in run out grooves, the statements on labels, the graphic images embedded within the support system of the record or the CD or the file, all of which feed into and reinforce each other to form a plane of consistency. Each of the elements in a sonic fiction can be extended across the discourse network of online culture.

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[199] Ibid.

[200] Eleni Ikoniadou, "A Sonic Theory Unsuitable for Human Consumption," *Parallax* 23, no. 3 (2017): 252.

[201] Ibid.

[202] Kodwo Eshun cited in Ikoniadou, "A Sonic Theory Unsuitable for Human Consumption," 255.

[203] Kodwo Eshun, *More Brilliant Than the Sun: Adventures in Sonic Fiction* (London: Quartet, 1998), 6.

[204] Ibid.

[205] Kodwo Eshun,"Drexciya as Spectre," in *Matter Fictions,* ed. Margarida Mendes (Berlin: Sternberg Press, 2017).

> Indeed, the allusions, prompts and hints of the Drexciya mythos thrive in the hyperstitional engine of the internet that generates anonymous, heteronyms, pseudonyms, rumours, true lies, spam and bots that seep across blogs, tumblrs, dance floors, mouths, gestures and expressions.[206]

Following Eshun, Ikoniadou understands sonic fiction as 'that which channels the alien, unknown, and sometimes all devouring unseen that lies beyond but has something significant to say about *this* world'.[207] Alluding to the Drexciyan mythos of 'the Black Atlantic as a liquid graveyard',[208] Ikoniadou accounts for sound's relationship to the uncertain, the unearthly and the unknowable.[209] The unknowable, she argues, 'can help prevent sound studies from becoming a self-congratulatory, empty category onto which concepts are extrinsically applied; either trapped in a widely phenomenological and experiential paradigm or struggling to secure a place in the neo-realist arena (sonic realism)'.[210]

The vibrational milieu Ikoniadou describes, expands the notion of sound past the limits of the range of frequencies associated with "normal" hearing (20 to 20,000 Hz). Many others have taken up the concept of vibration in their creative practices. Steve Goodman, of Audint, and also known as Kode9, 'argues for the privileging of vibrational force and sonic affect; sound coming to the rescue of thought, rather than the other way around, forcing it to vibrate'.[211] Maryanne Amacher mines the limits of human auditory perception by producing 'what she called "third ear music," in which an avalanche of frequencies played at an extremely high volume triggers the perceptual phenomenon of oto-acoustic emissions — meaning that listeners' ears seem to emit sounds while also receiving them'.[212] Francis Dyson argues for 'an irreducible positivity to sounds as having their own "ontological" existence'.[213] This

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[206] Ibid., 33.

[207] Ikoniadou, "A Sonic Theory Unsuitable for Human Consumption," 252-253.

[208] Eshun,"Drexciya as Spectre," 44.

[209] Ikoniadou, "A Sonic Theory Unsuitable for Human Consumption," 253.

[210] Ibid.

[211] Ibid.

[212] Rodgers, "Approaching Sound," 238. I can personally attest to this oto-acoustic experience, having attended a diffusion of Amacher's work in 2010 at *Sonic Acts,*

[213] Sterne, *The Sound Studies Reader,* 7.

emphasis on ontology in ways of knowing sound, however, has lead to what Brian Kane has described as 'a possible disjunction' in sound studies, brought on by what he refers to as the 'ontological turn'.[214] In his critique, Kane outlines the ways a sonic ontology stands in stark contrast with the notion of 'auditory culture', arguing that it 'directly challenges the relevance of research into auditory culture, audile techniques, and the technological mediation of sound in favour of universals concerning the nature of sound, the body, and media'.[215] The examples that he provides include Steve Goodman's 'vibrational ontology';[216] Christoph Cox's 'material ontology of sound';[217] and Greg Hainge's 'ontology of noise'.[218] In opposition, Kane refers to 'the various ways in which the body, "man's first and most natural technical object," is trained and cultivated into the performance of actions',[219] positing 'auditory cultural studies' as an epistemological approach that articulates 'the interaction of mind and body in more nuanced ways'.[220] I will refer to Cox's sonic materialism to briefly illustrate the debate. For Cox, a material ontology of sound is derived from a materialist perspective — what he describes as a way of thinking about sound 'to conceive difference beyond the domain of 'culture', signification, and representation, and to see these as particular manifestations of a broader differential field: the field of nature and matter themselves'.[221] His concept is presented as an alternative schema 'to grasp the nature of sound and to enable analysis of the sonic arts'.[222] On sound, Cox writes:

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[214] Brian Kane, "Sound studies without auditory culture: a critique of the ontological turn," *Sound Studies* 1, no. 1 (2015).

[215] Ibid. 3.

[216] See, for example: Steve Goodman, *Sonic Warfare: Sound, Affect, and the Ecology of Fear (*Cambridge: MIT Press, 2010).

[217] See, for example: Christophe Cox, "Beyond Representation and Signification: Toward a Sonic Materialism," *Journal of Visual Culture* 10, no. 2 (August 2011): 137-144.

[218] See, for example: Greg Haines, *Noise Matters: Towards an Ontology of Noise* (New York and London: Bloomsbury, 2013).

[219] Kane, "Sound studies without auditory culture: a critique of the ontological turn," 8.

[220] Ibid.

[221] Cox, "Beyond Representation and Signification: Toward a Sonic Materialism," 157.

[222] Ibid., 146.

> Sound is not a world apart, a unique domain of non-signification and non-representation. Rather, sound and the sonic arts are firmly rooted in the material world and the powers, forces, intensities, and becomings of which it is composed. If we proceed from sound, we will be less inclined to think in terms of representation and signification, and to draw distinctions between culture and nature, human and nonhuman, mind and matter, the symbolic and the real, the textual and the physical, the meaningful and the meaningless. Instead, we might begin to treat artistic productions not as complexes of signs or representations but complexes of forces materially inflected by other forces and force-complexes. We might ask of an image or a text not what it means or represents, but what it does, how it operates, what changes it effectuates.[223]

Referencing significant sound works of the past half-century, he cites the work of Christina Kubisch, Alvin Lucier, Max Neuhaus, Christian Marclay, Carsten Nicolai, Francisco Lopez, and Toshiya Tsunoda as examples of artists who have explored the materiality of sound; 'its texture and temporal flow, its palpable effect on, and affection by the materials through and against which it is transmitted'.[224] For Cox, these works reveal, 'that the sonic arts are not more *abstract* than the visual but rather more *concrete*, and that they require not a *formalist* analysis but a *materialist* one'.[225] He outlines sonic materialism as treating sound as 'immanent, differential, and ever in flux'.[226] Kane's contention with this approach is that art or soundworks are 'selected, discussed, and esteemed', only when they disclose Cox's material ontology.[227] In other words, it is an exclusionary theoretical framework. A sonic ontology neglects how sound — as an object of study — is a historically and culturally situated carrier of information, modulated by individual and collaborative creative practices and processes.

This debated schism between ontology and epistemology as philosophies of knowing sound brings us full circle to the indiscernible object of sound and the meta-theoretical discipline

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[223] Ibid.,157.

[224] Ibid. 148.

[225] Ibid., 148-149.

[226] Cox, "Beyond Representation and Signification: Toward a Sonic Materialism," 157.

[227] Kane, "Sound studies without auditory culture: a critique of the ontological turn," 11.

that sound studies presents.[228] There are, however, many sound scholars and practitioners who purposefully incorporate, encourage, and synthesise these two ways of knowing sound into their research. Two notable examples are evident in the work of Julian Henriques and Pauline Oliveros. In his book, *Sonic Bodies: Reggae Sound Systems, Performance Techniques & Ways of Knowing*, Henriques proposes a 'sonic logos', establishing a concept which stems from a relational and affective understanding of sonic bodies in the Dancehall scene in Jamaica.[229] His sonic logos focuses on the mechanics and materiality — in this case the propagation of (sub bass) sound waves — of the reggae sound system; the corporeality of the skilled sound system 'crewmembers'; and the social and cultural institution that is the Dancehall scene.[230] This sonic way of knowing proposes a dynamic model of thinking, which draws on corporeal practices of thought, material auditory processes, as well as situated and relational ways of knowing. A key aspect of Henriques' sonic logos, is the introduction of *techné* and *phronēsis*. He writes: 'The crew's performance techniques embody a particular way of knowing, know-how, or *techné.* Aristotle contrasts *techné* with both *episteme* (from ἐπίσταμαι, "to know") or formal, analytical or scientific knowledge, on the one hand, and on the other, *phronēsis*, or practical wisdom'.[231] *Techné* relates to skills and proficiency of art and craft making, which Henriques applies to 'the know-how or practical craft of the crewmember's skilled performance techniques'.[232] The triangulation of know-how, practical wisdom, and *logos* (to know), provides a sonic way of knowing that articulates the 'relationship between the material and mental senses of sound',[233] drawn directly from the reciprocal interplay that comes together in the Jamaican Dancehall scene. '[S]ounding is always about becoming,

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[228] In the few years since the publication of Kane's article, the debates have only amplified. For example, see: Iain Campbell, "Sound's Matter: 'Deleuzian Sound Studies' and the Problems of Sonic Materialism," in Contemporary Music Review 39, no. 5 (2020): 618-637.

[229] Julian Henriques, *Sonic Bodies: Reggae Sound Systems, Performance Techniques, and Ways of Knowing* (London: Continuum, 2011).

[230] Ibid.

[231] Ibid., xxii.

[232] Ibid., xxxv.

[233] Ibid., 243.

rather than being'.[234] We can see many parallels with the human microphone and the reggae sound system: both emerge from a *techné* that facilitates the imagining of a social alternative.

The composer Pauline Oliveros coined the term 'deep listening' to describe a sound practice 'that is intended to heighten and expand consciousness of sound in as many dimensions of awareness and attentional dynamics as possible'.[235] Oliveros' mindful, expansive, and reflexive sonic way of knowing encourages the learning and expanding of the perception of sounds 'to include the whole space / time continuum of sound — encountering the vastness and complexities as much as possible'.[236] She writes: 'Simultaneously one ought to be able to target a sound or sequence of sounds as a focus within the space / time continuum and to perceive the detail or trajectory of the sound or sequence of sounds. Such focus should always return to, or be within the whole of the space/time continuum (context)'.[237] Akin to looking into "The Aleph", described in Luis Jorge Borges' short story as a point in space that allows the universe to be grasped in microcosm, deep listening connects the listener to their whole environment.[238] Through deep listening practices — training exercises composed by Oliveros that include breathing exercises, vocal exercises, and bodywork — an attentive listening process is set in motion, forming new patterns of creativity and 'exceeding the limitations and boundaries of old patterns, or using old patterns in new ways'.[239] When entering new collaborative and improvisatory projects in my own practice as a vocalist, Oliveros' exercises have been incorporated as a form of unifying a group through collective listening and vocalising — a tuning of sonic bodies, collectively and socially, in a specific environment or space. Throughout her career, Oliveros' writing has cultivated an emphasis on the need for an intuitive, receptive approach to creativity (often considered feminine), to exist alongside an analytical approach to creativity (often considered masculine).[240] She writes:

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[234] Ibid., 247.

[235] Pauline Oliveros, *Deep Listening* (Lincoln, NE: iUniverse, 2005), xxiii.

[236] Ibid.

[237] Ibid., xiii.

[238] Jorge Luis Borges, *The Aleph and Other Stories, 1933-1969* (New York: E. P. Dutton & Co, 1970).

[239] Oliveros, *Deep Listening*, xxv.

[240] Pauline Oliveros, *Software for People*, *Collected Writings, 1963-80* (New York: Printed Editions, 1984), 136.

> There are two modes of creativity: (1) active, purposive creativity, resulting from cognitive thought, deliberate acting upon or wilful shaping of materials, and (2) receptive creativity, during which the artist is like a channel through which material flows and seems to shape itself. Both modes can be available to a single individual, yet cultural trends often reinforce one mode at the expense of the other.[241]

Oliveros' practice and writings have long critiqued patriarchal culture in avant-garde music,[242] encouraging novel approaches to creativity through her commitment to particular forms of listening and ways of knowing sound. Her approach points towards a situated transcendence, achieved through a sonic imagination.[243]

Sound studies continues to expand as a discipline, involving many concentrations, connections and discourses. While I have attempted to connect sound to social relations of sonic experience rather than through philosophical terms, the latter presents opportunities for future engagement in the exploration of sonic perception and experiential knowledge — specifically the political phenomenological behaviour of sound. To describe, through language, our embodied experience of the world as it is lived is the work of phenomenology. This experience, however, is often characterised as transcending historical boundaries — treating the voice, for example, as a universal condition by presupposing 'culture, power, practice and epistemology'.[244] More recently, feminist phenomenologists have built on and intervened phenomenological tradition by challenging the notion of a neutral body, inflicting the phenomenological body with affective and political subjectivity.[245] To this end, a political

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[241] Ibid., 132.

[242] For example, see Timothy D. Taylor, "The Gendered Construction of the Musical Self: The Music of Pauline Oliveros," *The Musical Quarterly* 77, No. 3 (Autumn, 1993): 385-396.

[243] Here, I return to Sterne's concepts outlined at the beginning of this chapter.

[244] Sterne, *The Audible Past,* 13.

[245] For example, see Sara Ahmed, *Queer Phenomenology: Orientations, Objects, Others* (Durham: Duke University Press, 2006).

phenomenology — a phenomenology 'minus a stable beginning'[246] — of sonic experience,[247] of listening,[248] of voice,[249] can cultivate ways of imagining our lived experience as de-centred, porous and more-than-human. 'This kind of phenomenological attunement, amplification, and description', as Astrida Neimanas writes, 'can loosen what we know and open to what we do not', producing more ethical ways of living well together.[250]

## *3.5. Sonic-Political Acts*

The research for *Vocal Artefacts* began by introducing the phenomenon of the human microphone as a novel, reciprocal, and embodied mode of protest — a sonic phenomenon, reflective of the cultural, social and economic shifts that lead to its emergence as a new form of political speech. As a sonic metaphor,[251] the process of the human microphone encompasses the propagation of sound, echoing outwards from the central sound source — in this case, the main speaker addressing the crowd — traversing across the local site of its occurrence, before reaching people at greater distances through various forms of technological mediation. The metaphor of a propagating sound wave is useful to think of individuals forming together towards a collective action, as well as the wider political movement which led to the emergence of the human microphone — the echoes of a

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[246] Jonathan Sterne, "Ballad of the dork-o-phone: Towards a crip vocal technoscience," *Journal of Interdisciplinary Voice Studies*, Vol. 4, Issue 2 (October 2019): 179-189.

[247] See, for example: Salomé Voegelin, *Sonic Possible Worlds: Hearing the Continuum of Sound* (New York: Bloomsbury, 2014).

[248] See, for example: Jody Berland "Contradicting media: Towards a political phenomenology of listening," *Border/Lines*, No. 1 (Fall 1984): 32–35.

[249] See, for example: Don Ihde, *Listening and Voice: Phenomenologies of Sound* (Albany: State University of New York Press, 2007).

[250] Astrida Neimanis, *Bodies of Water: Posthuman Feminist Phenomenology* (London: Bloomsbury, 2017), 42.

[251] It should be noted that I am referring here to the metaphor of a propagating sound wave as described by Tara Rodgers, citing Ursula Le Guin, where 'waves represent the politics of encounter and contingencies of mutual contact rather than a disturbance or medium of conquest'. See: Tara Rodgers, "Toward a Feminist Epistemology of Sound: Refiguring Waves in Audio-Technological Discourse," in *Engaging the World: Thinking after Irigaray,* ed. Mary Rawlinson, (New York: SUNY Press, 2016), 208.

revolution as vibrational force with sonic affect. The network centric horizontalism of the organisation of the Occupy Movement, often referred to as 'The Movement of the Squares',[252] is part of a wider political moment, outlined by Michael Hardt and Antonio Negri in their self-published electronic pamphlet *Declaration.*[253] The authors begin by describing the inaugural revolutionary event of 18 December 2010 in Sidi, Bouzid, Tunisia, when 'twenty-six-year-old street vendor Mohamed Bouazizi, who was reported to have earned a computer science degree, set himself on fire'.[254] By the end of the month, 'mass revolts had spread to Tunis with the demand, "Ben Ali dégagé!" and indeed by the middle of January, Zine el-Abidine Ben Ali was already gone'.[255] The protests marked the beginning of a series of uprisings across the Arab world. From Tunisia, to Egypt, to Syria, the Arab Spring propagated in a global wave of revolutionary fervour not seen since 1848.[256] From Tahrir Square in Cairo, to Gehzi Park in Istanbul, to Puerta del Sol in Madrid, to Syntagma Square in Athens, and even further afield, it could be said that the movements were resonating with each other. Hardt and Negri write: 'When a few hundred pioneer occupiers brought their tents to New York's Zuccotti Park on 17 September, then, it was their turn to take up the baton. And indeed their actions and the spread of the movements in the United States and across the world have to be understood with the year's experiences at their backs'.[257]

A precursor to *Declaration* is the 2007 pamphlet *The Coming Insurrection* by the French anarchist group the Invisible Committee, written in the aftermath of the 2005 riots in the

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[252] The term *movements of the squares* describes the spate of mass rallies and occupations of public squares across Southern Europe and North Africa. See: Chris Garces, "People's Mic and democratic charisma: Occupy Wall Street's frontier assemblies," *Focaal: Journal of Global and Historical Anthropology* 66 (June 2013): 88-102.

[253] Michael Hardt and Antonio Negri, *Declaration* (New York, 2012), https://antonionegriinenglish.files.wordpress.com/2012/05/93152857-hardt-negri-declaration-2012.pdf.

[254] Ibid.

[255] Ibid.

[256] The historian Eric Hobsbawm describes the similarities between the Arab Spring and the Springtime of the Peoples in an interview for BBC News Magazine. See: Eric Hobsbawm, "Eric Hobsbawm on 2011: 'It reminds me of 1848,'" interview by Andrew Whitehead, *BBC News Magazine*, December 23, 2011: https://www.bbc.com/news/magazine-16217726.

[257] Ibid.

Parisian suburbs.[258] Raging against mass unemployment, the cynicism of politics and torpidity of the French State, *The Coming Insurrection* prescribes the tools that are needed to spread anarchy and live communism. In many ways the pamphlet was incredibly prescient. In the text, the Invisible Committee refer to the mechanisms by which they believed the revolution would emerge as a 'Resonance'.[259] Rather than the result of a chain reaction, revolutionary resonance emerges almost simultaneously across perceived gulfs of geographical and cultural difference.They write:

> Something that is constituted here resonates with the shock wave emitted by something constituted over there. […] An insurrection is not like a plague or a forest fire — a linear process which spreads from place to place after an initial spark. It rather takes the shape of a music, whose focal points, though dispersed in time and space, succeed in imposing the rhythms of their own vibrations, always taking on more density.[260]

These sonic metaphors of revolutionary resonance continue to have ripple effects, in both local and universal ways. In her essay "Cultivating Activist Lives in Sound", Tara Rodgers incorporates sonic metaphors in relation to art and activism.[261] She prefaces her essay by describing how 'art is inherently political in the many ways that it modulates, and is modulated by, relations of power. At the same time […] feminist, antiracist, anticapitalist political activisms are necessary for the survival of artistic expression as the province of all people, rather than only a privileged few'.[262] Using the human microphone as an example of a 'sonic-political act', she writes:

> consider a sonic-political act at the centre, with its ripple effects as the various social, political-economic and ecological impacts that resonate from that act locally and in more far-reaching scales. Myriad acts overlap, while collective social organization enables multiple sonic-political acts to be amplified or rendered more powerful. As Doris Sommer asserts with regard to the civic value

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[258] The Invisible Committee, *The Coming Insurrection* (Los Angeles: Semiotext(e), 2009).

[259] Ibid., 12.

[260] Ibid., 12-13.

[261] Tara Rodgers, "Cultivating Activist Lives in Sound", *Leonardo Music Journal,* vol. 25 (December 2015).

[262] Ibid., 79.

> of the arts and humanities: “All of us would do well to consider art's ripple effects, from producing pleasure to triggering innovation”. Sonic-political acts that generate ripple effects may encompass various forms and practices of doing, researching or advocating creative work in sound or music. Or, they may be composed of more explicitly political actions that employ sonic metaphors or aural performances.[263]

Rodgers essay is a provocation to artists, collectives, and arts educators ‘to depict and bear witness to the social, cultural, political and economic systems and times in which they are enmeshed’.[264] Similarly, in a recent issue of *Leonardo Music Journal* dedicated to the politics of sound art, Editor-in-Chief Nicholas Collins describes how ‘we are again living in a world of intense political divisiveness, and activists on the left and the right have taken up sound as a medium, a weapon, and a subject of study’.[265] Since the 90s, a social and political turn in contemporary art practice — as indicated by art historian and critic Clare Bishop in her formative essay “The Social Turn: Collaboration and Its Discontents” — has placed an emphasis on artistic process over art as commodity as a means of challenging the speculation driven art market.[266] Within the last ten years, conferences and lectures with titles such as “Sound Studies: Art, Experience, Politics”;[267] “Organized Listening: Sound Art, Collectivity and Politics";[268] as well as journals dedicating issues to “The Politics of Sound Art”;[269] and “Gender, Creativity and Education in Digital Musics and Sound Art”;[270] it can be readily seen that the inter-relationship between sound, art, and politics is a growing concern for

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[263] Ibid.

[264] Ibid., 81.

[265] Nicholas Collins, “Introduction: The Politics of Sound Art”, *Leonardo Music Journal,* vol. 25 (December 2015), 1.

[266] Clare Bishop, “The Social Turn: Collaboration and its Discontents,” *Artforum* 44, no. 6 (February 2006), 180.

[267] “Sound Studies: Art, Experience, Politics”, CRASSH (website), accessed August 2, 2018, http://www.crassh.cam.ac.uk/events/25663.

[268] “Organized Listening: Sound Art, Collectivity and Politics”, Vera List Center for Art and Politics (website), accessed August 2, 2018, http://www.veralistcenter.org/engage/event/216/organized-listening-sound-art-collectivity-and-politics.

[269] Nicholas Collins, “Introduction: The Politics of Sound Art”, *Leonardo Music Journal,* vol. 25 (December 2015).

[270] Georgina Born & Kyle Devine, “Gender, Creativity and Education in Digital Musics and Sound Art”, *Contemporary Music Review* 35, no. 1, (2016).

researchers from many different academic fields. Panels discussing gendered sound, sound and conflict, or sound and its material impact on the body, provide perspectives on the social, cultural and political implications of sound and listening. Similarly, panels on sound arts practices consider the material properties of sound, sound and embodiment, or the sonic possibilities that artists present through considering new ways of listening or understanding. These interventions, to quote Rodgers, result in 'a proliferation of sonic-political acts that have local and far-reaching effects'.[271]

Continuing the wave metaphor, and looking towards the future possibilities of the field of sound studies, Steingo and Sykes provide three principal proposals for what we might describe as the next-wave.[272] Their first proposal, towards a decolonised phase, is related to auditory cultures and proposes an investigation of sound's relationship to technology: 'we argue for a shift from technology as a set of inventions developed at a particular place and historical juncture to an exploration of the infinite series of objects and techniques through which "culture" is always already constituted'.[273] Technology and technological innovation, explored through a sonic lens, has mainly focused on invention and progress through Northern-centric narratives. The authors suggest that technology and its uses as articulated by sound scholarship that focuses on the global South, can complicate the prevalent Northern-centred narrative of sound and technological modernity. The second proposal towards remapping sound studies relates to the object of sound, implicating what is *heard* in the dynamic between sound and listening: 'To say that something is heard means that there is some "thing" beyond and preceding human perception. […] What we have in mind is a perspective that at once acknowledges the ontology of sound from a posthumanist perspective (i.e., there exists an independently real or noncorrelational entity beyond human experience) *and* cultural differences in prehending sound'.[274] This is framed with the question: 'What if we think of audition not in relation to the other senses but, rather, in terms

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[271] Tara Rodgers, "Cultivating Activist Lives in Sound", *Leonardo Music Journal,* vol. 25 (December 2015), 82.

[272] Steingo and Sykes, "Remapping Sound Studies", *Humanities Futures,* April 15, 2016, https://humanitiesfutures.org/papers/remapping-sound-studies.

[273] Ibid.

[274] Ibid.

of that which the auditory system intends or prehends?'[275] Their final proposal is to explore sonic history in a nonlinear manner, in order to counteract the increasingly isolated perspective of what it means to be a listening subject. They write that, 'sonic history should be conceived as a narrative of jagged histories of encounter, including friction, antagonism, surveillance, mitigation, navigation, negotiation, and nonlinear feedbacks'.[276] A nonlinear sonic history or genealogy avoids the circulation of a dominant narrative, allowing for more culturally diverse, dynamic, and historically situated narratives of sonic encounters and sonic solidarities.

## *3.6. Summary*

In this chapter I have attempted to cover the ground of sound studies by drawing out key concepts and contentions in the field. Instigated by the human microphone and its audile techniques and sonic imagination, the distance travelled by thinking through the process has been considerable: from an ethnographic reading of the relationship between sound and agency to affective communication with strangers; from a poetics of collective voicing and sonic interruption to emergent publics and listening *with* others. The human microphone has been taken as a departure point for the many ways of knowing sound, and should be considered as indicating potential for such approaches. Sonic fictions, sonic materialism, sonic logos, and sonic-political-acts are just some of the critical paths to sound studies that I have highlighted, each bringing different and shared concerns to the debate on the object of sound. If an argument is to be made here, it is that sound resists categorisation. The phenomenon of sound cannot be assigned a value for exchange. Instead, it is movement, interconnectedness, resonance, resistance. In carrying out this contextual review, I have attempted to make an often unseen sound world slightly more familiar and approachable. Sound studies remains a site of experimentation, negotiation, and reflection — a field that

[275] Ibid.

[276] Ibid.

continues to be remapped by the community that actively takes part in it, challenges it, and learns from it; demonstrating how self and community mutually constitute and transform each other. The varied examples of artistic responses to the human microphone indicate creative practice as a site for socially and politically engaged thought through the medium of sound. All of these critical and creative ways of thinking through sound can help uncover its complex expressive and political power. This is possibly the most important conclusion to be drawn from this contextual review — the extent to which the human microphone is a site of praxis where multiple voices can be heard. Those who partake in the process embody many ways of knowing through sound, drawing on their own histories and biographies, towards a situated transcendence full of (sonic) possibilities. In the next chapter I will examine artistic research as a methodology that is reflective of and resonates with the modalities of the human microphone.

# *4. Methodology: An Aesthetics of Resistance*

> 'Who knows but that, on the lower frequencies, I speak for you?'[277]
> – *Ralph Ellison*

[277] Ralph Ellison, *Invisible Man* (Middlesex: Penguin Books Ltd, 1968), 469.

## *4.1. Introduction*

In *The Sound Studies Reader*, Jonathan Sterne outlines an important first principle for the sound scholar to take on board. He states that there there is no a priori privileged group of methodologies for sound studies. Instead, 'sonic imaginations are guided by an orienting curiosity, a figural practice that reaches into fields of sonic knowledge and practice and blends them with other questions, problems, fields, spaces and histories. Method matters, but it should arise from the questions asked and the knowledge fields engaged, not the other way around'.[278] This sentiment is echoed by the writer Douglas Kahn, who, in a note to Jonathan Sterne dated 18 September 2011 (a timely coincidence with Occupy Wall Street), wrote: '"sound," rather than being a destination, has been a potent and necessary means for accessing and understanding the world; in effect, it leads away from itself. A very nebulous notion of methodology, but also something that kicks in before methodology'.[279]

When undertaking a research project within an academic framework, the methodological connection of question(s) and answer(s) in some organised or systemic manner as a functional contribution to the knowledge economy inevitably arises. What are, however, the criteria defining the specificity of artistic research? Henk Slager, Curator and Professor of Artistic Research at the Utrecht Graduate School of Visual Art and Design, argues that research conducted by artists 'is not really characterised by an objective, empirical approach. After all art does not strive for generalisation, repeatability, and quantification'.[280] In contrast, he writes that the most important methodological paradigm of artistic research is 'an awareness of divergence without a hierarchy of discourses', which 'implies the capacity to mobilise an open attitude and an intrinsic tolerance for a multitude of interpretations that, if necessary, could be transformed into a revolt against the danger of any one-dimensional contextualisation'.[281]

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[278] Sterne, *The Sound Studies Reader,* 6.

[279] Kahn quoted in Sterne, *The Sound Studies Reader,* 6.

[280] Henk Slager, "Art and Method," in *Artists with PhDs,* ed. James Elkins (Washington DC: New Academic Publishing, 2009), 52.

[281] Ibid., 53.

For Slager, the artist as researcher deploys creative connections that allow for multiple entryways and models of interpretation: 'Artistic research can never be characterised by a well-defined, rigid methodology. Rather, its form of research could be described as a methodical: it entails a strong belief in a methodologically articulable result founded by operational strategies that cannot be legitimised beforehand'.[282] Taking the lead from curators, art theorists and contemporary artists, this chapter describes current discussions and ideas around what constitutes artistic research, in order to establish and recognise the specificity of artistic research. These ideas ground my practice as production, where the domain of art is an expression of understanding on account of experience.

## *4.2. Aesthetics of Resistance*

The term 'debt aesthetics'[283] was recently coined by the artist and writer Chris Wiley to describe a prevailing condition that artists are facing today in a world dominated by what the art critic Robert Hughes describes as the 'cultural obscenity' of the speculation driven art market.[284] Wiley describes the condition as twofold. On the one hand, debt aesthetics is the result of an art community that primarily consists of a population in debt, working precarious jobs to pay off student loans as 'their debt obligations create investment vehicles'.[285] On the other hand, it refers to the market driven aesthetic many artists are resorting to in order for their works to sell. He gives the example of the uncannily similar aesthetic of artworks by the artists Lucien Smith, Oscar Murillo, and Jacob Kassay — all of whom rapidly rose to commercial success very early on in their careers.[286] Whether the similarity of the works is

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[282] Ibid., 55.

[283] Chris Wiley, "The Toxic Legacy of Zombie Formalism, Part 1: How an Unhinged Economy Spawned a New World of 'Debt Aesthetics'," *Artnet News,* July 26, 2018, https://news.artnet.com/opinion/history-zombie-formalism-1318352.

[284] Robert Hughes, "A bastion against cultural obscenity," *The Guardian*, June 3, 2004, https://www.theguardian.com/artanddesign/2004/jun/03/art.

[285] Wiley, "The Toxic Legacy of Zombie Formalism."

[286] Ibid.

evident due to the selective choices of the art collector or the tastes of the art buyer, the works represent a trend for a market driven aesthetic. The art critic Jerry Saltz has identified this trend as 'Zombie Formalism', writing:

> The saddest part of this trend is that even better artists who paint this way are getting lost in the onslaught of copycat mediocrity and mechanical art. Going to galleries is becoming less like venturing into individual arks and more like going to chain stores where everything looks familiar. My guess is that, if and when money disappears from the art market again, the bottom will fall out of this genericism. Everyone will instantly stop making the sort of painting that was an answer to a question that no one remembers asking.[287]

Could this disciplinary process be analogous to the ongoing project of the institutionalisation of artistic research as an academic discipline? Attempting to answer the question, "What is Artistic Research?", the artist and writer Hito Steyerl argues that there are two competing impulses in the debate around artistic researsch: namely that while there is an imperative to transform artistic research into an academic discipline, there is also substantial criticism of this approach. The disciplinarian impulse is resisted under the belief that the institutionalisation of artistic research has become complicit with the new modes of production within cognitive capitalism, for example: 'commodified education, creative and affective industries, administrative aesthetics, and so on'.[288] Steyerl posits, however, that 'both perspectives agree on one point: artistic research is at present being constituted as a more or less normative, academic discipline'.[289] As artistic research establishes itself as a discipline in the contemporary academy, Steyerl goes on to examine what this might mean for artistic development. She writes:

> A discipline is of course disciplinarian; it normalizes, generalizes and regulates; it rehearses a set of responses, and in this case, trains people to function in an environment of symbolic labor, permanent design and streamlined creativity. But then again, what is a discipline apart from all of this? A discipline may be

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[287] Jerry Saltz, "Zombies on the Walls: Why Does So Much New Abstraction Look the Same?" *Vulture*, June 17, 2014, http://www.vulture.com/2014/06/why-new-abstract-paintings-look-the-same.html.

[288] Ibid., 31.

[289] Ibid.

> oppressive, but this is also precisely why it points to the issue it keeps under control. It indexes a suppressed, an avoided or potential conflict. A discipline hints at a conflict immobilized. It is a practice to channel and exploit its energies and to incorporate them into the powers that be. Why would one need a discipline if it wasn't to discipline somebody or something? Any discipline can thus also be seen from the point of view of conflict.[290]

Disciplines reveal as much as they omit in the effort to establish boundaries. These boundaries point to that which is excluded as much as what define the canon within. In response, Steyerl proposes a reclamation of the terms of the debate, in order to define an aesthetics of resistance.

Artistic research has a much longer history than many realise — a history that is best understood from the point of view of social struggles. What emerges from this type of perspective is a map of practices that spans the globe throughout the 20th century. Steyerl writes: 'It becomes obvious that the current debates do not fully acknowledge the legacy of the long, varied and truly international history of artistic research which has been understood in terms of an aesthetics of resistance'.[291] The term 'aesthetics of resistance' derives from the title of a three-volume novel by Peter Weiss, published between the late 1970s and the early 1980s.[292] The novel, described as a 'collective fiction',[293] evolves out of the anti-fascist resistance and history of the workers movement. Set across Berlin, Madrid, Paris and Stockholm, 'its theatres are the history of the German and Swedish workers' movements, the illegal resistance to the Nazi-regime, the Spanish Civil War, and the life of the emigrants and exiles in France and Sweden'.[294] A fiction documenting a historical reality, *Aesthetics of Resistance* sees art as having 'the possibility of resisting the mass-destruction of human life'.[295] Frederic Jameson, who writes the foreword to the novel, refers to the book as 'a

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[290] Ibid.

[291] Ibid., 32.

[292] Peter Weiss, *The Aesthetics of Resistance: Volume I* (Durham and London: Duke University Press, 2005).

[293] Klaus R. Scherpe and James Gussen, "Reading the Aesthetics of Resistance: Ten Working Theses," *New German Critique*, no. 30 (Autumn, 1983): 97.

[294] Ibid.

[295] Ibid.

monument to radical instants'.[296] Steyerl describes the novel as 'an alternative reading of art history'.[297] Throughout the book, the term 'artistic research' is used when describing the practices of several artists, such as the German playwright Bertolt Brecht when in exile, and the constructivist filmmaker and writer Sergei Tretjakov. *Aesthetics of Resistance* demonstrates a wide range of aesthetic approaches developed during a time of emancipatory struggles. In her own study on an aesthetics of resistance, Steyerl follows Weiss by mapping a range of examples of artistic research from the perspective of social struggle, predominantly drawing on new approaches to film, cinematography, and documentary representation. One significant example is the emergence of factographic practices in the 1920s, where the word 'fact', deriving from the Latin *facere*, meaning "to make" or "to do", refers to a process of production.[298] When understood through this framing, Steyerl remarks that a 'fact is made or even made up'.[299] Writing in an *October* issue dedicated to Soviet factography, Devin Fore writes:

> The chief divergence is one of epistemological disposition: if the term "documentary," which was created in 1926 by filmmaker John Grierson (who derived it, it seems, from the French word "documentaire"), came to designate work that strives to create the most objective depiction of reality possible, then this passive and impartial representational practice could not be farther from factography's ambitions. Indeed, Sergei Tret'iakov, the most famous figure in the movement […] founded his entire praxeology on the notion of "operativity," on the claim not to veridically reflect reality in his work, but to actively transform reality through it. The objectivism of an indifferent documentary had no place in the interventionist practices of the factographers.[300]

Factography then, consists of artists engaging with aesthetic practices as research tools in combination with new ways of knowing during a time of great social upheaval of the Russian revolution. Another example that Steyerl points out as a new means of artistic research, is the

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[296] Ibid., 98.

[297] Weiss, *The Aesthetics of Resistance: Volume I.*

[298] Ibid.

[299] Ibid.

[300] Devin Fore, "Introduction," *October* 118 (Fall 2006), 3.

film essay (or essay film) — a name coined by Hans Richter in 1940 who, when referring to his film *Inflation* made in 1927, argued that 'a new filmic language has to be developed in order to deal with abstract processes such as the capitalist economy'.[301] Steyerl also describes the essay film *Les statues meurent aussi ('Statues Also Die')* by Chris Marker and Alain Resnais from 1953 as a form of anticolonial resistance.[302] Commissioned in the early 1950s by the magazine *Présence Africaine,* the film is a socio-political exploration of the objectification and commodification of traditional African art by Western culture. It was initially censored due to its strident critique of the French state's colonial project. Steyerl adds that only a few years after the release of the film, Theodor Adorno's text *The Essay as Form* appears, where he ponders on the resistant characteristics of the essay as a subversive method of thought. 'To Adorno, the essay means the reshuffling of realms of the aesthetic and epistemological, which undermines the dominant division of labor'.[303] Steyerl's outline uncovers an overlooked history of methods of artistic research employed by artists during times of social struggle and upheaval throughout the last century.

If, as Steyerl argues, artistic research has become integrated into commodified education systems, then the production of art and knowledge has been co-opted to function as 'entrepreneurial innovation, social cohesion, city marketing, and thousands of other aspects of cultural capitalism'.[304] From this perspective, artistic research as an academic discipline 'not only sets and enforces certain standards but also presents an attempt to extract or produce a different type of value in art'.[305] By recalling artistic research as an aesthetics of resistance, Steyerl foregrounds the radical potential of art's epistemologies — a holding of knowledge in ways that can challenge disciplinarian ways of knowing and knowledge production that would serve the capitalist and/or colonial project. In the next section I will broaden out a critique of artistic research and consider some of the thinking as it exists in the academy today.

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[301] Hito Steyerl, "Aesthetics of Resistance? Artistic Research as Discipline and Conflict," *maHkuzine* 8 (2010), 33.

[302] Ibid.

[303] Ibid.

[304] Ibid., 36.

[305] Ibid.

## *4.3. Art as Enquiry*

Artistic research takes a conceptually broad and overtly interdisciplinary approach towards a means of aesthetic enquiry. The aspect of artistic research that I would like to foreground and build on, is the idea that artistic research can be a form of resistance against the colonisation of art by both the academy and industry. In other words, artistic research *as* an aesthetics of resistance. The impetus of an aesthetics of resistance is towards reclaiming creativity from its appropriation and absorption into the creative industries and the institutional imperatives of the contemporary academy. To expand on this idea, Henk Slager expresses a concern about the impact of the growing institutionalisation of artistic practice and research. He writes:

> In recent times, debates about artistic research have been inspired for the most part by methodological and institutional frameworks based on how the current structure of the academic bastion is organised. Consequently, the ontological question of the specificity of artistic research as a disciplinary field was posed again and again hoping to arrive at a monolithic approach acceptable to the academic world. That such a way of thinking about artistic research would include a reduction of both creative energy and artistic reflection seems to have been taken for granted by those involved because of their relentless academic craze.[306]

There is no monolithic approach that is capable of encompassing the multiplicities of artist practices, rather it is a continuous cross-fertilisation of what Slager refers to as a 'transpositional framework: a non-disciplined space where an assemblage of creative practices, artistic thinking processes and curatorial strategies continually produce new sets of relationships that make idiosyncratic contributions to the articulation of urgent issues'.[307] By way of example, Slager claims that the debates surrounding fair use and the Creative Commons have foregrounded a need to reclaim creativity from its absorption into the

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[306] Henk Slager. "Epilogical Thoughts," *MaHKUscript: Journal of Fine Art Research,* vol. 2, issue 1 (December 2017): 8, http://doi.org/10.5334/mjfar.29.

[307] Ibid.

capitalist economy. While the Creative Commons is a valiant effort to counteract the encroachment of property relations into the domain of creative practice, unfortunately the debate frames the concept of creativity in a dialogue with the very copyright law that it seeks to resist. As a consequence of this, Slager argues, creativity is held hostage to 'the one-dimensional rhetoric of the protocol-oriented creative industry, while in fact it should stand for exploring the potentials of the sensible through art making'.[308] He puts forward the idea that artistic research should start 'from a renewed awareness of experimentality', and resist the 'pre-programmed use of creativity'.[309] In sum, artistic research can't be deployed for a particular purpose, but only emerges from 'vital encounters between creative practice, artistic thinking and curatorial strategies'.[310]

Editor and artist Lucy Cotter believes artistic research to be a site of 'radical potential'.[311] In the book *Reclaiming Artistic Research,* she writes: 'Art is changing in dynamic relation to its wider socio-cultural, politico-economic and technological conditions. The very concept of artistic research raises important questions about where to situate art in our minds and in our society'.[312] For decades, the art world has been caught up in the circulation of Capital. Collectors, and their buyers, with little regard of the effects that inflating the art market would have on how society values artists and art have been more interested in turning art into investment vehicles. With this in mind, it becomes increasingly important to value and frame artistic research as a radical site for knowledge production, and not solely as research in the service of the creative industries and / or the interests of the market. Through a series of interviews with practicing artists, Cotter discusses their approaches towards artistic research.[313] Of particular interest for this research are two interviews with artists working with sound as knowledge: Samson Young and Lawrence Abu Hamden. For Cotter, 'sound

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[308] Ibid.

[309] Ibid.

[310] Ibid.

[311] Lucy Cotter, "Reclaiming Artistic Research – First Thoughts….", *MaHKUscript. Journal of Fine Art Research.* vol. 2, issue 1 (December 2017): 1, DOI:http://doi.org/10.5334/mjfar.30.

[312] Ibid.

[313] Lucy Cotter, *Reclaiming Artistic Research*, (Berlin: Hatje Cantz Verlag, 2019).

isn't necessarily the first medium people think about when they consider artistic research', and yet both Young and Abu Hamdan's sonic ways of knowing demonstrate the novel ways sound can reframe historical and contemporary notions of borders.

In an interview with Samson Young, Cotter discusses his ongoing artistic research project, *For Whom Tolls the Bell,* which incorporates bells as a process to think about the history of conflict.[314] The work takes inspiration from the title of Ernest Hemingway's novel, and asks: 'who needs bells? For whom are bells cast, sounded, and preserved in perpetuity?'[315] Describing himself as a traveling landscape artist, Young sketches out, notates, and records the sounds of these large sonorous objects, explaining: 'The bells that I have chosen to record are instruments that are related to notions of conflict: large bell that's cast out of cannons, a bell that warns of the approach of slave-traders, a Nazi-confiscated bell that has since been repatriated, a bell that is at the centre of an on-going legal battle between the indigenous peoples of the land and the church'.[316] Bells also define territories, 'separating one community from another along cultural, religious or ideological fault lines'.[317]

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[314] "For Whom the Bell Tolls," Samson Young (website), accessed March 3, 2018, https://www.thismusicisfalse.com/for-whom-the-bell-tolls.

[315] Ibid.

[316] Ibid.

[317] Cotter, *Reclaiming Artistic Research,* 403.

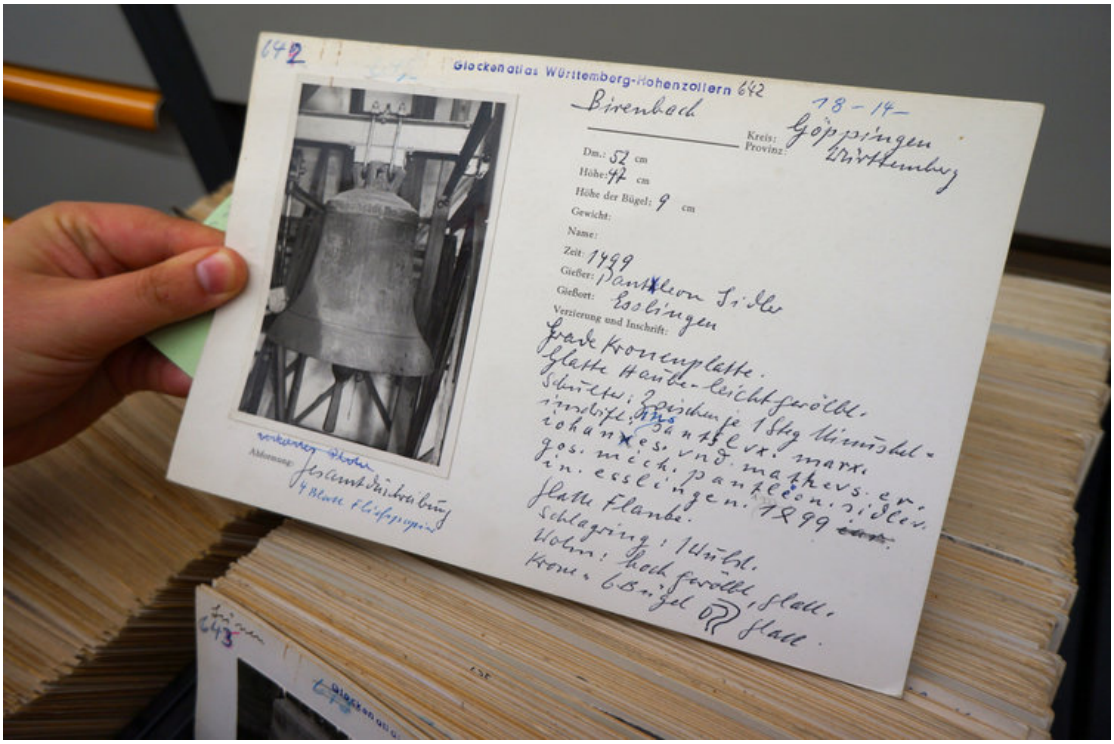


***Figure 3***. Documentation from Samson Young's *For Whom the Bell Tolls,* 2015.

Young describes *For Whom Tolls the Bell* as artistic research that involves the following : documenting the process of collecting sound recordings over long periods of time through a travelogue; visiting several historical bell archives; and testing ideas on audiences before working towards a completed work.[318] His undertaking is primarily an artistic and historic mapping of bells across five continents and is presented as an audio-archive that can be listened to on his website.[319] These field recordings are then incorporated into new works across diverse platforms. In a response to Young's work, Cotter writes:

> Because art is post-disciplinary it allows for people to think across different problematics. When you think about the bells you seem to be weaving different histories — social histories, war histories, very local histories, sound histories — many different areas that might be very difficult to bring together otherwise. I have just been listening to *Sweet Such Thunder* (2017), the composition you made for Documenta 14, which was one output of the project, in which you

[318] Ibid., 403-405.

[319] "For Whom the Bell Tolls," Samson Young (website), accessed March 3, 2018, https://www.thismusicisfalse.com/for-whom-the-bell-tolls.

> weave together narrated stories, linguistic sounds and sound that is abstract but very evocative of the visual and many other qualities. [320]

In his reply, Young further outlines his process:

> When I was doing these bell recordings I didn't think too much about what I would make of it all at the end. I just went and did the collecting first. Of course, a lot of material is generated during the process, but the documentary radio piece for Documenta was the first time I drew on this collection of material as a totality and tried to make something of it. I think of my works as creating glitches, well maybe not glitches exactly, but a very interesting chemistry takes place when you take two things that on the surface don't seem like they're related but you try to find a relationship between them. Something happens in the process, and you break the form that usually contains these things.[321]

Young's weaving together of different histories incites a sonic imagination that can reveal how we understand conflict through artistic means.

In a similar fashion, Lawrence Abu Hamden explores conflict and imagination in a work called *Walled Unwalled*, but with very different consequences. Abu Hamden's art practice engages in a form of audio investigation: finding ways in which aesthetic practice can function as investigative. Self-described as a 'Private Ear',[322] his work draws attention to 'forensic listening'— a concept he developed during his PhD studies with Forensic Architecture at the Department of Visual Culture of Goldsmiths.[323] In his interview with Cotter, Abu Hamden refers to the ways he tries to activate sound as an imagination by using image and technology just as much as sound: 'Because sight is more accessible than sound, the visual provides accessibility to a sonic imagination.[324]

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[320] Ibid., 405.

[321] Ibid., 405-406.

[322] "Info," Lawrence Abu Hamdan, accessed March 3, 2021, http://lawrenceabuhamdan.com/info.

[323] Cotter, R*eclaiming Artistic Research,* 132.

[324] Ibid. 139.

***Figure 4***. Still image from Lawrence Abu Hamdan's *Walled Unwalled,* 2018.

In *Walled Unwalled* — a single channel 20 minute performance-video installation — Abu Hamdan delivers a monologue comprised of 'an interlinking series of narratives derived from legal cases that revolved around evidence that was heard or experienced through walls'.[325] One of these cases draws attention to 'acoustics of incarceration', referencing a prison archetype exported by the East German Republic during the 60s and 70s where 'the walls were used as weapons, creating prisoners who see nothing but hear everything'.[326] In 2016, Abu Hamdan began an acoustic investigation into Saydnaya Prison, Syria, which was modelled on this GDR archetype. Through interviews with a small selection of survivors, unexpectedly released, we hear of the sonic torture they were subjected to:

> The most important sound is the beatings coming through the wall. As soon as you hear the sound of beatings you think is this sound moving from cell to cell? Or is just happening in that one place? If the sound starts to spread from one cell to the next, you know that your turn to be tortured is coming. It is the sound of demolition. Like if you got a cane and smashed this table in front of us. You don't hear the sound of something hitting a body. It sounds like someone is demolishing a wall. You don't hear the sound of a sharp crack of a whip hitting

[325] "Walled Unwalled," Lawrence Abu Hamdan (website), accessed March 3 2021, http://lawrenceabuhamdan.com/walled-unwalled.

[326] Lawrence Abu Hamdan, "Walled Unwalled (2018) by Lawrence Abu Hamdan," YouTube video, accessed March 3, 2021, https://www.youtube.com/watch?v=RY4jU85o8pE&ab_channel=LawrenceAbuHamdan.

> someone. It sounds exactly like demolition. When we hear this sound we would say to ourselves: “How can all this sound land on a human being?” Of course it hurts the person who is beaten. But the sound is much louder than the pain. … A sound that terrorises all the inmates. It creates a huge echo and you can't tell where it's coming from. The whole building is vibrating. The sound is coming from the walls. You have no idea if it’s above or below you. The whole structure echoes. The walls vibrate from the sound.[327]

We later learn that a central listening tower, accessed by a spiralling staircase, allowed guards to hear all the cells across three wings of the prison. This central column, functioning as a megaphone, was funnelling sounds throughout the prison. As Abu Hamden points out, the sonic imagination in this scenario is an ideological one,[328] where 'the sound of torture vibrates and rings through the porous and yet inescapably solid membranes of this structure’.[329]

The curator Chus Martínez has often returned to questioning what constitutes artistic research in her essays and lectures. In an essay titled "Clandestine Happiness. What Do We Mean By *Artistic Research*?", she summarises artistic research as 'a term that best describes the precise and acute movements between areas of knowledge, between the senses and understanding’.[330] Her conception of artistic research posits that art practice engages in a speculative methodology, ‘located in a space uniquely productive for the interrelation of knowledges that would otherwise never intersect’.[331] Martínez later expands on this idea in an essay written for the catalogue to the thirteenth edition of dOCUMENTA, a large scale contemporary art exhibition held every five years. Occurring in 2012 across four cities — Kassel, Kabul, Alexandria, and Banff — dOCUMENTA (13) was one of the first public curatorial projects dedicated to artistic research. In a press statement, lead curator Carolyn Christov-Bakargiev writes:

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[327] Ibid.

[328] Cotter, *Reclaiming Artistic Research,* 148.

[329] Abu Hamdan, “Walled Unwalled (2018) by Lawrence Abu Hamdan.”

[330] Chus Martínez, “Clandestine Happiness. What do we mean by Artistic Research,” *Index 00* (Autumn 2010): 10.

[331] Ibid., 13.

> dOCUMENTA (13) is dedicated to artistic research and forms of imagination that explore commitment, matter, things, embodiment, and active living in connection with, yet not subordinated to, theory.
>
> These are terrains where politics are inseparable from a sensual, energetic, and worldly alliance between current research in various scientific and artistic fields and other knowledges, both ancient and contemporary. dOCUMENTA (13) is driven by a holistic and non-logocentric vision that is skeptical of the persisting belief in economic growth. This vision is shared with, and recognizes, the shapes and practices of knowing of all the animate and inanimate makers of the world, including people.[332]

The majority of the dOCUMENTA (13) catalog contains participating artist's research projects. However, Martínez' essay specifically addresses the idea of artistic research as a unique site of discovery, comparing it to the philosopher Gaston Bachelard's 'principle of reverberation' in his book *The Poetics of Space*.[333] She writes:

> Reverberation as an image expresses the movement between logics of thought and methods of work that have nothing in common. The possibility of different thinking depends on this very abstract mental operation. Contemporary art attempts to exist in this very space of reverberation rather than in the work-commentary equation. Art is not a pretext for thought, but rather a thought that operates by means of the constant exchange between different systems that vacillate between the abstract and the concrete and that make us vacillate between them as well.[334]

Martínez highlights artistic research as the possibility of a different type of thinking — one that is not caught in the work-commentary binary operation. In other words, artistic practice that is in and of itself its own method of thinking and not a pretext to thinking. Since, 'the attempt to establish a correlation between ideas and their representation denies the unexpected

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[332] "dOCUMENTA (13), 2012" Universes in Universe (website), accessed March 3, 2021, https://universes.art/en/documenta/2012.

[333] Chus Martínez, "How a Tadpole Becomes a Frog. Belated Aesthetics, Politics, and Animated Matter: Toward a Theory of Artistic Research," in *dOCUMENTA (13) Catalog 1/3. The Book of the Books.,* ed. Carolyn Christov-Bakargiev (Ostfildern: Hatje Cantz, 2012), 55.

[334] Ibid.

and, hence, the hope for change', the curatorial strategy of *reverberation* allows for a transpositional engagement, or movement, between creative practice and artistic thinking.

To reclaim artistic research, then, is to reclaim experimentation — what Slager describes as 'the devising and materialising of progressive ideas that has been proper to art since time immemorial: an arena to relate, if possible in a contradictory sense, to the formalistic, the political, and the spiritual'.[335] In short, artistic research is a domain that presents freedom to think and work in a non-linear, unexpected and experimental way — a way of working that has a long history and ongoing desire to resist fixed and fixing models of thought. Reclaiming artistic research, is to reclaim 'the stubborn singularity of art thinking',[336] and to recognise and celebrate artistic research on its own terms.

## *4.4. Summary*

In this chapter, I have referred to ideas on artistic research by contemporary artists, curators and educators — all of which ground my strategy for the artistic (im)material enquiry of *Vocal Artefacts*. It has been established that artistic research, as a means of enquiry, touches on many types of knowledge and pushes towards new ways of thinking and novel forms of aesthetics. We can summarise artistic research as an approach to bringing academic and artistic literacies, modes and approaches together in more-than-disciplinary ways. Treating the practice-based element of this thesis as a site of experimentation, and incorporating ideas put forward by the curators and artists mentioned above, the following chapters have been produced and presented in this thesis as a body of artistic research. The conceptual framework is informed by the practice of sound as knowledge and a curatorial strategy of *reverberation.* The latter allows for a movement of thought between the conceptual elements that make up the body of work and their production.

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[335] Slager, "Epilogical Thoughts", 8.

[336] Cotter, *Reclaiming Artistic Research*, 21.

Inspired by the human microphone as an aesthetics of resistance — a sonic-political act that emerged from a radical site of potential — the artistic research looks to other artworks, philosophical concepts, as well as cultural histories, sound histories, and fiction; exploring past sites of radical potential for knowledge production, while creating new sites through artistic means. The voice, the park, a shell, a site erased, all leave echoes in their wake.

# *5. Interval: A Note on Method*

> 'This is how I am drawn to sounds. I know nothing of them, they whisper from the edge of my understanding: spend time with me now. And then I recall, then I write and the words that follow will not have a punctum, they will trace instead an extended arc of kinships, in various degrees of closeness or distance, opacity and clarity, and the evidence will never be there, and it will always be on the edge, tipped over toward the multiplicity of singular and contingent ways of listening'.[337] – *Daniela Cascella*

[337] Daniela Cascella, *F.M.R.L: Footnotes, Mirages, Refrains and Leftovers of Writing Sound* (Winchester: Zero Books, 2015), 80.

A note on method introduces the artistic research of this thesis. The following chapters — *Vocal Artefacts Part I, II, and III* — are a speculative study into moments of sounding and listening, guided by the sonic figures of echo, parrhesia and prosopopoeia. Some of these studies — exercises in listening — were written for particular occasions and bear those signs. Most were written expressly for this thesis, but all are presented here as the artefacts of my artistic (im)material enquiry. They attend to sonic events in ways that are meant to amplify how ways of knowing sound can be involved in opening up unique possibilities for thinking, in continued resonance with the human microphone.

This (im)imaterial enquiry is an inter-spliced collection of essays that are exercises in listening. In other words, the enquiry is a collection of field recordings in the most expansive sense of the phrase. A field recording 'is an act of acknowledgement as well as a proposition'.[338] In their edited volume *Writing the Field Recording*, Stephen Benson and Will Montgomery expand on the ways field recording, which simply means 'recording outside the studio',[339] encounters language. For example: 'the para-poetic qualities of text scores, or creative-critical texts that explore concepts of listening by other means than the microphone'.[340] In the context of this research, I treat the static texts of *Vocal Artefacts Part I and II* as archives of 'the sounded fields of the past and of the past's hearings and understandings of such'.[341] If we consider text as encrypted sound, these field recordings are then incorporated, sampled, and scripted into the virtual sculptures of *Vocal Artefacts Part III,* resulting in newly sounding artefacts: a collection of prosopopoeia. Decisions driving the use of technology in *Vocal Artefacts Part III* began with the scanning and modelling of existing artefacts and plans — from architectural plans of Zuccotti Park, to a shell found on a beach, to a statue of Echo the nymph, to drawings of a Vitruviun theatre. These were developed into virtual sculptures, or primaudial machines, that could be interacted with, in order to explore the sonic spatial element of each prosopopoeia. The plasticity and mutability of digital media

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[338] Stephen Benson and Will Montgomery, *Writing the Field Recording* (Edinburgh, Edinburgh University Press, 2018) 5.

[339] Ibid., 5.

[340] Ibid., 6.

[341] Ibid., 24.

allows for a staged encounter of 'the landscape as sonic possible world' — what Salomé Voegelin describes as a site-specific exploration of a 'timespace place', where 'the landscape as sonic possible world writes an invitation to listen not to confirm and preserve actuality but to explore possibilities'.[342]

Akin to note-taking, this collection of field recordings and prosopopoeia are dynamic mappings that encompass witnessing, writing, listening and drawing; they are speculative manifestations of a preliminary moment with a pronounced concentration on sound and listening throughout. Grounded in artistic experimentation, these vocal artefacts exist as sites of friction, bringing together research and creation (artistic research), and propagating 'unexpected disciplinary intimacies and alliances'.[343]

*Vocal Artefacts Parts I, II, and III* are informed by a curatorial strategy of *reverberation.* Tacking between the different instances of reflection allows for a movement of thought between the conceptual elements that make up the body of work and the material production of work. This aesthetic structural approach is a way of writing perspectives, and drawing attention to relationality, connectedness, potentialities and trajectories; providing multiple points of departure for travelling further into the discourse of sound and listening. To write about sound, as Bradnon LaBelle writes, 'is to welcome hearing into language, as a force that brings rupture and order together, to dissolve the strict duality of rationality in favour of the work of the imagination'.[344] Finally, a warning: despite appearances, there is much to hear here.

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[342] Voegelin, *Sonic Possible Worlds,* 12-13.

[343] Loveless, *How to Make Art at the End of the World,* 57.

[344] Brandon LaBelle, "Sound as Hinge" in *Esemplasticism: The Truth is a Compromise* (exhibition catalogue), accessed August 3, 2021, https://www.brandonlabelle.net/texts/LaBelle_SoundasHinge(2010).pdf.

# *6. Vocal Artefacts Part I: Echoes on Echoes*

> 'To take the full measure of Echo would be to take the measure of the world'.[345] – *Hillel Schwartz*

[345] Hillel Schwartz, *Making Noise: From Babel to the Big Bang* (New York: Zone Books, 2011), 55.

## *6.1. Ekhe*

I always return to echo. Or is it, that echo always returns to me? From the beginning of this research enquiry, Echo's disembodied voice has haunted me, propagating from a sound source over there, and arriving at my ears over here. What follows is a plurality of echoes, in one place, as a prelude to the relational, performative, and political significance of the voice. Echo, the mountain nymph, and echo the acoustic phenomenon lay the groundwork towards a contemporary reading of the voice. Both instances serve as a sonic motif through which to navigate the fragmented challenge of the present, countering the hegemony and privileging of 'ways of seeing',[346] towards ways of knowing and ways of listening. Acting as a brief, non-linear history, this chapter charts the acoustical phenomenon's appealing nature and instances of study, be it in a musical, architectural, mythical, figurative, conceptual or cultural context. Simply put, presented here is an exploration of echo's various manifestations of amplification and return.

This exposition is not an attempt towards a taxonomy or systemic investigation of specific types of echoes. Nor is there a thematic thread running through the following pages, other than perhaps a general one of past attempts at coming to terms with the phenomenon. Embedded within these reasonings strong traces of imagination and mythology persist. The impetus here is to re-echo the vocal fragments that sound around me, recalling the phenomenon's various forms from across disciplines in order to demonstrate echo's elusive, yet perseverant nature; all with the hopes that the reader can themselves hear the echoes observed.

The roots of the word echo lie in the Greek word *ekhe,* meaning "sound". In modern discourse, the word echo is associated with the repetition of a sound caused by the reflection of sound waves from an object or surface. It is a sound heard again, a lingering trace, a decay, an extended event through replication, an utterance. In acoustical terminology, echo is not the same as reverberation despite often being confused with the other. Musicologist Eric F. Clarke

[346] John Berger, *Ways of Seeing* (London: Penguin Books, 1972).

succinctly describes the difference between echo and reverberation as that of identifiability. He explains, 'both echo and reverberation are phenomena based on acoustical reflection — echo being distinguished from reverb by the identifiability of one or more discrete replications of the original sound at a noticeable time delay, while reverb consists of a large number of overlapping sound reflections none of which are specifically identifiable'.[347] To rephrase: while echoes and reverberations go hand in hand, the main factor in identifying an echo lies, in many ways with the listener, since echoes are distinguished by the coherence of the reflected sound. The American poet John Hollander offers a more detailed description of the properties of an acoustical echo in his book *The Figure of Echo: A Mode of Allusion in Milton and After*.[348] Hollander draws analogies between echoes and mirrored light, describing their effects on long speech phrases:

> Echoes are the reflections of sounds from solid surfaces. They are distinguished, in acoustical terminology, from reverberations generally in reaching the listening ear at least one-fifteenth of a second after the originating sound. Reverberations attending more closely upon the source affect us not as repetitions, but rather by prolonging the originating sound or altering its apparent timbre. As in the case of mirrored light, the angle of incidence of sound waves is equal to the angle of reflection, and convex surfaces will converge echoes so as to make them louder and more noticeable than rebounds from planar surfaces. An echo of any given delay — say of a full second (from a distance of about 543 feet) — will only clearly return sound of that duration or less; the primary sound of a longer phrase of speech or music will interfere with the sound of the echo, and only the last second's worth of the phrase will be heard unconfused with its source. It is for this reason that echoes seem to return fragments of speech. Complex conformations of reflecting surfaces — in rocks, caves, forests, and spacious, intricate interiors of stone and masonry — can produce serial echoes — echoes themselves reechoed — as well as divers direct reflections from various distances. These are appreciably fainter than the first of the series.[349]

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[347] Eric F. Clarke, "Music, space and subjectivity," in *Music, Sound and Space: Transformations of Public and Private Experience*, ed. Georgina Born (Cambridge: Cambridge University Press, 2013), 99.

[348] John Hollander, *The Figure of Echo: A Mode of Allusion in Milton and After* (Berkeley and Los Angeles: University of California Press, 1981).

[349] Ibid.

Sound is situated, relational, and ephemeral. Both hearing and listening to sound involves taking a position; a point of view. The same sound can be heard in a multitude of ways depending on the space, position, and focus of the listener. With such a complex relationship between sound, object, space, and listener, the perceptual experiences of sound can be better understood by uncovering its relational attributes. Sound, in its very production, propagation and reception is relational. It starts as a vibration, an oscillation of pressure, that propagates through a medium such as air, water or metal. This oscillation or wave is then received by the human ear, resulting in the perception of sound. However, the vibrations are modified along the way by several factors. These include: the physical properties of the body that initiate the sound; the methods in which the vibrations are created (as in the difference between bowing or plucking a string); and the properties of the environment from which the vibrations are received. The environment shapes a sound wave, imposing its own properties onto sound before reaching the listener.

In the book *Spaces Speak, are you Listening?: Experiencing Aural Architecture*, authors Barry Blesser and Linda-Ruth Salter describe the active participation of a spatial sonic event as the difference between hearing a sound bouncing off a wall as an echo, and perceiving the fact that there is a physical object (in this case a wall) from which the sound is bouncing off.[350] Naturally, one of the most central factors of sound is time. Echoes and reverberation of sound can be thought of as compressing temporality, allowing for the simultaneous perception of the past and the present as the sound dissipates. The sound we hear in the present is the trace of an event in the past. Variation over time, in amplitude and frequency range, allow for a broader range in sound as it bounces from objects or walls. Blesser and Salter introduce the idea of a 'sonic illumination' of an architecture, where space is excited and resonated by sound through the reverberation, dispersion, diffraction and absorption of a wide range of frequencies and energies, interacting with the geometries and textures of multiple surfaces.[351] It is through this range of sonic excitation that acoustical phenomena, such as echoes, beating and interference can be heard. The physical characteristics of a space — from its shape, size,

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[350] Barry Blesser and Linda Ruth Salter, *Spaces Speak, Are You Listening?: Experiencing Aural Architecture* (Cambridge and London: The MIT Press, 2007), 2.

[351] Ibid., 7.

amount of surfaces, material — such as concrete or wood — and objects or people within the environment merge with a sound source to create a unique spatial sonic event. The sound source may be an aria sung by a soprano, an applauding crowd, or an amplified voice reading a selected text, but each of these examples are sonically shaped by the physical space of its occurrence. The environment thus becomes an extension of the sound played in it. Phrased differently, the space itself becomes an instrument. The architecture, environmental sounds, and performed or articulated sounds all constantly contribute towards what the listener perceives in any given space and time. Sound progresses from its production to its propagation through a medium where it incorporates the acoustic characteristics of its environment, and finally arrives at the human ear where it is listened to and evaluated. These outlined stages move from a very physical description to a psychophysical one, with the final stage being the listener's own perception of sound. Therefore, when discussing a sonic spatial event, a description that includes the modification of sounds based on the properties of the environment is required, alongside the behavioural and emotional experience of a listener in a sonically activated space.

In order to understand the move away from the object experienced to experience itself, it helps to delve into the poetic and philosophical ideas that fall under similar concerns. One such example is the French author Georges Perec's *Species of Spaces and Other Pieces* — an essay written in 1974 on observations of space.[352] Perec observes that we construct space with our gaze: 'Our gaze travels through space and gives us the illusion of relief and distance. […] When nothing arrests our gaze, it carries a very long way. But if it meets with nothing, it sees nothing, it sees only what it meets. Space is what arrests our gaze, what our sight stumbles over: the obstacles, bricks, an angle, a vanishing point'.[353] It is our gaze that gives the illusion of perspective as we scan a scene, looking for something to focus on. Perec emphasises the multiple view points and relationships that constitute spatiality and how the individual's experience of those relationships are unique, drawing attention to the interconnectedness between people and things. His literature is reminiscent of writings by the French philosopher

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[352] Georges Perec, *Species of Spaces and Other Pieces*, trans. John Sturrock (London: Penguin, 1997).

[353] Ibid., 81.

Gaston Bachelard, specifically *The Poetics of Space,* written in 1958. In his writings, Bachelard discusses a need for an architecture of the imagination based on experience rather than a rational approach. While the focus of *The Poetics of Space* is on architecture and the experience of intimate spaces, many of the descriptions are sonic ones, described as *auditive metaphors*. For example, a sonic metaphor that is used constantly throughout is 'reverberation', to describe a 'sonority of being', where emphasis is placed on flow rather than stasis.[354] Bachelard borrows the term from the philosopher Eugène Minkowski. The following excerpt quoted by Bachelard, from Minkowski's *Vers une Cosmologie* (1936) illustrates the idea better:

> If, having fixed the original form in our mind's eye, we ask ourselves how that form comes alive and fills with life, we discover a new dynamic and vital category, a new property of the universe: reverberation (retenir). It is as though a well-spring existed in a sealed vase and its waves, repeatedly echoing against the sides of this vase, filled it with their sonority. Or again, it is as though the sound of a hunting horn, reverberating everywhere through its echo, made the tiniest leaf, the tiniest wisp of moss shudder in a common movement and transformed the whole forest, filling it to its limits, into a vibrating sonorous world.[355]

We are asked to seize the moment of reality, where Bachelard's main concern is of a person's being and experience, as defined by the poetic images that surround us and how they continually feed into our imaginations, thus lending to and augmenting our own realities.

*The Poetics of Space* begins with questions surrounding the home. The very act of describing a space as "home" illustrates the crossings-over between imagined and actual existence. To acknowledge a space as "home" highlights how we shape, and are shaped by the spaces around us. In this case, "home" is usually a space of comfort. As we go about our day-to-day experiences, it is our environment that shapes our experiences and defines who we are. If we are in an uncomfortable environment, our personality tends to reflect this. Bachelard

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[354] Gaston Bachelard, *The Poetics of Space*, trans. Maria Jolas (Boston: Beacon Press, 1994), xvi.

[355] Ibid., xvi-xvii.

encourages this relational field of perception, or reading between the lines, where 'inhabited space transcends geometrical space',[356] becoming in turn a poetic space.

Sound offers itself as a boundless medium. It blurs boundaries, and therefore assists in creating new ways of navigating and understanding the world. By extension, sound allows for new understandings of our place and relation to things in the world. Sound demonstrates how our bodies act as mediators to perception by constantly reminding us of its relational properties and moment-to-moment properties. Sound, as a dynamic, relational, inclusive medium allows us to have a different view about how bodies live, and experience space and time. To recall; spaces speak, but are you listening?

The writer and historian Hillel Schwartz's words set the tone for listening out for echoes:

> Listening, just now, for echoes. For echoes, and for the echo-effects that Renaissance poets and musicians came most happily upon. Echoes are a genus of soundbite related to *diminuendo*, where some syllables fall away and others assume a surpassing resilience. Echo-effects exaggerated the temperamental timelines of echoes, repeating and recombining end-syllables into remonstrance, irony, or affirmation while prodding monologue into dialogue. Through echoes and literary echo-effects, early moderns registered the displacement of sound and found themselves coming upon noise at every turn. […] Echoes, though they too relied upon a pattern of call and response, were hardly respectful of person, sequence or conclusion, arriving from unknown quarters, in overlapping snatches and tailing refrains.[357]

## *6.2. Artificial Echoes*

Under the large concrete dome of the Brazilian architect Oscar Niemeyer's *House of the Worker* lies the auditorium. The literal meaning of the Latin word *auditorium,* is "a place for hearing", and in this scenario, the auditorium serves as a meeting place for the French

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[356] Ibid., 47.

[357] Hillel Schwartz, *Making Noise: From Babel to the Big Bang* (New York: Zone Books, 2011), 50.

Communist Party's Central Committee. The emblematic *House of the Worker*, built by Niemeyer in 1964, is the French Communist Party headquarters situated in the working-class 19th Arrondissement of Paris. With the exception of the doors that resemble those on the Starship Enterprise, and several pockets that serve as observation booths and a speaker's platform, the walls of the dome are completely covered in rows of rectangular aluminium panels. At first glance, they reveal themselves to be the source of the uniformly diffused light throughout the space, creating a sense of daylight despite being several metres below ground.

***Figure 5***. Oscar Niemeyer, 1964. Under the concrete dome of *House of the Worker,* Paris.

On second glance, the panels appear like those found in an anechoic chamber, purposefully both reflecting and absorbing any extraneous sound waves so that a speaker's words may be heard as clearly as possible throughout the space. The panels break up the flat, concrete surface of the dome, dispersing sound more evenly around the room so that those seated furthest away from the speaker's platform can hear just as clearly as those sitting near the front. Interestingly, the visual geometry of the auditorium is more similar to that of the concentrically tiered open-air theatres of Ancient Greece than the raised steps of the Athenian *bema* from which the term "speaker's platform" derives. Furthermore, if the concrete walls of

the auditorium had been left bare, sound would bounce off the hard, reflective surface of the dome, making the space more akin to an acoustic echo chamber — a near defunct studio recording aid that was once used to create a specific virtual space with sound.[358] In contrast with the days of early recording techniques, the advent of artificial room-acoustics simulators has meant that echo chambers are no longer required to apply a delayed signal effect to a sound source. Needless to say, artificial echoes can portray any number of artificial spaces — from the smallest rooms to the largest cathedrals, depending on the intensity of echo and reverb in the mix.[359]

Artificial echoes, foretold by Sir Francis Bacon in his incomplete, technological utopian novel titled *The New Atlantis,* reminds us that echoes have captivated the imaginations of people for centuries, and not just in their natural state. In *The New Atlantis*, left unfinished at his death in 1626, Bacon shows that echoes are more complicated than a mere repetition of an original sound. Rather, like some form of audio signal passing, the repetition is often a mutation of the original sound source: amplified, multiplied, and at times distorted or modulated. Quoted here at length, Bacon's passage vividly describes the technical culture of the Early Modern era, and intimates the Information Age yet to come:

> We also have sound-houses, where we practise and demonstrate all sounds and their generation. We have harmonies, which you have not, of quarter-sounds, and lesser slides of sounds. Divers instruments of music likewise to you unknown, some sweeter than any you have; together with bells and rings that are dainty and sweet. We represent small sounds as great and deep, likewise great sounds extenuate and sharp; we make divers tremblings and warblings of sounds, which in their original are entire. We represent and imitate all articulate sounds and letters, and the voices and notes of beasts and birds. We have certain helps which

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[358] These spatiality's, set up by the use of reverberation and echo effects, along with their resulting signifiers are explored in the following book: Peter Doyle, *Echo and Reverb: Fabricating Space in Popular Music Recording, 1900-1960* (Middletown CT: Wesleyan University Press, 2005).

[359] Artificial echoes point to a phenomenon that characterises the modern experience of sonic space, which is an aesthetic development where sound, time and space gain a new level of plasticity. In modern sound culture, architectural acousticians, audio engineers and sound technologists have the ability to create a *space within space*, where sound is detached, recombined, diffused, dampened and choreographed in temporary aural configurations through various means. See: Jonathan Sterne, "Space within Space: Artificial Reverb and the Detachable Echo" in *Grey Room*, Issue 60, (Summer 2015): 110-131.

> set to the ear do further the hearing greatly. We also have divers strange and artificial echoes, reflecting the voice many times, and as it were tossing it: and some that give back the voice louder than it came; some shriller, and some deeper; yea, some rendering the voice differing in the letters or articulate sound from that they receive. We have also means to convey sounds in trunks and pipes, in strange lines and distances.[360]

What is of particular interest in this passage, is the detailed description of the sounds that echoes return; demonstrating Bacon's lucid understanding of this naturally occurring, sonic phenomenon. Even the use of the word "tossing", resembling the word "mixing" in audio production terminology, implies a relational dynamic between a sound source and an environment that shapes the sound accordingly. Towards the end of the passage, Bacon manages to convey the uniqueness of echoes, elaborating that they are not just a re-working of an original sound, but can have significant alternate meanings with each iteration.

Bacon wasn't the only echo-enthusiast during the great epoch of exploration that brought about the Scientific Revolution. In 1673, the German scientist, music theorist, and Jesuit theologian Athanasius Kircher completed *Phonurgia nova.* The title, roughly translated from Latin means "new modality of sound production", and includes two books dedicated to the scientific study of sound — *Phonosophia nova* and *Phonosophia anacamptica.* Dr. Lamberto Tronchin, an Italian theorist who specialises in architectural acoustics, analyses the *Phonurgia nova* in a paper titled, "Athanasius Kircher's Phonurgia nova: The Marvellous World of Sound During the 17th Century".[361] He translates the Latin neologism *Phonurgia* as, a 'capability to provoke the marvellous by means of sounds',[362] a definition clarified by Kircher in an explanatory appendix to his volume. Tronchin summarises Kircher's first book as an anthropological study on 'the influences of music on the human mind',[363] while the latter, *Phonosophia anacamptica,* meaning "the knowledge of reflected sound", is a work that

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[360] Francis Bacon, *New Atlantis and The Great Instauration,* ed. Jerry Weinberger (West Sussex: Wiley-Blackwell, 2016), 106.

[361] [361] Lamberto Tronchin, "Athanasius Kircher's Phonurgia nova: The Marvellous World of Sound During the 17th Century," *Acoustics Today* 5, no. 1 ( 2009).

[362] Ibid.,10.

[363] Ibid.

explores the mathematics and physics of sound, focusing extensively on the phenomenon of the echo.[364] A section specifically dedicated to the science of echoes, titled *Echosophia*, includes the most notable contribution to the field of acoustics. Kircher noted that, 'air movement causes sound propagation, and wind propagation can influence echo effects as well as weather conditions'.[365] In her book *Music and the Modern Condition: Investigating the Boundaries*, author Ljubica Ilic provides a translation to Kircher's preface of *Phonosophia nova* as follows:

> The echo, that jest of Nature when she is in a playful mood, is called the 'image of a voice' by the poets, in accordance with that well-known line of Virgil's: *The rocks resound and the image of the voice that has struck them bounces back.* It is called a reflected, rebounding and alternating voice by scientists and 'daughter of the voice' by the Israelites. […] Such is its mysterious nature that up to this very day there is scarcely anyone who has explained it. It is indeed known, and is almost common knowledge, that it is a reflected voice, but how it is produced, from what sources, how it is spread, with what speed and over what distance, is as unknown as any phenomenon. It seems impossible to work through the immensity of the difficulties that one encounters unless, equipped with the greatest practical knowledge and unique diligence, one finally succeeds in tricking and catching this runaway Nymph with acts of wondrous skill. Since nobody hitherto has achieved this, in my desire to investigate it I have left nothing untried in my examination of the hidden recesses of forests, wooded glades and mountains, the hidden retreats of valleys, areas of stone rubble and plains, and the uncultivated flat areas of marshes, in order that I might come to grips with her hidden nature.[366]

Kircher's seamless linkage from the science of echoes to the myth of Echo, not only emphasises the elusive nature of this acoustic phenomenon, it also better shapes our knowledge of both instances through their correspondence. Echo the Nymph, recalled later in this section, is a myth that offers up interpretations from fields of study such as philosophy, psychoanalysis and gender studies due to the rich symbolic references offered in her story.

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[364] Ibid.

[365] Ibid., 12.

[366] Ljubica Ilic, *Music and the Modern Condition: Investigating the Boundaries* (New York: Routledge, 2016), 30-31.

Distributed throughout the pages of *Phonurgia nova* are detailed diagrams of Kirchner's inventions; some realised, though most live out through the imagination. Of note, the volume includes one of the earliest depictions of an acoustic megaphone, also known as a speaking-trumpet. Other diagrams of note depict acoustic mechanisms for eavesdropping and voice amplification, called 'delectationes', as well as instruments to aid in sending music to various rooms.[367]

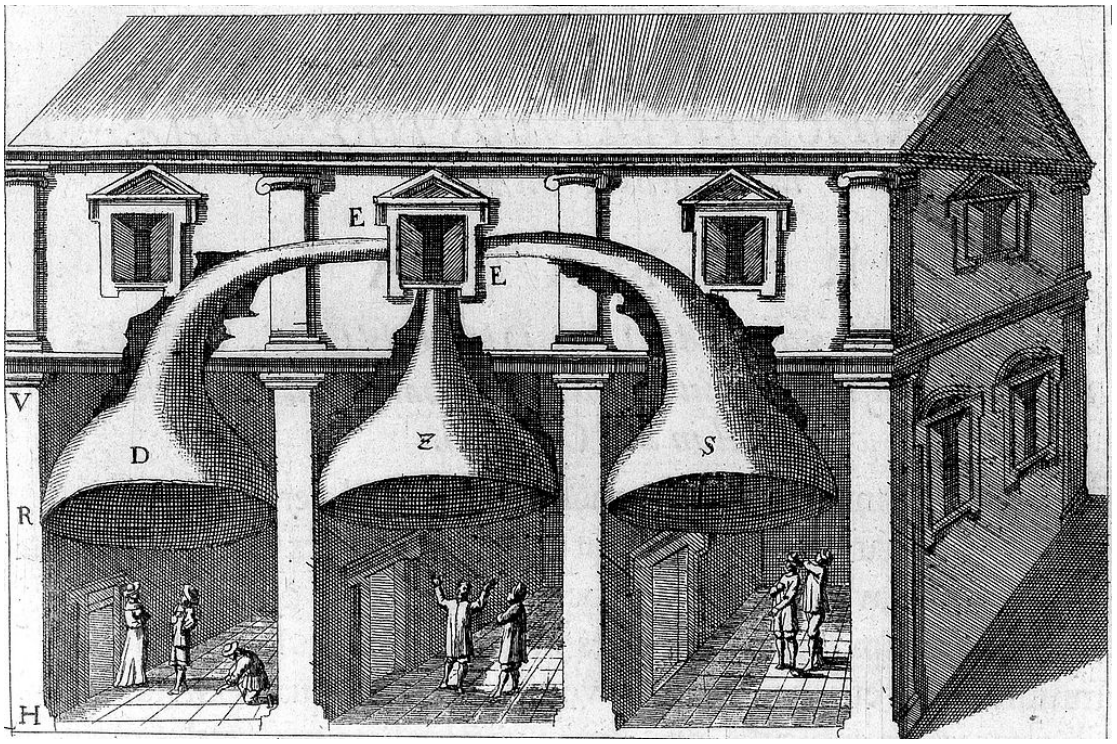


***Figure 6.*** Athanasius Kircher, Illustration depicting acoustic mechanisms for eavesdropping, from *Musurgia Universalis*, 1650.

Emerging a few years after Kirchner's publication, the English naturalist Robert Plot published *The Natural History of Oxfordshire* in 1677 — a formative work in geology known for containing the first record of a dinosaur bone (unidentified until over a century later). The book also provides a catalogue of echoes. Plot writes in the preface 'it will not be amiss to present the Reader with some of the sports of Nature, and entertain him awhile with the

[367] Robert Plot, *The Natural History of Oxfordshire: Being an Essay Toward the Natural History of England* (Oxford: The Theatre, 1677), 6-7, https://archive.org/details/naturalhistoryof00plot.

Nymph *Echo*; a Mistress she is indeed that is easily spoke with, yet known to few: if therefore I take pains to acquaint him with her, I hope I shall not perform a thankless office'.[368]

In the first chapter of the book, a section on echoes titled "Of the Heavens and Air" shows Plot acknowledging men that came before him, describing observations made by both Kircher and Bacon. He goes a step further in his study of echoes by implementing an analytical model he devised and applying it to unique locations of Oxfordshire. In doing so, Plot creates a vivid snapshot of a landscape within a particular time in history. In his analysis, he describes the conditions for different echoes as being dependent on several factors: such as location, time of day, weather, the season, terrain, and the speaker's position in relation to an object (for example a wall or tree). With the aid of diagrams depicting several of these experiments, Plot illustrates the different types of echoes possible. His analytical model distinguishes echoes by the following categories, which are based on their syllabic return: s*ingle, polysyllabical, tonical* and *manifold.*

In each experiment, Plot repeats a line from the Latin poem *The Metamorphoses* by the Roman poet Ovid — *Quae nec reticere loquenti, Nec prior ipsa loqui didicit resonabilis Echo,* which translates as 'who could not be silent when someone speaks, but cannot herself speak first, repeating Echo'.[369] Plot found that the *single* echo, as the name suggests, returns 'the voice but once', while *polysllyabical* echoes 'return many syllables, words, or a whole sentence'.[370] *Tonical* echoes return 'the voice but once, nor that neither, except adorned with some peculiar Musical note', and *manifold* echoes 'return syllables and words, the same oftentimes repeated, and may therefore be filed *tautological Echo's'.*[371] Likening a speaker's voice, projected into a valley to a ball bouncing off a wall, the following is an entry detailing the examination of an echo:

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[368] Ibid.

[369] Laura Fulkerson and Tim Stover, eds., *Repeat Performances: Ovidian Repetition and the Metamorphoses* (Wisconsin: The University of Wisconsin Press, 2016), 12.

[370] Plot, *The Natural History of Oxfordshire,* 7.

[371] Ibid., 7.

> if it be thrown in an oblique line, it returns not to the thrower but to another place; and though the proficient do so throw it, that it strikes at right angles with the wall, yet (like as in the voice) if he stand too far off, it will fall as much too short in the rebound, as it will exceed if he stand too near. According to these grounds I carefully examined this *Echo*, and found, upon motion backward, forward, and to each hand, the true *centrumphonicum*, or place of the speaker, to be upon the hill at Woodstock towns end, about thirty paces below the corner of the wall aforesaid, directly down toward the Kings Majesties Manor: from whence by measure to the brow of the hill, on which my Lord Rochesters Lodge stands, are 456 Geometrical paces, or 2280 feet; which upon allowance of 24 Geometrical paces, or 120 feet to each syllable, to my great satisfaction I found to be agreeable to the return of 19 syllables, viz. one fewer than it returns in the night, and two more than in the day.[372]

A multitude of experiments are described by Plot in similar, rigorous detail, with recommendations for specific locations to achieve optimal *polysyllabical* echoes, or *tautological polyphonous* echoes, accompanied with diagrams to illustrate these various scenarios. He goes on to compare the difference in sound of vocal echoes to those from a clap, stamp and even a pistol. The latter returned a sound so different to its original, it baffled him:

> Amongst other tryals of this Echo, I discharged a Pistol, which made a return much quicker then my voice, and (at which I still wonder) with a much different sound from that the Pistol made, whence I can only conclude, that the more forcibly the Air is stricken, (as also in the projection of a ball) the sooner the response is made, and that possibly there may be some sounds more agreeable to every Echo, than others.[373]

Ultimately, Plot's goal was to find the location and conditions to achieve the longest echo, and in doing so, he maps out a fascinating account of Oxfordshire through a personal, situated experience of natural phenomena. His interest in the difference in force or pressure, and the resulting echo type, further lead Plot to do a study on the quality of air and its health benefits — the details of which are outlined in the succeeding chapter to "Of the Heavens and Air".

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[372] Ibid., 10.

[373] Ibid., 11.

The on-going quest to find and re-create the longest echo is understandable when we consider that prior to the advent of mechanical sound recording, echoes were one of the only ways to hear back a human made sound in a non-instructional way. In 1877, a letter published in the November issue of *Scientific American* announced the invention of Thomas Edison's phonograph. The title of the piece was "A Wonderful Invention — Speech Capable of Indefinite Repetition from Automatic Records".[374] Edison had discovered the ideal conditions to achieve the longest echo through mechanical means. What the phonograph was able to do, was to store time 'as a mixture of audio frequencies in the acoustic realm',[375] to quote media theorist Friedrich Kittler. The announcement, written by Edward H. Johnson, a close friend of Edison's, describes many of the imagined possibilities the invention could bring. The opening passage reads:

> It has been said that Science is never sensational; that it is intellectual, not emotional; but certainly nothing that can be conceived would be more likely to create the profoundest of sensations, to arouse the liveliest of emotions, than once more to hear the familiar voices of the dead. Yet Science now announces that this is possible, and can be done. That the voices of those who departed before the invention of the wonderful apparatus described in the letter given below are forever still is too obvious a truth; but whoever has spoken into the mouthpiece of the phonograph, and whose words are recorded by it, has the assurance that his speech may be reproduced audibly in his own tones long after he himself has turned to dust. The possibility is simply startling. A strip of paper travels through a little machine, the sounds of the latter are magnified, and our grandchildren or posterity centuries hence hear us as plainly as if we were present. Speech has become, as it were, immortal.[376]

Johnson goes on to describe the many possibilities the invention would bring: from the indefinite repetition of speech, to the crystallisation of music, and the chance to listen again

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[374] "A Wonderful Invention. --Speech Capable of Indefinite Repetition from Automatic Records," Scientific American (website), accessed February 10, 2018, https://www.scientificamerican.com/article/a-wonderful-invention-speech-capa/.

[375] Friedrich A. Kittler, *Gramophone, Film, Typewriter,* trans. Geoffrey Winthrop-Young and Michael Wutz (California: Stanford University Press, 1999), 3.

[376] Walter Leslie Welch and Leah Brodbeck Stenzel Burt, *From Tinfoil to Stereo: The Acoustic Years of the Recording Industry, 1877-1929* (Florida: University Press of Florida, 1994), 9.

and again to ‘the orations of our modern Ciceros’[377] in the intimacy of one’s own home. If speech has become immortal, ‘the realm of the dead is as extensive as the storage and transmission capabilities of a given culture’.[378] A month after the announcement, on 6 December, Edison presented the phonograph prototype to the world. It comes as no surprise that in time his cylinder records bore the slogan “Echo all over the world”.


***Figure 7***. An example of a Thomas Edison cylinder record with the slogan ‘Echo all over the World’.

[377] Ibid., 10.

[378] Friedrich A. Kittler, *Gramophone, Film, Typewriter,* trans. Geoffrey Winthrop-Young and Michael Wutz (California: Stanford University Press, 1999), 13.

## *6.3. Frozen Echoes*

A Roman fable found in Plutarch's *Moralia* depicts echoes that have been frozen in time:

> Antiphanes said humorously that in a certain city, words congealed with the cold the moment they were spoken, and later, as they thawed out, people heard in the summer what they had said to one another in the winter; it was the same way, he asserted, with what was said by Plato to men still in their youth; not until long afterwards, if ever, did most of them come to perceive the meaning, when they had become old men.[379]

Historian and theorist Douglas Kahn summarises Plutarch's tale as one depicting 'enduring speech cloaked in a phase of inaudibility'.[380] This 'phase of inaudibility' acts as a long pause between the gathering of words and the thawing that leads to knowledge, alluding to Plutarch's essay in *Moralia* titled, "How a Man May Become Aware of His Progress in Virtue".[381] Revised in the novel *Gargantua and Pantagruel*, François Rabelais sets the scene of his version of the fable in a silent but deadly winter battle. The silence, in this case, refers to the idea that the sounds of war, once emitted, immediately froze in the cold before ever reaching the ears of the enemy. By spring, these long-inaudible sounds were released again as the freeze thawed out, but they echoed out of place and out of sequence. In Rabelais' story, the character Pantagruel, along with his shipmates, hears these sounds thawing while out at sea. Confused by the occurrence, Pantagruel makes a suggestion: 'But let's listen. I've read in Plutarch that a philosopher named Petron believed there were other worlds adjacent to ours, like an equilateral triangle, the bottom and centre of which, he said, was where Truth dwells, and where you'd find Words, Ideas, Forms and Structures, and images of all things, past and future'.[382] The mariners set foot on land to find handfuls of sounds still frozen, 'which might have been sugared almonds, like so many pearls of different colours', all scattered on the

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[379] Kahn, *Noise, Water, Meat: A History of Sound in the Arts*, 204.

[380] Ibid.

[381] Ibid.

[382] François Rabelais, *Gargantua and Pantagrue*l, trans. Burton Raffel (New York and London: W.W. Norton & Company, 1990), 495.

ground.[383] Kahn notes that in his playful descriptions, Rabelais forfeits the moral Platonic version of the fable in favour of the humorous and onomatopoeic, quoting the following passage: ‘when they had been all melted together, we heard a strange noise, hin, hin, hin, hin his, tick, tock, tasck, brededin, brededack, frr, frr, frr, bou, bou, bou, bou, bou, bou, track track, trr, trr, trr, trrr, trrrrrr; on, on, on, on, on, on, ououououon, gog, magog, and I do not know what other barbarous words; which, the pilot said, were the noise made by the charging squadrons, the shock and neighing horses.[384]

Since antiquity, as Kahn describes, ‘one of the favoured means for elaborating a vibrational acoustics was through correlating the action of ripples on the surface of water with sound through air’.[385] John Hollander expands on this idea, explaining that in classical times, ‘echoing was understood as reflection’,[386] in keeping with this often drawn analogy of water. Thinkers such as Democritus and Lucretius, among others, ‘believed that sounds were transmitted as discrete entities imprinted on the air’,[387] travelling spherically from one source to another through the atmosphere. ‘Resonance, or the creation of large vibrations in a sounding body by smaller ones in phase with them, is a concept whose grasp depended upon sophisticated mathematical developments for the analysis of harmonic vibrations’.[388]

## *6.4. Échométrie*

While we have Sir Francis Bacon to credit for the term “acoustica" (first introduced in *The New Atlantis*), the man considered the father of acoustics is French music theorist Marin Mersenne, who introduced the idea of acoustics as a science. A seventeenth-century

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[383] Ibid., 496.

[384] Kahn, *Noise, Water, Meat: A History of Sound in the Arts,* 205.

[385] Ibid., 206.

[386] John Hollander, *The Figure of Echo: A Mode of Allusion in Milton and After* (Berkeley and Los Angeles: University of California Press, 1981), 2.

[387] Ibid., 2.

[388] Ibid., 2.

mathematician and musician, Mersenne's echo experiments were adopted as a means of calculating the speed of sound through air. He dedicated a large amount of his life's research to sound — in particular echoes. Mersenne coined the discipline of *échométrie*, the findings of which were included in a study published in his 1636 opus, *Harmonie universelle.* He collected and wrote of echoes in gardens and architecture, with intriguing results. These include: '(1) echoes that could respond up to twenty times, with the final repetition louder than the initial ones; (2) portable echo chambers, like portable mirrors; (3) echoes that would answer in Spanish what was cried out in French; (4) echoes that would respond to a tone at the octave or fifth; (5) echoes that would store the sound and reflect only at certain times day or night'.[389] In a detailed account of Mersenne's echo experiments, Joseph Connors writes:

> So serious was Mersenne in his attempt to found a science of echo that in 1625 he spent a month in the Marne valley conducting experiments in a great variety of resonant locales, clapping stones together to spare his voice and listening for an answer, as he says, in streams, isles, caves, churches, bell towers, streets, walls, wells, farm courtyards, privies, wine presses, canals, aqueducts, underground chambers, rooms with plaster vaults, hovels, public squares, ports, arcades of bridges, portals, and the rocky terrain of hills and mountains. He went around "like a sailor looking for the New World with a shaky compass." But for all his measurements and geometric diagrams, he still found Echo as fleeting as she had appeared to the poets: "Fille de l'air, Nymphe fuyarde, farouche, vagabonde, moqeuse, deguisant la voix, desdaigneuse à repondre quand on l'interroage, plaintive et dolente" His experiments in the countryside of the Marne and the analysis of sound refracted off curves determined by conic sections, though carried out with the utmost rigour, led only to inconclusive results.[390]

The ever elusive Echo slips past Mersenne, leaving him 'holding only her cloak. So he leaves the science of echo to another ("a new Pan") with more time and patience than he'.[391]

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[389] Ibid., 3.

[390] Joseph Connors, "Holy Redundancy and Echo in the Lateran Basilica in Rome," in *Dialogues in Art History, From Mesopotamian to Modern: Readings for a New Century*, ed. Elizabeth Cropper (New Haven: Yale University Press, 2009), 230.

[391] Ibid., 231.

## *6.5. Echeia*

Mersenne had built his initial ideas on accounts of echo experiments that go back to the 1st Century BC with the Roman architect Marcus Vitruvius Pollio. Commonly referred to as Vitruvius, he wrote the groundbreaking tome *De Architectura* — a volume of ten books on architecture. Leonardo da Vinci, the prolific inventor and draughtsman, may have immortalised the Vitruvian Man in pen and ink on paper, but less is commonly known of Vitruvian echo-vases [*echeia*], also referred to as echo chambers. Metaphorically synonymous with the ever ringing, social media perpetuated echo chamber effect, echo-vases were bronze resonating vessels said to amplify an actor's voice. Book V of *De Architectura* examines theatre acoustics, demonstrating Vitruvius' familiarity with sound and architecture. Wallace Clement Sabine, the founder of the field of architectural acoustics, has written extensively on Vitruvius in his *Collected Papers on Acoustics* (1922).[392] When describing echo-vases, Sabine quotes the following passage from *De Architectura*:

> Accordingly bronze vessels should be made, proportional in size to the size of the theatre, and so fashioned that when sounded they produce with one another the notes of the fourth, the fifth, and so on to the double octave. These vessels should be placed in accordance with musical laws in niches between the seats of the theatre in such a position that they nowhere touch the wall, but have a clear space on all sides and above them. They should be set upside down and supported on the side facing the stage by wedges not less than half a foot high. […] With this arrangement, the voice, spreading from the stage as a centre, and striking against the cavities of the different vessels, will be increased in volume and will wake a harmonious note in unison with itself.[393]

In theory, echo-vases reinforced the voice of an actor so that they could be heard by audience members more clearly. They were designed to strengthen and support the voice by boosting formant frequencies, resulting in more intensity. Whether or not the echo-vases were successful in achieving this is still under debate among academics, but their existence

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[392] Wallace Clement Sabine, *Collected Papers on Acoustics, 1868-1919* (Cambridge: Harvard University Press, 1922), https://archive.org/details/collectedpaperso00sabi.

[393] Ibid.192.

highlights the ambitions Vitruvius had in addressing problems that performers and audiences faced in Roman amphitheatres. Their implementation wasn't a sign of acoustic failure — as Greek and Roman amphitheatres were exceptional in their acoustic design — rather, they demonstrate that Vitruvius knew how to work *with* the space he designed, rather than against it.

While to this day echo-vases remain an enigma, a similar vessel devised by the 19th Century Physicist Hermann Helmholtz sheds light on the possibilities of resonating vases. A Helmholtz resonator is a hollow vessel, 'so constructed that it will vibrate only at a particular frequency', akin to the effect of holding a conch shell to your ear and listening.[394] The sound we hear — what we have come to associate as being the sound of the ocean — is what Blesser and Salter describe as a passive aural embellishment (defined as 'an acoustical object or geometry, whether local or global, that produces aesthetically recognisable acoustic attributes, adding aural richness and texture to the space').[395] They explain that due to the shell's 'complex inner hollows and passageways, its interior creates resonances that filter background noise, to produce a sound that resembles that of the ocean'.[396] The region of space near the opening of the shell creates 'an acoustic anomaly', which is a spatial filter that changes the spectrum of the background sound. 'The conch is a miniaturised version of a cave or alcove, which is also a hollow that can be experienced at its opening'.[397]

Composer R. Murray Schafer has written in great detail about Helmholz resonators. In his book *The Tuning of the World* he compares a neolithic cave to a Helmholtz resonator, demonstrating the effect on the voice in the process:

> In the neolithic cave of Hypogeum on Malta (c. 2400 B.C.), a room resembling a shrine or oracle chamber possesses remarkable acoustic properties. In one wall

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[394] R. Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World* (Rochester: Destiny Books,1994), 217.

[395] Barry Blesser and Linda Ruth Salter, *Spaces Speak, Are You Listening?: Experiencing Aural Architecture* (Cambridge and London: The MIT Press, 2007), 52.

[396] Ibid., 58.

[397] Ibid.

> there is a largish cavity at eye level, shaped like a big Helmholtz resonator*, with a resonance frequency of about 90 hertz. If a man speaks there slowly in a deep voice, the low-frequency components of his speech will be considerably amplified and a deep, ringing sound will fill not only the oracle chamber itself, but also the circumjacent rooms with an awe-inspiring sound. (A child or woman will not be able to produce this effect, the fundamental pitch of their voices being too high to activate the resonator.)[398]

The structure of the Hypogeum, an underground temple that mimics its surrounding caves, allows for sounds to travel across multiple levels. This reminds us that echoes and caves go hand-in-hand — they are as ancient as the geological world around us. Schafer elaborates further on man-made architectural locations of echoes:

> Early sound engineers sought to carry over special acoustic properties like these into the ziggurats of Babylon and the cathedrals and crypts of Christendom. Echo and reverberation accordingly carry a strong religious symbolism. But echo and reverberation do not imply the same type of enclosure, for while reverberation implies an enormous single room, echo (in which reflection is distinguishable as a repetition or partial repetition of the original sound) suggests the bouncing of sound off innumerable distant surfaces. It is thus the condition of the many-chambered palace and of the labyrinth.[399]

The complex passageways of a conch shell, and the labyrinthian structures of caves are the enclosed spaces that cater to echoes — their manifold surfaces dispersing one voice into many. We have already seen how echoes gave the illusion of permanence through Plutarch and Rabelais, and here, Schafer highlights the impression of authority that echoes also deliver. This symbiosis of echoes, architecture, and the authoritative voice, are further detailed by Schafer in the following passage:

> The most beautiful building I have ever experienced is the Shah Abbas Mosque in Isfahan (completed A.D. 1640), sumptuously elegant in gold and azure tile, with its famous sevenfold echo under the main cupola. One hears this echo seven times perfectly when standing directly under the apex of the cupola; standing a foot to either side one hears nothing. Experiencing this remarkable event one

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[398] Schafer, *The Soundscape,* 217-218.

[399] Ibid., 218.

> cannot help thinking that the echo was no mere byproduct of visual symmetry but was intentionally engineered by designers who knew perfectly well what they were doing and perhaps even used the echo principle in determining the parabolic features of their cupolas.[400]

Parabolas, cupolas and niches are all architectural as well as aural embellishments. They naturally amplify the voice of the orator and musician, drawing people in to explore the sonic possibilities afforded by echo. As Schafer explains:

> Old buildings were thus acoustic as well as visual spectacles. Into the handsome spaces of the well-designed building, orators and musicians were attracted to create their strongest works; there they gained a reinforcement denied them in most natural settings. But when such buildings ceased to be the acoustic epicentres of the community and became merely functional spaces for silent labor, architecture ceased to be the art of positive acoustic design.[401]

Walk into any modern theatre or music venue, and you will find dampeners, baffles, and panels, for echo suppression and cancellation — anechoic processes. One example of a modern building that embraces echoes and retains a positive acoustic design, is a mausoleum. Two spaces of note are the Hamilton Mausoleum in South Lanarkshire, Scotland, which until recently held the record for longest echo, while the windowless Emmanuel Vigeland Mausoleum in Oslo, Norway, with vaulted walls adorned in frescoes, is regularly used as a recording and performing space by musicians. These architectural spaces draw attention to the idea of echoes as ghosts. Often associated with the word "haunting", echoes in this scenario represent a disembodied voice of continued life after death.

In his writings on translation, Walter Benjamin refers to echo in relation to memory as, 'a figure of 'continued life' (living on, forth and away) after death, and as a return of the departed within (acoustic) reminiscence'.[402] As with Plutarch and Rabelais' story, echoes are persisting voices, at once in the present, past and future. While hearing one's own voice

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[400] Ibid., 220.

[401] Ibid., 222.

[402] Beatrice Hanssen and Andrew Benjamin, *Walter Benjamin and Romanticism* (London and New York: Continuum, 2002), 94.

returned can be a lure for some, it is also a deterrent for others, causing feelings of disorientation and an instant self-awareness; an experience of being outside the self. It is a voice, separated from its source, a split voice, or dissociated voice, often proposed alongside the term 'schizophrenia' — a concept explored by Connor, who has written extensively on dissociated voices, particularly through the lens of ventriloquism.[403]

## *6.6. Echo*

Hillel Schwartz has noted that Aristotle believed 'all sound was accompanied by echoes, just as all light was accompanied by reflection. […] The visual analogy was driven by the ghost of Narcissus: sound is a disturbance moving in widening gyres, like the ripples formed by a pebble tossed in a pond, each surrounding circle larger and fainter than the one before. The tactile analogy was pandemoniac: sound is concussive, particle colliding with particle until fatigued and inaudible'.[404] This dichotomy leads us to another aspect of echo. We have spent considerable time exploring the fragmented repetition of echo the acoustical phenomenon, but there is also Echo to consider. Mythology is replete with tales of female vocal creatures — Sirens, Banshees and of course Echo. Countless versions of the myth of Echo exist, all dealing with various aspects of the acoustic phenomenon. The Ovidian story is perhaps the most well-known. Ovid, a Roman poet, wrote the fifteen books that make up his magnum opus *Metamorphoses*. Comprising of hundreds of myths, it is where the story of Echo as a tale of unrequited love first appears. Ovid contrasts Echo and her acoustic reflection (an acoustic mirror) against Narcissus and his mirrored reflection. Narcissus is capable of loving only himself. The two are the voice and the eye, the visual and the sonic, the absorption and reflection, that never reconcile. The Ovidian myth is rich in symbolic references.

In other Greek versions, Echo is depicted alongside Pan, a companion of nymphs who is associated with wilderness; the mountains, music and shepherds. We caught a glimpse of Pan

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[403] Steven, Connor, *Dumbstruck: A Cultural History of Ventriloquism,* New York: Oxford University Press, 2000.

[404] Hillel Schwartz, *Making Noise: From Babel to the Big Bang* (New York: Zone Books, 2011), 55-56.

through the writings of Mersenne, who acknowledged their relationship in his mathematical treatise, but less is known of this pairing compared to the story of Echo and Narcissus. John Hollander references another version of Echo as the voice of truth. Quoting Sir Francis Bacon, Hollander highlights Echo's position as a truth-giver, a poet, and an orator:

> For the world enjoys itself, and in itself all things that are. […] The world itself can have no loves or any want (being content with itself) unless it be of *discourse*. Such is the nymph Echo, a thing not substantial but only a voice; or if it be more of the exact and delicate kind, *Syringa*,— when the words and voices are regulated and modulated by numbers, whether poetical or oratorical. But it is well advised that of all words and voices Echo alone should be chosen for the world's wife, for that is the true philosophy which echoes most faithfully the voices of the world itself, and is written as it were at the world's own dictation, being nothing else than the image and reflection thereof, to which it adds nothing of its own, but only iterates and gives back.[405]

Along similar lines, the English poet George Sandys paints Echo as the daughter of air and language in his seventeenth-century translation of an epigram by *Ausonius*:

> Fond Painter, why woudst thou my picture draw?
> An unknowne Goddesse, whom none ever saw.
> Daughter of aire and tongue: of judgement blind
> The mother I; a voice without a mind.
> I only with anothers language sport:
> And but the last of dying speech retort.
> Lowed Ecchos mansion in the eare is found:
> If therefore thou wilt paint me, paint a sound.[406]

In Ovid's version, Echo's tale is full of word play and satire, depicted as a talkative nymph, prone to distracting others with her command of language. While distracting the Roman Goddess Juno, wife and sister of Jupiter, with her chatter, the other nymphs seduce him. Upon realising that she has been tricked by Echo, Juno takes her revenge, placing a curse on Echo.

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[405] John Hollander, *The Figure of Echo: A Mode of Allusion in Milton and After* (Berkeley and Los Angeles: University of California Press, 1981), 10.

[406] Ibid., 9.

She renders Echo incapable of speaking first, as well as incapable of remaining silent. Therefore she can only repeat the words of others, though not in full. The allusion is one of call and response, and leads to a confusing encounter with Narcissus. He encounters Echo's voice in the woods, believing it to be the voice of a woman too shy to make herself known. Philosopher Adriana Cavarero describes a scene where Echo and Narcissus' word-play takes action: '"Come here and let us meet," he says. And the voice of the nymph repeats "Let us meet." Her response is naughty. For without the *huc, coemus* alludes to coitus'.[407] Echo finally reveals herself, having fallen for Narissus' beauty, only to be rejected by him. She runs away from the woods and hides in a cave, where she soon withers away, embarrassed by the rejection. 'As if by a progressive dissolution, her body vanishes until "only her voice and bones remain." Soon after, her bones become stone'.[408] Disembodied, Echo finally becomes echo — the sound that the mountains send bouncing back, a pure voice of resonance without a body. 'Without a mouth, or throat, or saliva, without any human semblance or visible figure, the beautiful nymph is sublimated into a mineralization of the voice'.[409] In light of Ovid's version, the prevailing story of Echo is a negative one, where Echo is a punished woman, unable to initiate discussion, her responses passive. Echo becomes a voice and nothing more, incapable of engaging on a semantic level. That there exists an alternate version of the myth of Echo, where she is a truth-teller and an orator, has resounding political significance.

## *6.7. Anechoic*

To suppress Echo is to render her surroundings anechoic. Anechoic chambers, as the name suggests, are rooms void of echoes, where the absorption of sound waves is maximised to the point that no sound reflections can occur. This is known as an acoustic free field. The composer John Cage has written of his experience in an anechoic chamber in what has

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[407] Adriana Cavarero, *Toward a Philosophy of Vocal Expression*, trans. Paul A. Kottman (California: Stanford University Press, 2005), 166.

[408] Ibid.

[409] Ibid.

become a modern day fable. His visit to an anechoic chamber in Harvard University — a site developed for testing microphones, amplifiers and other machines — led to his explorations of silence as not just an acoustic concern but a philosophical one. The following story is an excerpt from a lecture titled "Indeterminacy: New Aspect of Form in Instrumental and Electronic Music", given at the 1958 Brussels Fair, where Cage describes his experience:

> It was after I got to Boston that I went into the anechoic chamber at Harvard University. Anybody who knows me knows this story. I am constantly telling it. Anyway, in that silent room, I heard two sounds, one high and one low. Afterward I asked the engineer in charge why, if the room was so silent, I had heard two sounds. He said, "Describe them." I did. He said, "The high one was your nervous system in operation. The low one was your blood in circulation.[410]

For Cage, the continuous hum of his body established that sound is everywhere, even in silence; forming the basis of his ideas towards the infamous *4'33"* (1952). Often referred to as Cage's "silent piece", *4'33"* (four minutes, thirty-three seconds) frames silence as an autonomous musical phenomenon. Consisting of three movements, the composition has no intentional sounds. Instead, it involves active listening to the non-intentional ambient sounds that occur during a given performance. The open-ended score outlines musical silence over the duration of four minutes and thirty-three seconds, self-consciously drawing a listener's attention to both the performance environment — often a concert hall setting — and the listening experience. Listening, therefore, becomes musical material in a contextually aware work, where sound is alluded to precisely by its withholding. In her book *Listening to Noise and Silence*, Salomé Voeglin writes: 'Silence is not the absence of sound but the beginning of listening'.[411] *4'33"* draws attention to the acoustic properties and conceptual implications of the sounds of silence through a philosophy of listening, demarcating a site-specific practice where context is brought into focus. In this regard, Cagean silence promotes listening as collective exchange.

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[410] John Cage, *A Year from Monday: New Lectures and Writings* (Connecticut: Wesleyan University Press, 2010), 134.

[411] Salomé Voegelin, *Listening to Noise and Silence: Towards a Philosophy of Sound Art* (New York and London: Continuum, 2010), 83.

# *7. Vocal Artefacts Part II: Fearless Speech*

‘PARRHESIA:

“We exercise the force of language even as we seek to counter its force.”

COMPUTER:

Clear oesophageal cavity.

SOUND: PARRHESIA COUGHS AND CLEARS THROAT.

PARRHESIA:

“We exercise the force of language even as we seek to counter its force.”

COMPUTER:

Reduce speed of articulation.

PARRHESIA:
“We exercise the force of language even as we seek to counter its force.”’[412]

*– Angel Nevarez and Valerie Tevere, What We Might Have Heard in the Future*

[412] “What We Might Have Heard in the Future,” Angel Nevarez and Valerie Tevere (website), accessed November 20, 2016, http://www.nevareztevere.info/projects/future.html.

## *7.1. Technologies of Voice*

Who gets to speak? If we consider the term “loudness" in acoustics, it denotes a completely subjective, unmeasurable reading: ‘Loudness is the subjective measure of the ‘strength’ of a sound’.[413] It is an internal experience of an external source. Sound intensity, on the other-hand, is measurable. Loudness suggests the perception of a sound in abundance. With this in mind, when we think about amplification and delivery (reach), an understanding of the technological system that can reinforce sound, grants a person power. The body itself is an amplifier, and can be mastered or understood in order for it to be effective at amplification — much the same way classical singers are trained to boost specific frequencies (formants) of their voice in order to be heard over an orchestra. In an essay by Michał Libera, he recalls a story told by Plutarch, of the Athenian orator Demosthenes who overcomes his lisp by running with pebbles in his mouth while reciting his speeches. It is depicted as an act of mastering his body, lungs, voice, in order to turn it into a more effective tool for an orator. Demosthenes’ activity demonstrates a technology that allows for him to change conditions in nature. The body as amplifier begins where nature ends. Libera writes: ‘His speech organs became something more than just a natural apparatus — they were crafted and raised beyond nature, they became a machine, which in this case is nothing but the system centred around *plica vocalis* going beyond its natural status and becoming an amplification tool’.[414] Libera’s account is reminiscent of Alvin Lucier’s most well-known work — the 1970 composition *I Am Sitting in a Room* — where he incorporates an external technological system in order to explore ‘the natural resonant frequencies of the room articulated by speech’.[415] The text he reads into a microphone describes the process as it happens:

> I am sitting in a room different from the one you are in now. I am recording the sound of my speaking voice and I am going to play it back into the room again and again until the resonant frequencies of the room reinforce themselves so that any semblance of my speech, with perhaps the exception of rhythm, is destroyed.

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[413] Uno Ingard, *Notes on Acoustics* (Massachusetts: Infinity Science Press, 2006), 79.

[414] Libera, “Amplifying the Sound: Technology of Delivery - Amplifiers, Mutes and Politics of Volume”, 11.

[415]Alvin Lucier, *Reflections: Interviews, Scores, Writings 1965-1994* (Cologne: MusikTexte, 2005), 312.

> What you will hear, then, are the natural resonant frequencies of the room articulated by speech. I regard this activity not so much as a demonstration of a physical fact, but more as way to smooth out any irregularities my speech might have.[416]

Unlike Demosthenes, Lucier, who has a speech impediment, decides to highlight the natural rhythms of his stutter. His approach is one of positive acoustic design. Not only does he work with the natural rhythm of his stutter, he also works with the resonant frequencies of the architecture where the work unravels. What we are left with are the sounds shared by his voice and the room, which are the resonances of his monologue in the space.

It is interesting to note that the emphasis in Plutarch's description of Demosthesnes' training, is on the abilities and sensibilities of the orator — their delivery — rather than a lesson on volume and loudness. Libera writes that, when Demosthenes was asked what the three most important aspects of oratory were, 'he was supposed to have said: "Delivery, Delivery, Delivery!" To deliver comes from "de" (away) and "liberate" (set free). To bring and hand over — the dictionary tells us. This etymological definition of the term "delivery" shows how we could understand the idea of broadening the reach'.[417] Delivery is what distinguishes orators and lets them be heard. Echoes and architecture combined create a symbiosis towards an authoritative voice, and here, a voice that can deliver, is a voice of authority. Spoken *a voce piena*, or even *sotto voce*, the delivery and reach is how a voice is amplified and ultimately heard.

## *7.2. Spatial Reach*

There were of course voices that acted as mere amplifiers, who didn't speak from a position of power but rather *for* a person with power. Town criers, who set language in motion, delivering the news to a town one section at a time, are one example. 'A call to manual labor,

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[416] Ibid.

[417] Libera, "Amplifying the Sound: Technology of Delivery - Amplifiers, Mutes and Politics of Volume", 11.

the onset of war, the announcement of a death, the setting up of a law or prohibition, or the invitation to a meeting: these are the sorts of things that a town crier announces'.[418] The town crier takes the message of an authoritative voice and amplifies that message for them. 'Town criers are the travelling electrons of the cables which reinforce a signal'.[419] They fill a space with sound, delivering a message from one body to another, and are the very *technē* (know-how) that allows for the message to be heard.[420] The human microphone can be understood as the *technē* of the Occupy Movement. As a technology it has both the authoritative voice, the town crier, and the persistent echoes, which can be seen to be both the cause and effect of the authoritative voice.

The 19th Century physicist John Tyndall used metaphors to describe sound propagation. One in particular, an illustration of five assistants, depicts them standing in a row. One in front of the other, they each place their hands on the shoulders of the person in front. Labelled A, B, C, D, and E, the latter is the person at the front, and assistant A is the person at the back of the row. In his book *The Science of Sound,* Tyndall explains:

> I suddenly push A; A pushes B, and regains his upright position; B pushes C; C pushes D; D pushes E;…E, having nobody in front is thrown forward. Had he been standing on the edge of a precipice, he would have fallen over; had he stood in contact with a window, he would have broken the glass; had he been close to a drum-head, he would have shaken the drum. We could thus transmit a push through a row of a hundred boys, each particular boy, however, only swaying to and fro. Thus, also, we send sound through the air, and shake the drum of a distant ear, while each particular particle of the air concerned in the transmission of the pulse makes only a small oscillation.[421]

This was Tyndall's way of demonstrating a sound wave, but it also works as an illustration of delivery and reach, as it is after all, sound resonating outwards, set free, moving from one person to another until it reaches distant eardrums. Tyndall's definition draws on Aristotle's

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[418] Kofi Agawu, *African Rhythm: A northern Ewe Experience* (New York: Cambridge University Press, 1995), 46.

[419] Libera, "Amplifying the Sound: Technology of Delivery - Amplifiers, Mutes and Politics of Volume", 12.

[420] Here I refer to Julian Henriques understanding of techne as know-how, mentioned above.

[421] John Tyndall, *The Science of Sound* (New York: Philosophical Library, 1964), 5, https://archive.org/details/sound03tyndgoog.

4th Century BC description of sound, bodies, and the air between them. In *On the Soul*, he writes:

> Actual sound requires for its occurrence (i, ii) two such bodies and (iii) a space between them; for it is generated by an impact. Hence it is impossible for one body only to generate a sound — there must be a body impinging and a body impinged upon; what sounds does so by striking against something else, and this is impossible without a movement from place to place.[422]

Air is always implicated when we think of something that is sounded out. Of course, there are other mediums that allow for the propagation of sound. Tyndall was fascinated by the lack of sound in a vacuum, and also went on to do research on sound through water. But sound in air is the environment that caters to speech and action — to speech acts and public speech.

Walk through Hyde Park in London on a Sunday morning and you will encounter the Speakers' Corner in full effect. Numerous speakers on boxes as platforms addressing the gathering crowd whether large or small. They speak publicly about any topic, from politics to religion to human rights, and receive applause or heckles from the crowd depending on the argument or delivery. The Speakers' Corner is a dedicated platform for free speech. Anyone can turn up and speak on any subject, within reason. Officiated by Parliament in 1872, Speakers' Corner references the tens of thousands who had been executed in the area when it was the Tyburn Gallows. It is a nod to the last speech that the condemned could make just before their execution in front of the large crowd in attendance. From the last words of the voices that came before to a dedicated arena for free speech, Speakers' Corner is a space to be heard, a space for vocal participation. In his book *Lexicon of the Mouth*, author Brandon LaBelle provides a description of public speech as a form of delivery that brings an individual towards a community:

> The public speech is an appeal to public life, to the social and collective body, and we might say, to the legacies of public institutions. From sermons to testimonies, anthems to oaths, soapbox rants to demonstrations, public speech

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422 "On the Soul by Aristotle", *The Internet Classics Archive*, accessed November 20, 2016. http://classics.mit.edu/Aristotle/soul.2.ii.html.

> finds its resonating energy by occupying given modalities of voicing, and their traditions, turning private individual toward the greater sphere of civic culture and empowerment, while testing the limits of what a certain body can say.[423]

A large component of LaBelle's *Lexicon of the Mouth* concerns the politics of the voice. In a chapter titled "Recite, Repeat, Vow", he breaks down the elements that form expressions of public life, and the socialising of language, stating: 'finding one's voice is equally finding one's place'.[424] He refers to philosopher Judith Butler's notion of reciting — with regards to performativity — in order to encompass the gestures and behaviours of what he calls 'figuring of the body' that go hand in hand with vocalisation towards a presentation of self.[425] In other words, the ways 'to appear as a subject, an "I" within the sphere of social life'[426] by inhabiting, reciting, and gesturing language. Taking an oath or praying are forms of reciting and performing public speech. LaBelle's summary is: '"reciting" is literally to perform a certain script, to play out an existing text, sounding out its monologues and dialogues, reverberating it against the acoustics of a certain place. In doing so, the script or text is given new life — it speaks through us, to occupy the body, and to find place within the present. This scene of recital may also give way to buried histories, repressed languages, or disappeared bodies'.[427] Interestingly, it is through reciting that LaBelle begins to question 'the original'. He does so by evoking echoes:

> Fundamentally, the echo provides a means for orientation: the auditory reflections that surround us at all times capture a given sound, to return it, bringing it back into our environment. In this regard, it teaches us the dimensions of our surroundings — we gauge the material envelope of place through these reflections of sound. Echo thus locates us precisely through a reverberation, a type of repetition that we might also hear as a recital. Is not the echo a "citation" of a given sound, refigured, or restaged? In this way, we come to orient ourselves explicitly by way of *reflection.* […] The echo may provide us

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[423] Brandon LaBelle, *Lexicon of the Mouth: Poetics and Politics of Voice and the Oral Imaginary* (New York and London: Bloomsbury, 2014), 169.

[424] Ibid.,164.

[425] Ibid., 159.

[426] Ibid., 160.

[427] Ibid., 164.

> with a vocabulary for exposing, and also performing, the inherent supplementality found within the citational chain.[428]

However, this orientation can always lead to disorientation, and 'where singularity may give way to multiplicity'.[429] LaBelle adds, 'the echo widens that space — between a source and its meaning — to support forms of expressivity that inherently confuse the structures that hold us in place, under a certain name'.[430] The space that the echo opens up is where identity lies. Echoes help individuals find their voice, and find their place.

## *7.3. Lungs of the City*

The relationship between public parks and public speech has a history worth noting, since parks were once considered 'the lungs of a city'.[431] At the tail end of the industrial revolution, Manhattan was growing rapidly as a city and a campaign was launched by the poet and editor William Cullen Bryant to convince New Yorkers that a public park was necessary. In 1844 he wrote an editorial in his paper, the *New York Evening Post,* describing his appreciation of the public parks of Britain. He found them to have great health benefits, noting that they acted as 'the lungs of London'.[432] It would be another seven years before planning permission would be granted to build New York's Central Park. Hillel Schwartz sets the scene, describing the multiple uses of Central Park in 1886 after the Mayday Strikes across America and Europe led to better working hours and leisure time for the working class:

> Once workdays were shortened and Saturday hours cut in half, wage-earners and artisans had more daylight in which to take deep breaths among these re-visions of royal walks and pleasure gardens. Advocates for city parks, free and open to all, saw them as "public pulmonary organs," then as spas that would draw men

[428] Ibid., 169.

[429] Ibid., 170.

[430] Ibid., 170.

[431] Louise Chipley Slavicek, *New York City's Central Park* (New York: Chelsea House, 2009), 15.

[432] Ibid.

> and women away from saloons and sordid amusement. Parks would bring parents and children together as families, and families together in one community, the struggling poor, the middling, and high society mingling so harmoniously that class antagonisms would wilt and civility return to public life. The wealthy approached city parks as preserves of fresh air and natural beauty, inherently valuable places meant to be as restorative as the well-aired sick rooms of a Rest Cure' […] The working class approached parks differently, as neutral spaces open to possibility, free from traffic, from garbage, from industrial cinders, and from railroad tracks that slashed through their neighbourhoods from every angle. Clean, open, and safe, parks were expanses where they could flex their muscles and clear their throats, rollick and frolic…[433]

Further in the chapter, Schwartz describes the various vocal roles that took place. He captures a busy aural soundscape of leisure in 19th Century New York:

> There they had space to play, time to think and read and snooze, and the space-time in which to listen — to small talk or love talk, to preachers, poets, or political philosophers. Listening to (and baiting or debating) open-air orators was as much a pastime as attending open-air concerts, football matches, or baseball games. Those who had been to school had themselves been trained in elocution, with Demonsthenes as their ancient model, he who had gone to the roaring shore and spoken "his oration there was a loud voice, to accustom himself to overcome the noise of a great assemblage of people". […]Schooled or unschooled, people were veteran auditors of hours-long sermons, stump speeches, wedding toasts, union exhortations, lyceum lectures, revival harangues. Connoisseurs of such holdings forth, they appreciated delivery and style and listened for sound as well as soundness of argument.[434]

Women also began to master the art of delivery and reach, in a time when their voices didn't count to vote. 'Women, who had (been educated into) softer, calmer voices, learned to project their words once they entered the public forum to speak on abolition, temperance, dress reform, or a woman's right to a voice and a vote. Like Amelia Jenks Bloomer, they resorted to passages in song that would carry to the back of a crowd and, like male orators, they chose plain syntax and soundbites that would not drift out of reach'[435] — a means of delivery that

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[433] Hillel Schwartz, *Making Noise: From Babel to the Big Bang* (New York: Zone Books, 2011), 285.

[434] Ibid., 287.

[435] Ibid., 288.

carried over into the human microphone at Zuccotti Park. One of the key locations for Suffragettes to sound out their arguments was in parks; such as Hyde Park in London and Central Park in New York, where one voice would eventually disperse into many. Judith Butler writes of the ways speech acts, forms of writing, and modes of public expression, all become of great importance to revolutionary action and to understanding and instigating social change: 'It wasn't just that women took up a position in public space, but that public space also became configured in such a way that women could find themselves speaking; and it wasn't just that women found sites from which to speak, but that women, as a category, became established as a site of enunciation. As a result there is no agency in the subject, but we might find the potential for historical change in the sometimes convergent and sometimes divergent sites of enunciation that shifting historical forces make possible'.[436]

## *7.4. Acoustic Communities*

The term 'acoustic community' was originally coined by R.Murray Schafer, who describes it as 'a political, geographical, religious or social entity' in his book *The Soundscape: Our Sonic environment and the Tuning of the World*.[437] He also proposed that the 'ideal community may also be defined advantageously along acoustic lines'.[438] The community of the park is very much an acoustic community, in both its existence as a space to get away from the din of the city — a type of soundproofing from the rest of the industrialised city — and the activities of the people that use it. An acoustic community can be defined in many ways, but the idea of community alone is bound up in acoustics. In his model Republic, Plato is said to have identified the ideal size of a community to be 5,040 people, 'the number that can be conveniently addressed by a single orator'.[439] The town criers were once the core of an

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[436] Judith Butler and Elizabeth Weed, *The Question of Gender* (Bloomington: Indiana University Press, 2011) 24.

[437] R. Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World* (Rochester: Destiny Books,1994), 215.

[438] Ibid.

[439] Ibid. 215.

acoustic community, and church bells and calls to prayer still denote a religious one. A wall of sound made up of radios, television sets, kitchen appliances, and other day-today humming — from voice to electrical goods — mark the territory of a household, just as a bird marks its territory with birdsong.

In *The Auditory Culture Reader,* Alain Corbin has written of bells as the auditory markers of nineteenth century French villages; the limits of which were marked by imperceptibility. That is, when an individual could no longer hear the bells ringing. He explains, in his essay, of the emotional impact of the sound of a bell, and how it helped create an acoustic territorial identity for anyone living within range of its sound. Upon hearing it ringing, 'villagers, townsfolk, and those 'in the trades' in the centres of ancient towns experienced a sense of being rooted in space that the nascent urban proletariat lacked. Bell ringing was one of a range of markers obviating the quest for an identity of the sort that defined the very being of the proletarian who, as a migrant, was isolated in a condition that all too often resembled exile'.[440]

The range of a bell defines both a geographical territory and a territory of mutual alliances in a society. Along with the industrial revolution — in search of a similar, territorial identity — loudness started to seep into the public realm as well as the realm of the voice. As previously explored in the search for an echo that could return the most syllables, the quest for the loudest loudspeaker seemed to take hold in the early 1900's. One example is an account of Christmas carols 'broadcast for ten hours by loudspeakers mounted outside the eighty-first floor of the Empire State building in 1930', which could be heard 'across nine square miles of the city'.[441] Still, it 'paled in comparison to another "world's largest" speaker, shown at the National Radio Exhibition in London in 1929 and capable, it was said, of carrying a voice thirty miles in the open air'.[442] These new loudspeaker systems could deliver a message to hundreds of thousands of people.

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[440] Alain Corbin, "The Auditory Markers of the Village," in *The Auditory Culture Reader*, eds. Michael Bull and Les Back (Oxford and New York: Berg, 2003), 117.

[441] Hillel Schwartz, *Making Noise: From Babel to the Big Bang* (New York: Zone Books, 2011), 629.

[442] Ibid.

From Plato's model Republic marked by the voice of an orator's reach, to the ability to cover vast distances via loudspeakers and radios, amplification began to take on a whole other level of power. One that reached its extremes with the Third Reich. Hitler's Nuremberg rallies demonstrated sophisticated use of amplified sound at a time when loudspeakers were a complete novelty and spectacle.

## *7.5. Parrhesia I*

Michel Foucault's approach to philosophy is philosophy-as-life: 'an exercise of oneself in the activity of thought'.[443] In a series of lectures titled "Discourse and Truth", delivered in 1983 at the University of California in Berkeley, Foucault discussed the notion of *parrhesia*. The lectures have been translated into a book by Joseph Pearson, entitled *Fearless Speech*. The material in *Fearless Speech* consists of transcriptions from recordings of Foucault's lectures. The first lecture, delivered on 10 October 1983 begins by explaining the meaning of the word *parrhesia.* He notes that *Parrhesia* first appears in Greek literature, appearing in Euripides, and again later in Plutarch. He begins by giving several examples of *parrhesia,* as described throughout ancient Greek texts. '*Parrhesia* is ordinarily translated into English by "free speech" […] and the *parrhesiastes* is the one who uses *parrhesia*, i.e., the one who speaks the truth'.[444] The speaker of truth is always frank and direct. *Parrhesia* refers to the speaker, what the speaker says, and how they say it. While rhetoric is the art of convincing others of their argument. 'In *parrhesia*, the *parrhesiastes* acts on other people's minds by showing them as directly as possible what he actually believes in'.[445] Foucault emphasises the activity of the *parrhesiastes* as a 'speech activity' rather than a 'speech act', explaining that the difference is the dynamic between the speaker and their audience. Status and risk are both factors that

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[443] Hermen Nilson, *Michel Foucault and the Games of Truth*, trans. Rachel Clark (London: Palgrave Macmillan, 1998), xiii.

[444] Michel Foucault, *Fearless Speech,* ed. Joseph Pearson (Los Angeles: Semiotext(e), 2001), 11.

[445] Ibid., 12.

attribute to a speech activity rather than a speech act.[446] With regards status, 'fearless speech' occurs when the *parrhesiastes* is challenging someone who holds more power. 'The *parrhesia* comes from "below," as it were, and is directed towards "above"'.[447] The risk, is that in speaking the truth, their life, or relationship with the interlocutor, is put in danger. *Parrhesia* 'is courage in the face of danger'.[448]

Foucault adds that *parrhesia* has another interpretation other than 'free speech'. The myth of Echo comes in handy in identifying the differences. There is a negative version of *parrhesia* that relates to 'chattering', 'which consists in saying any-or everything one has in mind without qualification'.[449] This is the Echo that Ovid described in his version of the myth. Foucault gives an example from Plato, who uses *parrhesia* to describe an instance of 'bad democratic constitution where everyone has the right to address his fellow citizens and to tell them anything — even the most stupid or dangerous things for the city'.[450] This resonates still to this day, as the phrase 'freedom of speech' gets thrown around at every level of discourse. However, aside from a few instances, *parrhesia* more often than not refers to 'fearless speech' and relates to the Echo of truth-telling. From Plato's example, we see that *parrhesia* can be just as dangerous for democracy, and as Foucault later points out, might not even be possible within a democracy.

*Parrhesia* is so rooted as a verbal activity that not everyone can use it. They must possess 'specific personal, moral, and social qualities which grant one the privilege to speak'.[451] This is described as courage: 'an exact confidence between belief and truth'.[452] Not only is *parrhesia* the courage to speak frankly and directly, but it is spoken from a point of privilege. This puts them further at risk in speaking the truth to someone who holds a more powerful

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[446] Ibid., 13.

[447] Ibid., 18.

[448] Ibid., 16.

[449] Ibid., 13.

[450] Ibid.

[451] Ibid., 18.

[452] Ibid., 14.

position. A person who is being forced to tell the truth through any means, such as torture, is not speaking with freedom. He summarises the early Greek interpretation of *parrhesia* as 'a verbal activity in which a speaker expresses his relationship to truth, and risks his life because he recognises truth-telling as a duty to improve or help other people (as well as himself)'.[453] In a later lecture, Foucault questions the privileged position of the *parrhesiastes* depicted in Greek literature. He says, 'There is a discrepancy between an egalitarian system which enables everyone to use *parrhesia*, and the necessity of choosing among the citizenry those who are able (because of their social or personal qualities) to use *parrhesia* in such a way that it truly benefits the city'.[454]

Later in the Greco-Roman period, and the beginnings of Christianity, the word *parrhesia* begins to be associated in different ways. Foucault discusses the evolution of the word through the framings of rhetoric, politics, and philosophy. *Parrhesia* is co-opted by rhetoricians, a position that goes against its earlier depiction of frankness. *Parrhesia* begins to be associated as a "figure" within the field of rhetoric, a technique that can be employed to intensify the emotions of an audience.[455] He references a definition in Quintillian's *Institutio Oratoria* who describes it as a 'kind of natural exclamation', which is not 'simulated or artfully designed'.[456] Here we see "free speech" being considered as a mechanism to win over an audience. A contradiction in terms.

A similar contradiction occurs in the political arena. In Athenian democracy, *parrhesia* 'was a requisite for public speech', taking place 'between citizens as individuals, and also between citizens construed as an assembly'.[457] The *agora* was the place that catered to *parrhesia,* a place where the *demos* would meet and engage in political discussion and debate. During the Hellenistic period and the rise of the monarchy, *parrhesia* exists as an aid for the king and by proxy, those under his rule. 'The places where *parrhesia* appears in the context of monarchic

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[453] Ibid., 19.

[454] Ibid., 72.

[455] Ibid., 21.

[456] Ibid.

[457] Ibid., 22.

rule is the king's court, and no longer the *agora'*.[458] The *parrhesiastes* still speak *parrhesia*, but it is spoken directly to the king, who acts on behalf of the people within his jurisdiction. The process is no longer one of public speech and civic duty, but occurs behind closed doors, in good faith. A private act.

Philosophy is the only area where *parrhesia* retains its original sentiment, but the focus is shifted towards the self first, and then the community. It becomes a '*techne* of spiritual guidance for the "education of the soul"'.[459] The question then becomes; what education leads to speaking truth? As a result, another issue arises in that once *parrhesia* is associated with education, it problematises speaking frankly and with courage. At the time, rhetoric was a part of education, and so the contradiction continues.

In all three framings of *parrhesia*, we see problems arising in the notion of speaking truth to power. Foucault explains, 'there is a new problematisation of the relations between verbal activity, education, freedom, power, and the existing political institutions which mark a crisis in the way freedom of speech is understood in Athens. And this problematisation demands a new way of taking care of and asking about these relations'.[460] He retells several references to parrhesia in Demosthenes, Plutarch, Plato and Diogenes, but the general consensus is that parrhesia isn't possible in a democracy:

> For Plato, the primary danger of parrhesia is not that it leads to bad decisions in government, or provides the means for some ignorant or corrupt leader to gain power, to become a tyrant. The primary danger of liberty and free speech in a democracy is what results when everyone has his own manner of life, his own style of life. […] For there can be no common logos, no possible unity, for the city.[461]

Foucault's lectures on the ancient technologies of *parrhesia* present the complexities of the concept of speaking truth to power. It describes a speech activity that can have a negative or a

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[458] Ibid., 23.

[459] Ibid., 24.

[460] Ibid., 74.

[461] Ibid., 84.

positive connotation — a chattering Echo and a truth-telling Echo. A *parrhesiastes,* in a positive incarnation, is selfless, has courage, and are at risk for speaking the truth. In the next section, we look at what happens when a person's voice, regardless of what is being said, becomes the very thing that endangers them.

## *7.6. A Politics of Listening*

'Sunk on your throne, you raise your hand to your ear, you shift the draperies of the baldaquin so that they will not muffle the slightest murmur, the faintest echo'.[462] Italo Calvino's short story, *A King Listens,* describes a king who is sworn to his throne. We never learn his name, but become intimate with his surroundings and the symbols of his reign — a sceptre, a crown, an ermine cloak. Positioned high above ground level, his throne adorned in velvet cushions, the king has access to anything he could need or desire at the lift of a finger. He never has to leave his position of power. His only job is to maintain a regal composure and reign. If he wishes to remain in power, he must never let his guard down. Calvino writes:

> once you have been crowned, is where you had best remain seated, without moving, day and night. All your previous life has been only a waiting to become king; now you are king; you have only to reign. And what is reigning if not this long wait? Waiting for the moment when you will be deposed, when you will have to take leave of the throne, the sceptre, the crown, and your head.[463]

Throughout the story, Calvino always uses the singular and ambiguous *you*. The writer Daniela Cascella, when explaining this unnerving *you* in her analysis of *A King Listens*, writes, 'one is never sure if it's the writer addressing the king who listens, the king's mind addressing the listening king, the writer addressing the reader-as-king as he or she listens, Calvino using his text as a mirror to reflect his words unto us, the readers'.[464] What we do

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[462] Italo Calvino, "A King Listens" in *Under the Jaguar Sun*, trans. William Weaver (London: Penguin, 2009), 35.

[463] Ibid., 34.

[464] Daniela, Cascella, *En Abîme:Listening, Reading, Writing: An Archival Fiction* (Winchester: Zero Books, 2012), 78.

know, is that listening is the only form of engagement the king has with his kingdom, and the only means of protection from potential threat — the threat of being attacked, of being dethroned, of an imposter claiming the seat of power in the king's absence. We later learn that this is how the present king got to his position, by seizing it at the head of an army of men. As soon as he walked through the palace corridors that day and took his seat, the palace walls became alien to him, a distant visual memory. In her book *Listening to Noise and Silence,* Salomé Voegelin contrasts visual memory with the simultaneity that sound produces, offering insight in to the dichotomy between knowing through vision, and knowing through sound: 'The visual object is the permanence of melancholia and history. Sound by contrast is the permanence of production that uses the permanence of the monument and discards it by gliding over its form to produce its own formless shape. […] Vision captures, orders and disciplines space but it does not see the simultaneity of its time. Visual history is the absence of what is not here anymore as it used to be, or the presence of something that was not here before. But at every moment this absence or presence is certitude, a visual condition, that is unambiguously present or absent'.[465] For the king, now the palace serves as a great ear, and he is 'crouched at the bottom, in the innermost zone of the palace ear; the palace is the ear of the king'.[466] From this position, the king listens in expectation to all the surrounding, impersonal sounds. Calvino writes, 'the palace is a construction of sounds that expands one moment and contracts the next, tightens like a tangle of chains. You can move through it, guided by the echoes, localising creaks, clangs, curses, pursuing breaths, rustles, grumbles, gurgles'.[467] These sounds of the palace became a comfort to him, regular and familiar. Anything out of place, and he would notice. In fact, it is silence that troubles him. As Voegelin notes, silence emphasises the 'fleeting simultaneity of listening'.[468]

Gradually, the strain of listening begins to take its toll. Doubt and paranoia creep in, and the king can no longer distinguish what surrounds him aurally. The voices of those around him —

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[465] Salomé Voegelin, *Listening to Noise and Silence: Towards a Philosophy of Sound Art* (New York and London: Continuum, 2010), 169.

[466] Calvino, "A King Listens", 36.

[467] Ibid., 40.

[468] Voegelin, *Listening to Noise and Silence,* 84.

servants, courtiers and spies — are so entwined with the sounds of the palace that they lose all semantic meaning. Cavarero writes, 'not only are the words of the courtiers false, but their voices are false as well; in fact, they are concordant with the threatening noises of the entire system. As with the sound of a closing door, in these voices there is a cold and artificial sound. There is no life'.[469] A warning from Calvino: 'Do not become obsessed with the noises of the palace, unless you wish to be snared in them as in a trap. Go out! Run away! Rove! Outside the palace spreads the city, the capital of the realm, your realm! You have become king not to possess this sad, dark palace, but the city, various and pied, clamorous, with its thousand voices'.[470] The king can longer distinguish between palace and city. Even listening to music becomes a task of trying to decipher its hidden meanings:

> Since you mounted the throne, it is not music you listen to, but only the confirmation of how music is used: in the rites of high society, or to entertain the populace, to safeguard traditions, culture, fashion. Now you ask yourself what listening used to mean to you, when you listened to music for the sole pleasure of penetrating the design of the notes.[471]

Eventually, a sound breaks through and strikes a chord in the king's imagination. It is a woman's singing voice, transported by the wind through an open window. It is a sound transported from outside the aural landscape of the palace. Her song doesn't carry the potential threat of a power takeover, nor is it a particularly striking song. The sound the king hears is the 'vibration of a throat of flesh',[472] the voice of a person, unique and alive. He tries to draw an image of the woman with the unique voice in his mind, but fails to do so as 'her image-voice will always be richer'.[473] He is enamoured, 'attracted by that voice as a voice, as it offers itself in song',[474] but also troubled, caught up in the tension of wanting to find this unique voice and respond in kind, to sing in a duet of unique voices, but also wanting to

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[469] Adriana Cavarero, *Toward a Philosophy of Vocal Expression*, trans. Paul A. Kottman (California: Stanford University Press, 2005), 3.

[470] Calvino, "A King Listens", 48.

[471] Ibid.

[472] Adriana Cavarero, *Toward a Philosophy of Vocal Expression,* 2.

[473] Calvino, "A King Listens", 52.

[474] Ibid., 51.

remain in place, in his palace, at the seat of power. The woman's voice represents 'the genuine truth of a vocal that forces the political to account for itself in ways that it had not foreseen'.[475]

Halfway through, the story takes a bewildering turn, a cacophony of sounds, illusions, doubling and doubt are described as the reader tries to keep up. The king's identity is more confused than ever. The singular *you* is now I, she, he. Scenes of inside and outside blur, and signs of a palace under siege implied. Sound, rather than silence, has become both personally and politically threatening for the king. The king finds himself trying to escape only to encounter the voice of the previous king, his own prisoner, in the cavernous tunnels below the palace grounds. Calvino's story begins to blur the lines between prisoner and king, palace and underground prison. Both sites that are full of echoes. A voice speaks, but is it that of the king's or the prisoner's? He writes: 'how can a dialogue be established between the two of you if each thinks he hears, not the words of the other, but his own words, repeated by the echo'?[476] Ultimately, the lonely king, the lonely prisoner, can do nothing else but continue to surveil, his voice remaining silent, behind the walls of the prison, or the walls of the palace.

*The King Listens* is a helpful parable to recall when examining the politics of listening. As an allegorical story that deals with knowing through listening, auditory forms of surveillance, and the uniqueness of the voice, it reveals the elaborate artifice produced by underlying or invisible governing structures of power. To quote the author Beno Weiss, 'Calvino's message in this Kafkaesque story is that power does not merely liberate, but that inevitably it also imprisons, isolates, and destroys us'.[477] These underlying structures of power prevent even the person who symbolically holds *all* power, from hearing past the very aural landscape of power. As the philosopher Judith Butler writes in her book *Excitable Speech: A Politics of the Performative*, 'the conditions of intelligibility are themselves formulated in and by power, and this normative exercise of power is rarely acknowledged as an operation of power at all. Indeed, we may classify it among the most implicit forms of power, one that works precisely

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[475] Ibid., 6.

[476] Calvino, "A King Listens", 60.

[477] Beno Weiss, *Understanding Italo Calvino* (South Carolina: University of South Carolina, 1993), 195.

through its illegibility: it escapes the terms of legibility that it occasions. That power continues to act in illegible ways is one source of its relative invulnerability'.[478] Calvino's story is an auditory landscape of multiple spaces and realities, temporalities and memories, that raises the difficult question of what is it that makes an individual voice unique, and how do we make sure it is heard?

## *7.7. Parrhesia II*

In *What we might have heard in the future* — a collaborative sound work by the New York based artists Angel Nevarez and Valerie Tevere — we hear a science-fiction based radio drama that directly addresses Foucault's notion of *parrhesia*, the politics of listening, the uniqueness of the voice, language and identification. Their multidisciplinary practice engages in the architectures of broadcast, exploring the electromagnetic spectrum as a public and discursive space. The accompanying description for the work states:

> *What we might have heard in the future,* investigates history in the future tense. The radio play speculates the implementation of voice recognition technologies and questions the use of physiological biometrics as authentication and validation of one's subjectivity. The drama's protagonist lives in a world where these voice recognition technologies determine access. Through constant reflection and inflection she uses her voice as a means to resist such structures.[479]

On 9 October 2010, a Spanish language version of the piece was performed live during Manifesta 8, and simultaneously broadcast live on Onda Regional de Murcia 105.3 FM, Murcia, Spain. The 8th edition of Manifesta — a roving European Biennial of Contemporary Art — was held in various venues across Murcia, Spain in 2010. Several years later, an English language version was broadcast on 92.2 FM and exhibited as part of the group show *HLYSNAN* as an installation at Casino — a contemporary art space in Luxembourg. Taking its

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[478] Judith Butler, *Excitable Speech: A Politics of the Performative* (New York: Routledge, 1997), 134.

[479] "What We Might Have Heard in the Future," Angel Nevarez and Valerie Tevere (website), accessed November 20, 2016, http://www.nevareztevere.info/projects/future.html.

name from the Old English word *hylsnan*, meaning “to listen”, the exhibition included works from other practitioners, all of whom engage in the notion of a politics of listening.

***Figure 8***. Angel Nevarez and Valerie Tevere, Installation view of *What we might have heard in the future* at Casino Luxembourg, 2014.

*What we might have heard in the future,* is a radio play in 5 acts lasting just over 13 minutes. It combines music, voice actors and sound-effects to depict a future dystopia where voice is the identity marker that grants a person access to the Citadel. We each have a very unique vocal signature that is more identifiable than a fingerprint or a retina scan. In Nevarez and Tevere’s piece, voice recognition software is used to decipher if a person is “legitimate”. The people in the interior of the Citadel have, what is described as, the “correct" voice, and guard their territory through this vocal distinction. The radio work opens with a narrator, reading the following:

> The future’s past has caught up with itself. In the citadel residents are equipped with special auditory mechanisms for acute hearing. Communication has been

> stripped down to its most basic level; the voice and its aural residuals. Here, voice recognition technology controls the flow of social exchange. The interlocutors of the Citadel control the social order as well as the very limited resources of life. The voice is the key to pass. The Interlocutors guard vocal codes with full authority. Those in the half-light exist on the periphery without access.[480]

The protagonist — a character by the name of Parrhesia — is a direct reference to the work of Foucault and his concept of fearless speech. Parrhesia lives on the peripheries of the Citadel, in the space described as half-light. The radio play follows Parrhesia as she tries to figure out how to gain entry. Using a computer program that acts as a dialect coach, Parrhesia repeats the line, 'We exercise the force of language even as we seek to counter its force'.[481] The quote, taken from Judith Butler's book *Excitable Speech: A Politics of the Performative,* points to Butler's ideas on linguistic survival, by using the very language spoken to injure as the means to counter the injury. It is 'a repetition in language that forces change'.[482] The constant rehearsal of the line, in order to perfect the vocal nuances required to gain entry to a space that she is excluded from demonstrates the risk Parrhesia is subjecting herself to. Throughout the radio play, the computer instructs Parrhesia on the speed, clarity, phrasing and pitch of her speech. She then reflects back on her performance, taking on board the suggested voice inflections and phrasings, and rehearses and repeats the line again.

The scene changes to depict an arena of power as the sound of a gavel strikes several times, and an authoritative voice says: 'We are on a brink of pioneering further exploration into the realm of the voice verification pattern mining. Our template matching and 'feature analyses' are inimitable in precision and response. This advanced system is based on the unique geometry of the speaker's vocal tract. It can mark linguistic difference to the nth decibel'.[483] The sound of applause erupts from an audience, as one member responds: 'this is the future, it is no longer about the forensic study of dialect and accent, but a mechanistic system that will

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[480] Ibid.

[481] Ibid.

[482] Butler, *Excitable Speech,,*163.

[483] "What We Might Have Heard in the Future," on the website of Angel Nevarez and Valerie Tevere, accessed November 20, 2016, http://www.nevareztevere.info/projects/future.html.

trace and eliminate suspected breaches'.[484] In the Citadel, electric fences are put up by "Control" to keep people on the outside from getting in. Parrhesia continues to rehearse, her voice reading the line in varying ways, trying to get it "right" under the computer's instruction. Later, in a discussion with a friend, Parrhesia discusses her reasoning for challenging the system in place by the very means it reigns. Quoting a line from Roland Barthes, she says: 'What would become of a society that ceased to reflect upon itself'?[485]

Harking back to early science fiction radio dramas, such as Brave New World by Aldeous Huxley, Nevarez and Tevere present a situation that is all too familiar in contemporary society, especially brought to light with the Syrian refugee crisis, or the last American presidential election campaign. In the case of the latter, speech was continuously used to injure. By setting it in a 'history in the future sense', the distancing provides a different lens to understand the dynamic of the underlying structures at play. In a sense, *parrhesia* has found new meaning through Judith Butler. When Parrhesia, the character, repeats a line over and over again in order to say it correctly and gain entry to the Citadel, she puts herself at risk. Gesture takes on the role of frankness and courage. For Parrhesia, it doesn't matter *what* you say, but *how* you say it. It is in the performance of language that Parrhesia is putting herself at risk. Brandon LaBelle frames this type of performance of reciting, reenacting or echoing as one that is political and empowering. He explains:

> Judith Butler's notion of reciting, of speaking *through* what is given, connects us back to what has already come; to particular histories, the speeches of others, and words that may have been forgotten, and yet which come back into the present *through* another body, respoken by another mouth. "Reciting" is literally to perform a certain script, to play out an existing text, sounding out its monologues and dialogues, reverberating it against the acoustics of a certain place. In doing so, the script or text is given new life — it speaks through us, to occupy the body, and to find place within the present. This scene of recital may also give way to buried histories, repressed languages, or disappeared bodies. Reciting, in other words, may also be a restaging, or a reenactment aimed at dramatising the very

[484] Ibid.

[485] Ibid.

> relationship we have to history, to the citational chain embedded in bodies and names, and in the places wherein such histories take root (or are erased).[486]

The work of Lawrence Abu Hamden looks more explicitly at the surveilling technologies of the voice and the weaponising of software. One example is the use of a system called "Language Analysis for the Determination of Origin" (LADO), implemented across Europe to screen and identify asylum seekers and undocumented migrants by assessing their accents and turns of phrase. In an audio documentary titled *The Freedom of Speech Itself* (2012), developed at The Showroom in London, Abu Hamdan includes testimonies from experts in phonetics, lawyers, and asylum seekers, to reveal the politics behind listening. The result is a series of shocking stories of people who were wrongly deported for failing a LADO test because their accent or use of a certain word didn't correlate with their stated country of origin.

The work puts forward questions about the legal status of accents, and asks: When did our accents become responsible for defining our ethnicity? The voice carries with it a life-time of information, a biography of places lived, people interacted with, even popular culture references come through, such as an American pronunciation of a specific word as heard on a favourite television show. Abu Hamden explains how the LADO process is implemented:

> For example, they want to know — based on accent alone — if a Somali is from Mogadishu (a legitimate place from which to claim asylum) or actually from northern Somalia (considered a safe place to live and thus to be deported back to). The tender to carry out these tests was mostly won by Swedish companies, Sprakab and Verified. These companies conduct phone interviews with asylum applicants in the target countries, using Sweden's largely unemployed former refugee population as a resource of informants to listen in on calls and conduct interviews. These informants' non-scientific assertions on where they thought people 'really' came from were then reworked by linguists, who bolstered the claims with international phonetic symbols and turned them into forensic reports for use in court in the target countries. When academic linguists throughout the

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[486] Brandon LaBelle, *Lexicon of the Mouth: Poetics and Politics of Voice and the Oral Imaginary* (New York and London: Bloomsbury, 2014), 164.

world were alerted to LADO they began to contest its ideology of monolingualism'.[487]

The very lives lived by refugees is one of flux, and in seeking asylum, a word said one way or another would seal their fate. They are not being judged on an act committed, but rather on the uniqueness of their voice. LADO is still in use today, the only change being that instead of a phone interview questionnaire — which frames the questionnaire as a dialogue — an asylum seeker must deliver a fifteen minute monologue, which is then analysed, not for its testimonial narrative, but for the underlying linguistic data that can be mined from the paralinguistics of the voice. Since 'the life of an accent is possessed to a greater or lesser extent by every living person it has ever come in contact with, especially influenced, of course, by the one voice with which it is presently in dialogue',[488] the monologue is supposedly less biased. The type of listening presented here is paradoxical in the implication that through voice analysis, a person's country of origin is made evident. And yet, how is a person's biographical migration not also made evident to the point of drawing a map of their journey?

In a companion piece called, *The Whole Truth* (2012), Abu Hamdan produces a documentary audio essay that looks at voice analysis software as a means of determining if someone is telling the truth, or lying. First exhibited at Casco in Utrecht, the title is a play on the oath recited in legal situations as a sworn testimony. The work puts forward the notion that the voice, regardless of what is being said, is also being held accountable by the law. *The Whole Truth* draws attention to the fact that, under the ears of the law, it isn't just *what* you say, but *how* you say it that determines your fate. The documentary includes interviews with developers of a widely used vocal analysis software, as well as anthropologists and researchers in the biometric industry. Abu Hamdan explains on his website that the

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[487] Lawrence Abu Hamdan, "Act 1. Listening to Yourself," in *[inaudible] A Politics of Listening in 4 Acts,* eds. Lawrence Abu Hamdan and Fabien Schöneich (Berlin: Sternberg Press, 2016), 21.

[488] Lawrence Abu Hamdan, "Aural Contract: Forensic Listening and the Reorganisation of the Speaking Subject," in *Forensis: The Architecture of Public Truth*, ed. Eyal Weizman et al (Berlin: Sternberg Press, 2014), 73.

implementation of voice analysis software by governments worldwide 'complicates the current conventions of testimony and its relationship to trauma, free speech, technology and the body'.[489] What options does a person have to counter this form of vocal analysis? Do we need a computer program to coach us "legitimate" vocal inflections, phrasings and dialect, as implied in *What we might have heard in the future*? We need to consider how to reclaim the conditions of how we are being heard, if we are to make sure our very own voices don't betray us.

***Figure 9***. Lawrence Abu Hamdan, installation of *The Whole Truth* at Tate Modern, 2012.

In an essay published in *Forensis: The Architecture of* Truth, Abu Hamdan writes about an early depiction of a non-verbal sound within a court room, still present to this day:

> In the United States Supreme Court there is a vocal tradition that I find quite revealing: when the clerk enters the courtroom at the beginning of the day he/she

[489] "The Whole Truth," Lawrence Abu Hamdan (website), accessed November 20, 2016, http://lawrenceabuhamdan.com/#/thewholetruth.

> inaugurate the proceedings by striking the gavel onto the woodblock then waiting for silence, before announcing, "the Hounourable, the Chief Justice, and the Associate Justices of the Supreme Court of the United State" — and then, for four seconds, he / she interrupts his / her own speech and sing out "OYEZ OYEZ OYEZ" — before returning to his / her declaration that the court is now sitting and that God is now blessing the honourable court. Then with a second strike of the gavel the he/she sits down. In this situation, we see the means by which the law is vocally summoned into existence.[490]

Amongst the formal legislative speech acts of a courtroom, the paralinguistic "OYEZ OYEZ OYEZ" has long had a place in introducing the court of law. The word comes from the Anglo-French word *oyez,* meaning "to hear". As with the auditory marking of a village through the vocality of a town crier, the Court Crier calls attention, marking a jurisdiction. And 'much like the radio in the workplace, the audio medium affords the law a means of controlling space and interpolating its subjects while remaining predominantly out of sight'.[491] Abu Hamdan writes:

> If we divide the term "jurisdiction" which connotes a territorial range over which a legal authority extends, we see that "juris" refers to a legal authority or right and "diction" refers to speech. "Diction" in linguistics is also defined as the manner of enunciating and uttering sounds and words, indicating not simply speech but the process of enunciation and amplification of words. By understanding the etymology of the term jurisdiction, we see that the law itself operates as a speech space in which those within its range of audibility are subject to its authority.[492]

All those within hearing are subject to the rituals and structured social situations that govern the territory.

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[490] Ibid., 67.

[491] Ibid., 71.

[492] Ibid.

When describing Abu Hamden's body of work, Professor Emily Apter relates it to the field of critical forensis — a juridicial and conceptual field that adopts 'investigative procedures and methods of analysis that mirror and appropriate those of forensic calculation'.[493] She writes:

> Critical forensis reframes the issues of "free" speech, freedom of expression, and "free translation" not as, strictly speaking, issues of human rights, but as technics of expression. Accent monitoring and audio surveillance, voice recognition, translation technologies, sovereign acts of listening, and court determinations of linguistic norms emerge as so many technical constraints on "freedom of speech," itself a malleable term ascribed to discrepant claims and principles too numerous to summarise, yet taking on performative force in site-specific situations'.[494]

*Forensis*, the Latin word for "pertaining to the forum", is now more often referred to as *forensics*, and has changed considerably as a discipline over time. Eyal Weizman describes forensis in Roman times as resembling an intriguing form of speech act: what the rhetorician Quintilian called *prosopopoeia* — the mediated speech of inanimate objects. Small objects such as coins, statues, or weapons could be physically handled, presented and traded in the forum. 'Sometimes — as in the story of the bronze statue of the athlete Theagenes of Thasos that fell and crushed a man who scorned it — objects could even be tried, convicted, and sentenced (the statue in this case was put on trial for murder, convicted, and punished by being cast out to sea)'.[495] Objects that were too far away, abstract or large to be presented — such as cities, resources, rivers, territories or states — were instead brought vividly to life by the power of an aural demonstration. 'They had to be made evident (visible), credible and persuasive',[496] which Quintillian referred to as *evidentia in narratione* — 'a manner of presentation in which truth requires not merely to be told, but to a certain extent obtruded'.[497]

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[493] Emily Apter "*Shibboleth*: Policing By Ear and Forensic Listening in Projects by Lawrence Abu Hamdan", in *[inaudible] A Politics of Listening in 4 Acts,* eds. Lawrence Abu Hamdan and Fabien Schöneich (Berlin: Sternberg Press, 2016), 4.

[494] Ibid.

[495] Eyal Weizman "Introduction: Forensis," in *Forensis: The Architecture of Public Truth*, ed. Eyal Weizman et al (Berlin: Sternberg Press, 2014), 9.

[496] Ibid.

[497] Ibid., 10.

Weizman uses the story to demonstrate the complications of the modern field of forensics; where objects are images, data artefacts and software are the "experts"., and the forum itself is akin to a tv broadcasting studio full of screens and recording devices. However, it presents an interesting analogy between the relationship of nonverbal instruments and jurisdiction. *Habeas corpus*, meaning "you may have the body", is the stipulation that a person who is detained by the law must be presented to the court in person. In actuality, however, it is your voice that is in custody and is being investigated. Upon arrest, the right to silence (Miranda rights) indicates the crossing of the threshold into jurisdiction. Abu Hamden suggests that, if the law was to properly reflect the way speech is listened to, a person's right to silence should be revised to include the following: 'You do not have to say anything. But it may harm your defence if you do not mention when questioned something which you later rely on in court. Anything you do say, *including the way you say it*, may be given in evidence against you'.[498]

[498] Abu Hamdan, "Aural Contract: Forensic Listening and the Reorganisation of the Speaking Subject", 75.

# *8. Vocal Artefacts Part III: Virtual Sculptures*

> 'I went out one dusk to the sand reefs where the sonic sculptures grow. As I approached, they were creaking in the wind whenever the thermal gradients cut through them. I walked up the long slopes, listening to them mewl and whine, searching for one that would serve as the sonic core for a new statue'.[499] *– J. G. Ballard*

[499] J. G. Ballard, *Vermilion Sands* (London: Vintage, 2001), 88.

## *8.1. Introduction*

In this chapter I provide an outline of each of the virtual sculptures that were created in aesthetic relation to and in conjunction with the writing. Elements from each of the previous two chapters have been incorporated into these works. I consider the virtual sculptures to be self-contained in terms of their relation to any specific aspect of the written text. Instead, they reflect and resonate with many elements of the core concerns expressed throughout the thesis. Below, I give a brief summary of the works and details of their sources of inspiration. The works can be read on many levels and these readings can expand on multiple encounters with them. One important feature of the works is that the inspiration to render these virtual sculptures in bronze and stone was to specifically reference the *prosopopoeia* brought to life in Quintillian's forum (described in the previous chapter). Referencing the past while looking to the future, the virtual sculptures are primaudial machines in the realm of sonic fiction.[500]

These virtual sculptures were created using an assortment of software platforms and technical approaches, which are outlined in the *Appendix.* Each of the virtual sculptures are durational and evolve over time. While these works are interactive and immersive, they can also function as non-interactive artworks which can be left to play out over time, without interference. These works are interactive and as such you can use the keyboard and mouse to engage with them. Most use an orbit camera mechanic. Use WSAD keys to orbit the camera around the virtual sculptures. Use R and F keys to zoom in and out. The mouse can also do these same actions. *Echo Encounters* uses a first-person view mechanic. Use the WSAD keys to 'walk' through the scene while holding the left mouse button to look around. If you find that the works are playing at a slow frame rate you can dial down the quality and/or resolution in the settings in the application. If you are experiencing difficulties with playback, please consult the video documentation of the works for more faithful renditions of the experiences.

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[500] Kodwo Eshun describes a primaudial machine as a 'an aural or musical event that induces a primordial state… A musical event that feels immediately ancient'. See: "An Unidentified Audio Event Arrives From The Post-Computer Age," Longplayer (website), accessed October 5, 2020, https://longplayer.org/texts/an-unidentified-audio-event-arrives-from-the-post-computer-age/.

## *8.2. At the Threshold*

***Figure 10.*** Captured frame of *At the Threshold* (∞).

Imagine a sonic artefact arriving from an unknown space and time. *At the Threshold* takes the listener on a journey through the dichotomous architecture of a conch shell, encountering acoustic anomalies told through feedback loops, field recordings and a constructed chorus of the artist's own voice and that of a digital surrogate at various stages of machine learning.

The digital surrogate was created using a text-to-speech synthesiser (TTS). Training the system involved a lengthy period reading preset sentences in order to "teach" the system enough of my vocabulary and phonemes. The uncanny results, recorded reading my own script at various stages of machine learning, are then mixed in with my own voice to create a future chorus. The process of training the speech model is similar to the method used to scan the conch shell. Photogrammetric or photo-scanning algorithms similarly require a rich database of hundreds of photographs to infer a 3D virtual model of the subject.

## *8.3. Red Ink*

***Figure 11***. Captured frame of *Red Ink* (∞).

Part portrait and part premonition, *Red Ink* is a work caught between two timescales. As a “Mic Check” unfolds at Zuccotti Park, a growing resonant feedback loop starts to envelope the proceedings. *Red Ink* attunes itself to the *longue dureé* of the legacy of Occupy Wall Street — the tone of our times.

*Red Ink* is a mapping of the human microphone at Zuccotti Park. It begins with Žižek telling an "old communist joke” about red ink. As he looses precision in his delivery, the human microphone breaks down and a growing resonance feedback loop starts to envelope the proceedings. The reverberation thus creates its own dynamic and takes on a life of its own in the soundscape. The reverberation can be read two ways: on the one hand it speaks to the failure, in the immediate term, of Occupy Wall Street. More hopefully, the reverberation unfolds potential and speaks to the long reverberation of the initial event, which has fundamentally changed the ground upon which politics happens.

## *8.4. Echo Encounters*

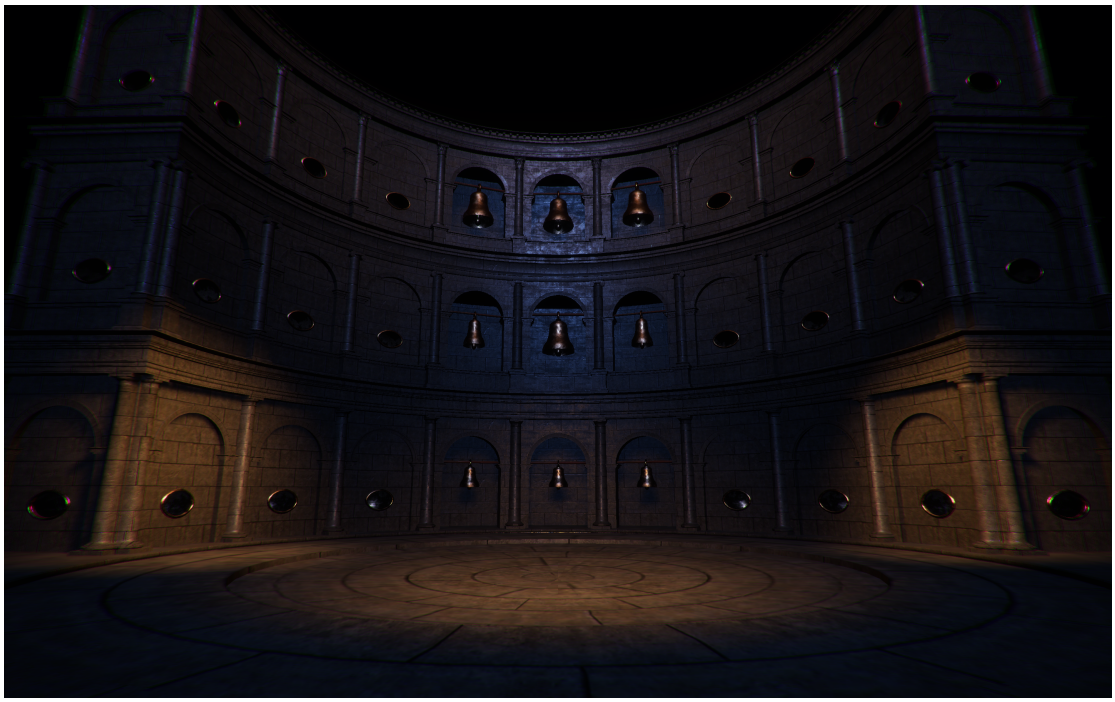

***Figure 12.*** Captured frame of *Echo Ecounters* (∞).

*Echo Encounters* is set in Athanasius Kircher's reconstruction of a Vitruviun theatre, where mythic bronze echo-vases resonate in sonic continuum.

*Echo Encounters* is a site-specific sound installation set in one of the mythic spaces of Athanasius Kircher's drawings from his *Phonurgia Nova*. Here, Vitruvian echo-vases are sculpting the resonance of bells after their sounding. Each of the echo-vases incorporates a sample of the decay of a bronze bell sound-wave, slightly detuned from the other. The resulting experience of psychoacoustic byproducts should be experienced on headphones, or ideally on speakers with a subwoofer. The world is afloat in a black sea, roiling beyond the edges of this speculative zone, threatening to engulf it at any time.

## *8.5. Muted Revolutions*

***Figure 13***. Captured frame of *Muted Revolutions* (∞).

What is the relationship between a roundabout and a revolution? Drawing resonance from the roundabout revolutions of the Arab Spring, *Muted Revolutions* depicts an enemy of the state reduced to a pile of bones in an act of *damnatio memoriae*.

In solidarity with the roundabout revolutions of Gwangju, Tahrir Square, Azadi Square and al-Manara Square, *Muted Revolutions* depicts the remains of the Pearl Monument — once a central landmark of Bahrain and the site of revolutionary encampments during the Arab Spring. Due to a media blackout, the Bahrain Uprising went largely unreported. One of the few news channels to give coverage to the event was *Democracy Now!* The audio in this work is a redacted version of a *Democracy Now!* show, one year on from the uprisings of February 2011. The soundtrack to this temporary extra-territorial zones is the very breath of speech being taken away, animating the bone-like fragments of this declared enemy of the state.

## *8.6. Self Other Echo*


***Figure 14***. Captured frame of *Self Other Echo* (∞).

*Self Other Echo* is composed of a spoken and written text circling Echo. “I always return to echo, or is it that echo returns to me?” Echo represents and re-presents sound. To recall Echo’s disembodied voice is to re-orient towards other possibilities and other ways of knowing that are often out of sight.

This work consists of a sonic sculpture depicting the figure of Echo, wrapped in a möbius loop with a continuously running script of the phrase “who could not be silent when someone speaks, but cannot herself speak first, repeating Echo”. The text is the English translation of a Latin phrase from *The Metamorphoses* by Ovid, read by the naturalist Robert Plot during his echo experiments in the 17th Century. Echo continually cohabits two worlds: the natural and the mythical; a sound propagated and a sonic metaphor; a simultaneous perception of the past and the present.

# *9. Coda: A Sonic Continuum*

> 'The woes of the landscape have invaded speech, rekindling the woes of humanities, in order to conceive of it'.[501]
> – *Édouard Glissant*

[501] Édouard Glissant, *Poetics of Relation* (Ann Arbor: University of Michigan Press, 1997), 196.

I want to conclude by thinking about how a sonic imagination might be deployed as an aesthetics of resistance; not as a definitive conclusion, but rather as an opening toward further possibilities. As a way of highlighting some of the themes raised in this thesis, let me return to the emergence of the human microphone during Occupy Wall Street. In the lead up to OWS, the *Citizen United* ruling foregrounded the ties between political speech, media ownership, and financial institutions. Prior to 2010, private corporations were referred to as 'artificial entities' that were 'chartered by the states and endowed with extraordinary privileges in order to serve society's economic purposes'.[502] In the aftermath, private corporations were granted the same political free speech rights as people under the First Amendment and could 'draw on the wealth of their treasuries to spend unlimited sums promoting or disparaging candidates for public office'.[503] In an era where the forums for political speech occur mostly through technological devices, speech has become distinct from the individual. Instead, our social and civic interactions are governed by the flows and processes of what Jodi Dean calls 'communicative capitalism' — a concept Dean describes as 'the form of late capitalism in which values heralded as central to democracy materialize in networked communications technologies […] Communicative capitalism subsumes everything we do. It turns not just our mediated interactions, but all our interactions, into raw material for capital'.[504] One of the symptoms of communicative capitalism is that 'linguistic, affective, and unconscious being-together' has been co-opted for capitalist production.[505] Within such conditions, we have internalised the language of the market to such an extent that we describe every aspect of our private lives in its terms. To emphasise this, when introducing a lecture by the theorist Franco Berardi, the artist and curator Jamie Hidler points out that the forms of communication and language that we have grown accustomed to frame education in terms of 'investment', friendships as 'networks', love as a 'contract', the family as 'firm', and the future as

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[502] Jamie Raskin, "'Citizens United' and the Corporate Court," *The Nation*, September 13, 2012, https://www.thenation.com/article/citizens-united-and-corporate-court/.

[503] Ibid.

[504] Jodi Dean, "Communicative Capitalism and Class Struggle," *Spheres: Journal for Digital Cultures,* November, 2014, http://spheres-journal.org/communicative-capitalism-and-class-struggle.

[505] Ibid.

'dividend'.[506] In a lecture called "Staying Human: Poetry in the Age of Technology", the poet Tracy K. Smith has argued for the need to re-humanise language by insisting on an alternate value system. For her, poetry is one such vehicle to do so:

> The glib, facile, simplistic and prefabricated language by which we as consumers are constantly surrounded, is a language that flatters us, that urges us to indulge ourselves, to get away from it all, to be unique by opting in, talking back, liking us on Facebook, leaving a review, sharing, retweeting, etc. It's a sell so smooth that its terms have infiltrated the language of other facets of daily life. […] Friendship is different now, too. We have allowed conversation to be splintered and atomised by the devices we invite to interrupt and distract us. We aren't listening to what or whom we think we are. I'd go so far to say that much of the time, perhaps as an unconscious coping mechanism, we aren't listening at all. Not to other people and least of all to ourselves. We can't afford to.[507]

Smith emphasises the ways poetry reveals another experience of reality through 'its emphasis upon feeling, association, music and image — things we recognise and respond to even before we understand why'.[508] One of the profound effects of encountering the human microphone is that it pointed towards a form of communication that stood in stark contrast to our market-driven consumer culture. The instrument achieves this through its various forms of collective sonic composition. Whether it is being used as part of a legacy of public speaking in the black prophetic tradition (as Cornel West has demonstrated) or as poetic resonance with forms of non-violent resistance (as Philip Glass has demonstrated), the human microphone is, first and foremost, an instrument for the voice to be heard again. The message being delivered can be established in multiple ways: the technology of the medium itself; the collective experience in public space; the ritual of speaking in unison; the collective listening experience; or the very words that are being said. It is a medium that allows for all voices to be heard in the same way, on equal grounds no matter what the speaker is saying, and is reflective of the very nature of the democratic process. Most importantly, if we consider that

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[506] Simon Fraser University "Franco 'Bifo' Berardi - Public Lecture," YouTube video, 1:33:42, accessed August 30, 2018, https://www.youtube.com/watch?v=wcBryd29vP4.

[507] Tracy K. Smith, "Staying Human: Poetry in the Age of Technology", filmed April 2018 at The Library of Congress, Washington, Video, 81:54, https://www.loc.gov/today/cyberlc/feature_wdesc.php?rec=8320.

[508] Ibid.

OWS offered a response to the corporatist agenda of the Citizens United ruling, which granted freedom of speech rights to corporations, the human microphone amplified the material and consensual echoing voices of "the 99%".

Another aspect that Tracy K. Smith brought to light in her lecture, was that under communicative capitalism we can no longer afford to listen. Marco Deseriis writes: 'when everyone is a media outlet […] quantity risks to overcome quality and meaning to drown in noise'.[509] This could not have been made more evident than with recent debates surrounding the NFL protests in the United States — a movement highlighted by the artists Helen Cammock and Lawrence Abu Hamdan when collectively hijacking the 2019 Turner Prize, together with fellow nominees Tai Shani and Oscar Murillo.[510] Spearheaded by NFL player Colin Kaepernick in 2016, American football players began "taking a knee" during the national anthem as it played out before a game. It was initiated as an act of peaceful protest against racism and social injustice towards people of colour. In a *Guardian* opinion piece titled "We can't hear Colin Kaepernick any more. He's being drowned out by noise", author Ameer Hasan Loggins further explains Kaepernick's intentions surrounding the protest:

> He was referring to the fact that many police officers involved in high-profile killings of black people do so with apparent impunity. The killers of Tamir Rice, Alton Sterling, Eric Garner, Terrence Crutcher, Philando Castile and Freddie Gray (to sadly name a few) have all gone unpunished. They either were acquitted or, even worse, were never charged with a crime at all. That is what Kaepernick wants to talk about. Instead, his message is being slowly erased.[511]

As the movement gained traction and media attention, Kaepernick's initial statement was drowned out by accusations of unpatriotic behaviour; a lack of respect towards the military;[512]

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[509] Marco Deseriis, 'The People's Mic as a Medium in Its Own Right: A Pharmacological Reading', in *Communication and Critical/Cultural Studies*, Volume 11, Issue 1 (March 2014), 49.

[510] Charlotte Higgins, "'It's about solidarity': the artists who hijacked the Turner prize speak out," The Guardian, March 3, 2021, https://www.theguardian.com/artanddesign/2019/dec/04/its-about-solidarity-the-artists-who-hijacked-the-turner-prize-speak-out.

[511] Ameer HasanLoggins, "We can't hear Colin Kaepernick any more. He's being drowned out by noise", The Guardian, 27 September 2017, https://www.theguardian.com/commentisfree/2017/sep/27/colin-kaepernick-protest-nfl-take-a-knee.

[512] There is a strong military presence during American Football games, from jet flyovers, to saluting the troops.

and a lack of respect towards the American Flag.[513] After former President Trump threatened to remove the NFL's tax breaks, a new policy was imposed by NFL commissioner Roger Goodell where all team and league personnel on the field had to stand and show respect for the flag and anthem. While another policy was amended to allow players to remain off the pitch during the pre-game national anthem, anyone that chose to do so was then clouded in accusations of being unpatriotic. If a player was to be in breach of the new policy, they would be subject to disciplinary action as dictated by each club individually. Kaepernick's civil rights protest was no longer part of the narrative. The material basis to his message was completely drowned out by Trump's culture war, and the overarching narrative became about disrespecting symbols. The former President's weaponised patriotism didn't stop there. In June 2018, the Philadelphia Eagles won the 52nd Super Bowl championship — a feat that is traditionally celebrated at the White House. As a vast majority of the Eagles team refused to attend the celebration, Trump decided to cancel his invitation to the team, and turned the event into what he called a celebration of the American flag.[514] It was at a press conference in response to the cancellation of the White House visit that Eagles football player, Malcolm Jenkins, held up a sign to reporters that read 'YOU AREN'T LISTENING'.[515] Standing in silence, Jenkins continued to produce signs that highlighted the issues that were being completely ignored in response to the NFL protests. In a follow-up interview, Jenkins explained the reasoning behind his silent protest:

> The issues are the issues. And the reason that we're doing any of this is because we have these huge disparities in our criminal justice system; we have this issue of mass incarceration; we have issues of police brutality; our children and access to education and economic advancement is nonexistent in communities of color. And these things are systemic; there are ways that we can change them. […] And for me, I feel like this is the time to do that. And so, that message can't continue

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513 A Flag Code is written into Federal Law, but there is no penalty for failing to observe the code of conduct.

514 Ben Jacobs and David Smith, "Trump's 'celebration of America' in lieu of cancelled Eagles gala fails to shine", *The Guardian*, June 5, 2018, https://www.theguardian.com/us-news/2018/jun/05/trump-white-house-philadelphia-eagles-visit.

515 Dave Zangaro, "'You Aren't Listening,' Malcolm Jenkins' Powerful Response Said So Much Without Uttering a Word", *NBCPhilidelphia,* June 6, 2018, https://www.nbcphiladelphia.com/news/sports/csn/eagles/", NMalcolm_Jenkins__powerful_response_said_so_much_without_uttering_a_word-484723381.html.

> to be ignored. And that's what I think has been happening up until this point. So we just have to continue to stay on topic and continue to push the issues — and not this narrative of who's right and who's wrong, but what are the reasons why players are even so passionate about this.[516]

Jenkins' signs made explicit what he and many NFL players had been trying to say, not only through its written message, but also the means of conveying it. The latter was a direct response to how social media technology has mediated the conversation. Jenkins chooses to work around the constraint of the mainstream media's sonic domination of the public discourse. He counteracts the drowning out of the message by producing a series of images that will be shared virally. With this, he demonstrates his awareness of the sonic terms of the discourse and thus re-claims his voice. Jenkins' tactic is an aesthetics of resistance — a novel social technology, born of crisis.

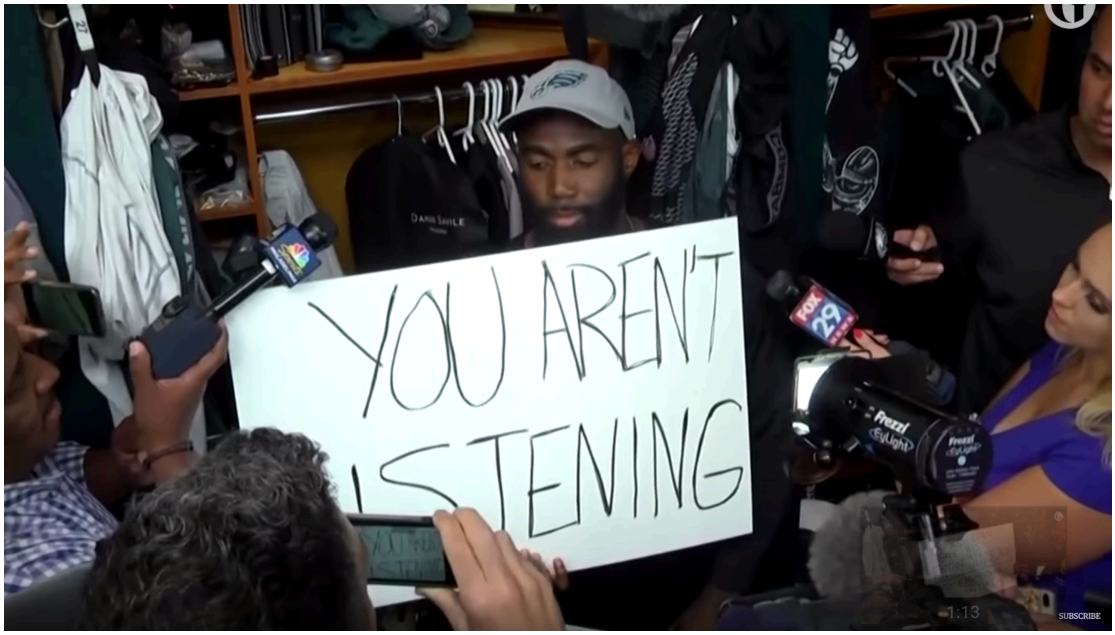


***Figure 15.*** Captured frame of video from Malcolm Jenkins' silent protest, 2018.

Each sign, clearly written in short phrases, conveyed several points that could be visually circulated without the initial message getting lost or the citational chain being broken. His silent action drew attention to alternative ways of participating in a democratic process where

[516] Tim McManus, "Eagles' Malcolm Jenkins 'tired of the narrative being about the anthem'", June 7, 2018, http://www.espn.com/nfl/story/_/id/23719262/malcolm-jenkins-philadelphia-eagles-talks-motivation-signs-tired-narrative-being-anthem.

the human voice is either completely drowned out or heavily policed. In a manner similar to the process of the human microphone, Jenkins' silent protest was a slow and reflective response to the current media environment. We have a sonic imagination at work here —- an improvisation that overcomes constraints through a sonic way of knowing. With this example, and the many examples of sounding and listening detailed in the artistic (im)material enquiry of this thesis, I have attempted to foreground sonic figures that pry open agentive possibilities. If a contemporary reading of the voice shows us that corporations have the right of free speech, then echoes remind us that spaces speak; parrhesia reinforces speech as an activity that involves risk; and the concept of prosopopoeia can underscore voice and listening as forensis. Reading these examples through a sonic imagination allows us to attend to the complexity of sound and agency, and opens the way for an alternate figuring to occur.

Throughout this thesis, I have been suggesting that the magnitude of the value systems and modes of thought that enforce indebtedness as the general condition of life can only be confronted with collective imagination. The power of capitalist realism, as Mark Fisher writes, is 'the widespread sense that not only is capitalism the only viable political and economic system, but also that it is now impossible even to *imagine* a coherent alternative to it'.[517] Occupy Wall Street, however, has given us "Red Ink". That is to say, it was a site of radical potential that has enabled a generation to think anew the project of democracy. While the camps of Occupy have long since been dismantled, its legacy can be sensed everywhere. The long reverberation of the movement has dissolved into the fabric of the everyday; into a pervasive background noise. In the 2018 electoral cycle in American politics this can be seen in the surge of support for young democratic socialist candidates — in New York in particular with the election of Alexandra Ocasio Cortez and others across the country. Everywhere there was once a human microphone in operation there is evidence of a renewed faith in an ability to forge a language in common; and to develop and articulate an alternative to the dominant discourse of capital.

[517] Mark Fisher, *Capitalist Realism: Is There No Alternative?* (Winchester: 0 Books, 2009), 3.

When speaking about the ways racism is linked to capitalism, Angela Davis has pointed to Occupy as having given us a new language and conceptual means to engage in discussions about capitalism.[518] Steven Callander, a Professor in Political Economy, has also noted that Occupy Wall Street has had a profound influence on American politics. He states:

> 'By any traditional measure, Occupy Wall Street was a complete failure. They never articulated […] and never achieved any quantifiable goal from all of the attention and energy that they harnessed. But when we look three, five years down the track as we are today, we see that the whole frame of reference of politics has shifted. There's the talk about the one percent and inequality, and that's now at the centre of American politics. I think we can trace that through from movements like Occupy Wall Street and the influence they had'.[519]

I come to the end of this thesis with the understanding that sound, as a subject of study, is a large and interdisciplinary field with a host of contesting and correlating definitions. However, thinking reflexively *through,* and listening *with* the human microphone has lead to a deeper engagement with art's sensibilities and a better understanding of how sound and listening help to figure and reconfigure knowledge paradigms of the present. Media theorist Francis Dyson offers a fertile avenue to further explore:

> Sound […] offers a way to negotiate the "unthought" and the unspoken, to develop other vocabularies and other forms of political, economic, and social organisation. Sound's ephemeral and atmospheric nature is, like the environment, something that circulates outside of exchange, and refocuses attention on the space and environment of the subject rather than the subject per se […]. From here, it might be possible to move towards a shared sensibility, a "communism of the senses" that builds sense, the common, and common sense simultaneously.[520]

In sonic continuum, to re-enforce sound's ability to resonate with politics it is helpful to draw an analogy between the human microphone and Alvin Lucier's famous 1970 composition *I*

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[518] Amy Goodman, "Angela Davis: Toppling of Confederate Statues Reflects Reckoning with Slavery & Historical Racism," Democracy Now, accessed March 3, 2021, https://www.democracynow.org/2020/6/12/angela_davis_toppling_monuments_to_racism.

[519] Stanford, "The Enduring Impact of Occupy Wall Street", YouTube video, 2:35, accessed April 17, 2018, https://www.youtube.com/watch?v=dgdfnbmF31A.

[520] Dyson, *The Tone of Our Times: Sound, Sense, Economy and Ecology,* 149.

*Am Sitting in a Room*. The mantra "I am sitting in a room…" starts with the voice echoing clearly back and forth, but it ends in what initially appears to be reverberant chaos — an artefact of a recording seemingly gone wrong. However, if we train our ear to what is happening, we realise that the artefact is the point, and what is occurring is a sonic mapping of space. The clear voice of the speaker disappears, and we are left with an incredibly dense resonant sound that is the imprint and map of the space. In technical terms we know this as the impulse response of the room. Similarly, with contemporary political life, we can no longer hear the words of the original human microphone. OWS has long since dissolved as a cohesive movement and has been superseded by the myriad political upheavals that have emerged since. In the continuing reverberation of that event, we can trace the contours of possibilities thrown up by it. The reverberation of the human microphone has given us a map of the terrain of politics, that is to say a map of the possible…

# *Appendices*

## i. *Uniform Resource Locator*

Portfolio website for *Vocal Artefacts: A Sonic Imagination of the Human Microphone*

www.vocalartefacts.info

## ii. *Script for At the Threshold*

# At the Threshold

SHARON PHELAN

VOICE: falling in … with the tide ... abandoned ... an acoustical object of geometry ... a primitive sculpture ... a primal trumpet ... a symbol of speech ... Let him be chief! ... a symbol of hearing ... of authority ... a delicate and powerful thing ... outside in … inside out ... a möbius curve ... a void … of inner and outer … a virtual cavity … a suit of armour … light diffuses through the surface … a subsurface scattering … a vortex … of ellipses and embryonic whorls … inner hollows and passageways … continuous coiling canals … labyrinthine structures … an alcove … a cave … an acoustic anomaly … its interior creates resonances … a sound imprisoned … what do you expect to hear when you hold a seashell to your ear? … for it to sing, to speak, to breathe, to echo? … or do you hold it up to your ear to hear the sea? … I've read of an 18th century poet … who believed that the memory of the natural world … is held within the curves of a shell … a book in natural form … that tells of the great waters of the first and last deluge … searching for traces … by virtue of listening … sonic traces … of ancestral hearing … of an authoritarian sounding … a succession through space and time … listening … to a sonorous archipelago … washed up … on shore–

∞

## iii. *Map for Red Ink*

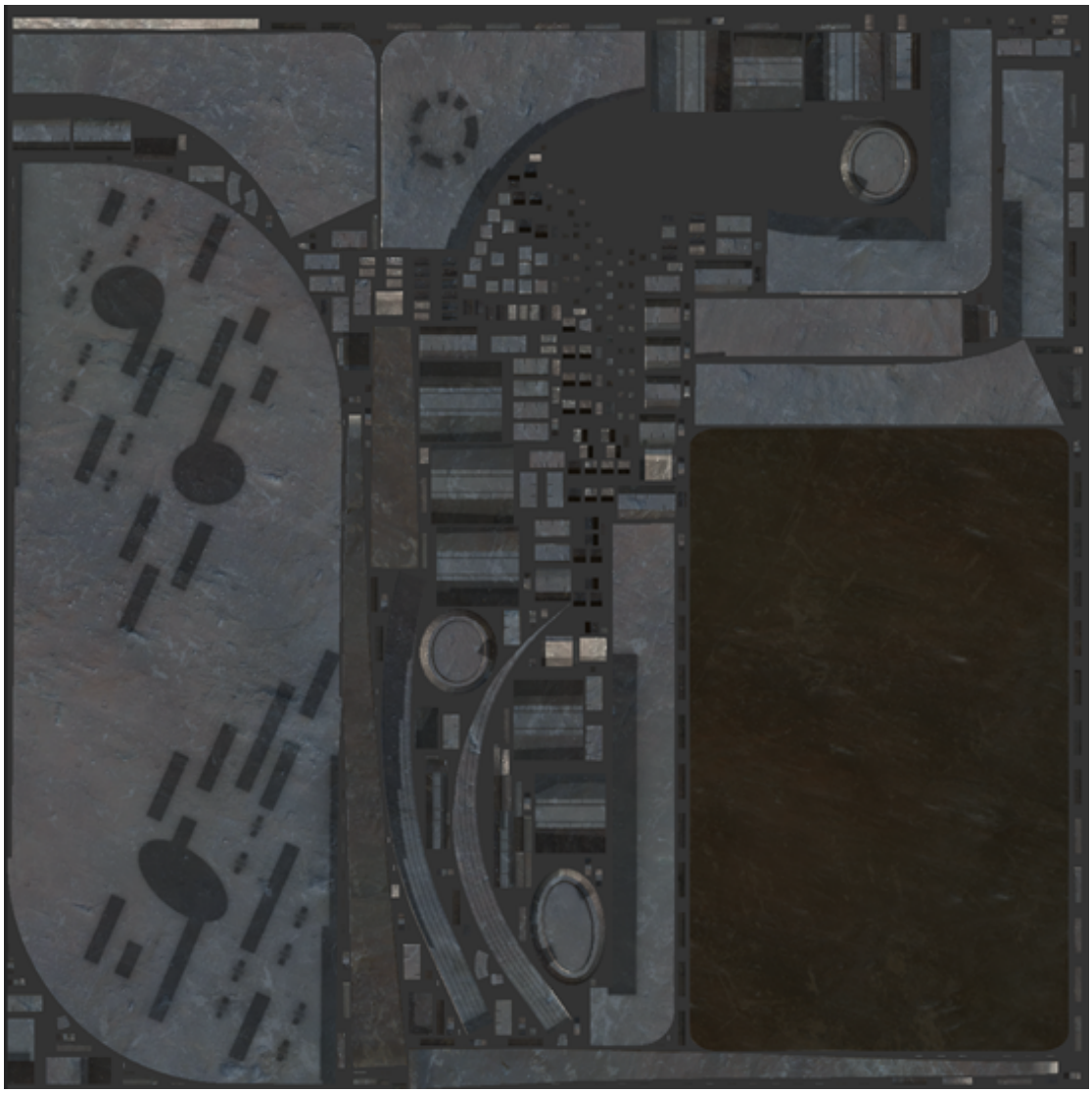


**Image:** Tableau of digitised fragments of Zuccotti Park.

## iv. *Instrument for Echo Encounters*

**Image:** 3D drawing of the mythic Vitruvian echo-vase used in *Echo Encounters*.

## v. *Sequence for Muted Revolutions*

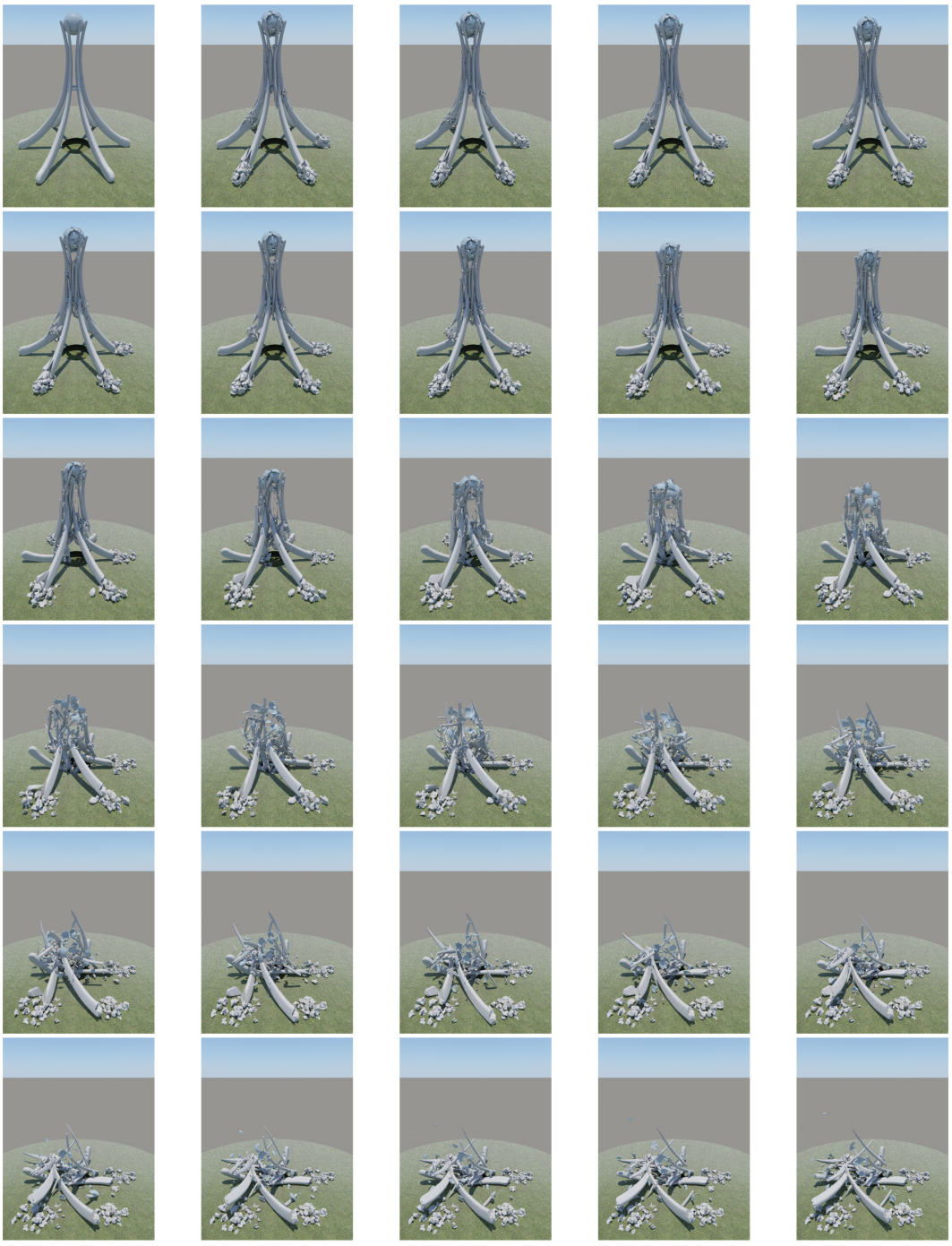
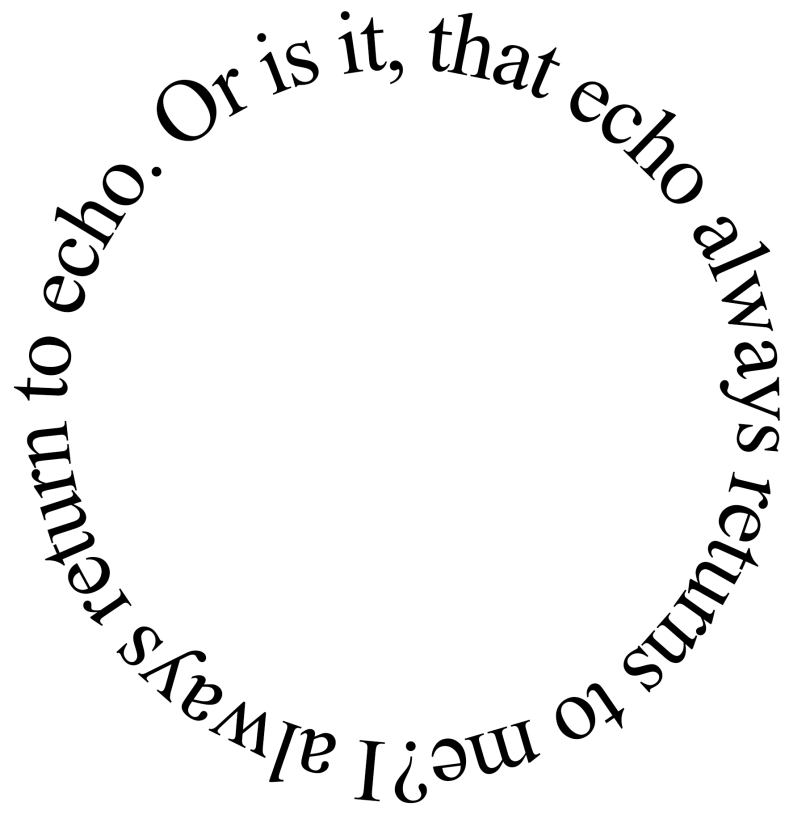


**Image:** Physics simulation of Pearl Monument demolition.

**vi.** ***Score for Self Other Echo***



## vii. *Support Documentation*

**Image 1**: On the Beach in Bahrain, December 2018. Shell found on a plot of newly reclaimed land.

***Background Note***

**Image 2:** *Music for Drums and Bass*, Monster Truck Gallery, 2010

Some of the samples used throughout the works are derived from *Music for Drums and Bass* created on the Mphil in Music & Media Technologies in Trinity College Dublin. A site-specific sound installation exploring audio feedback, the sound generated is based on the relationship and close proximity of a contact microphone and a subwoofer, mediated by a drum membrane. The physical characteristics of the drum along with the room became partners in the composition where acoustical events gradually unfold, as various parameters – from dynamic, environmental to pre-determined – are changed. It was while at MMT that I met Marcin Gorzel, who was researching Wave Field Synthesis systems — a spatial audio rendering technique that places virtual sound sources in real space. In 2014, as a post-doctoral researcher, Marcin formed a start-up immersive audio software company called Thrive Audio, which was acquired by Google in 2015. This was later released as part of Google's VR initiative (Cardboard and Daydream) but has since been released as Resonance Audio, a suite of spatial audio tools for Unity and other game engines. I use the Resonance Audio toolset extensively in the virtual sculptures of *Vocal Artefacts*.

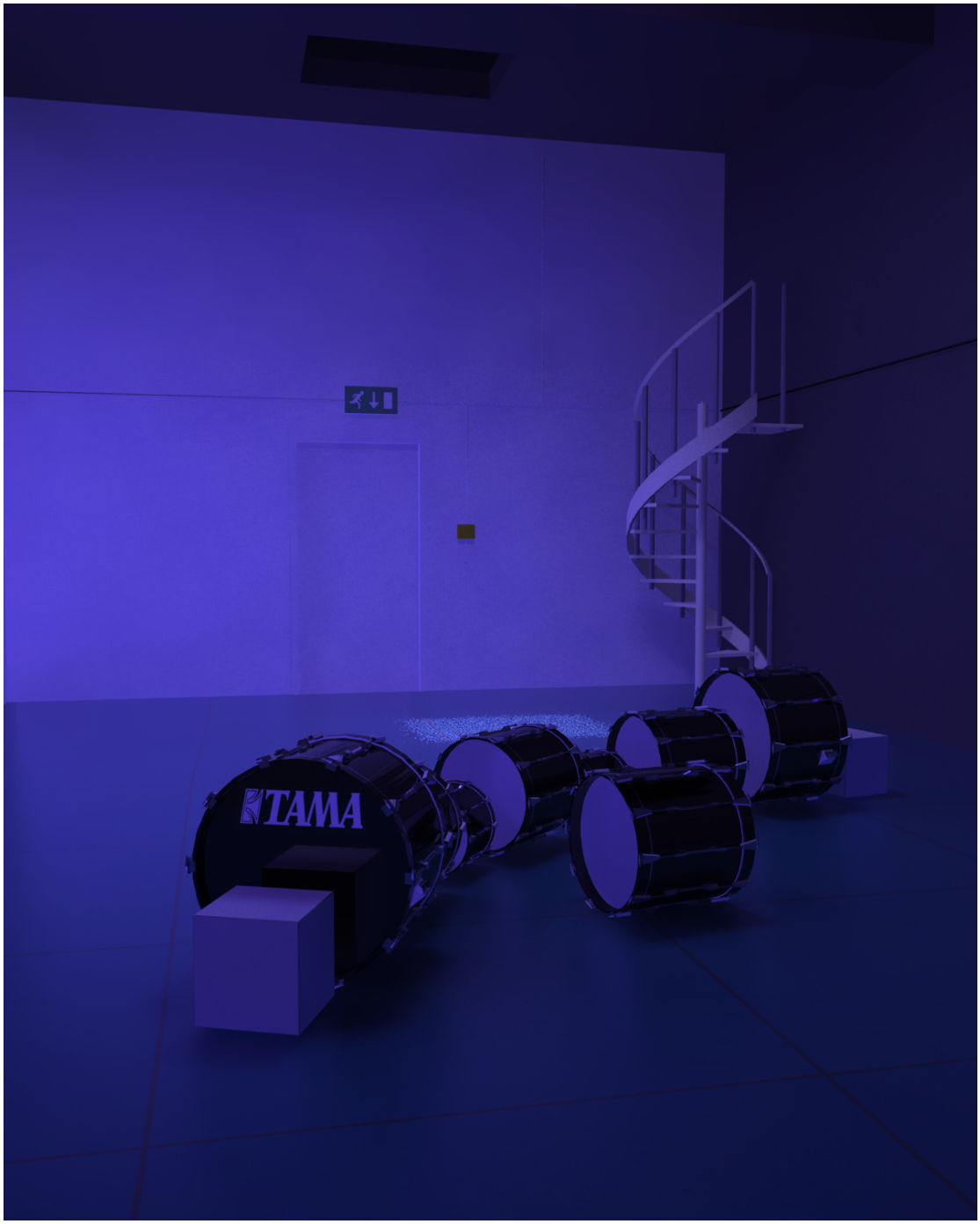



**Image 3:** *Music for Drums and Bass* installation in the Music and Media Technologies degree show, 'From Drums to Light', 2010.

***At the Threshold***

**Image 4:** Still from *At the Threshold*

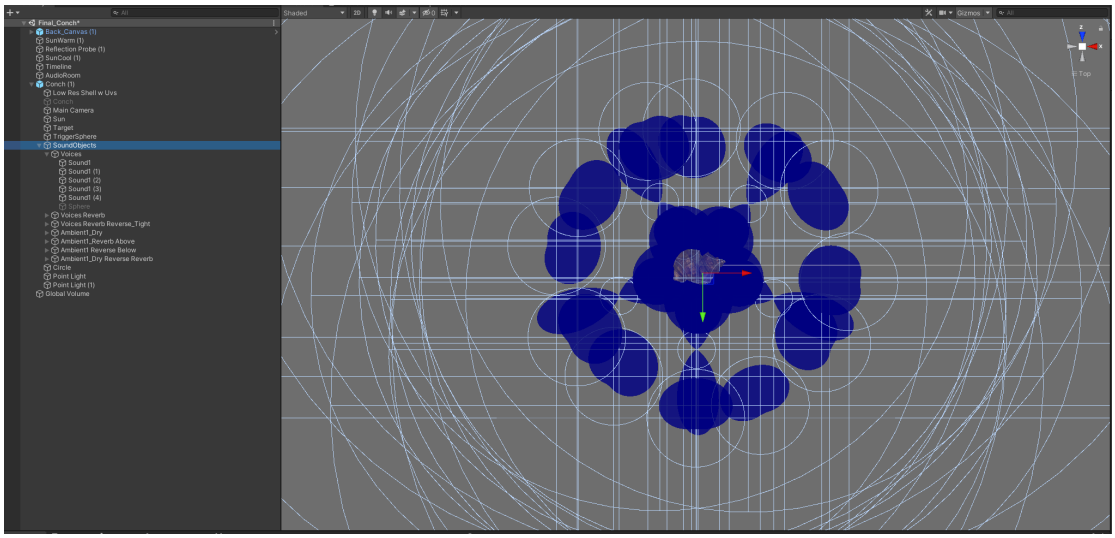



**Image 5:** Distribution of audio sources around the conch shell in Unity. Top down view. The Unity hierarchy is on the left.

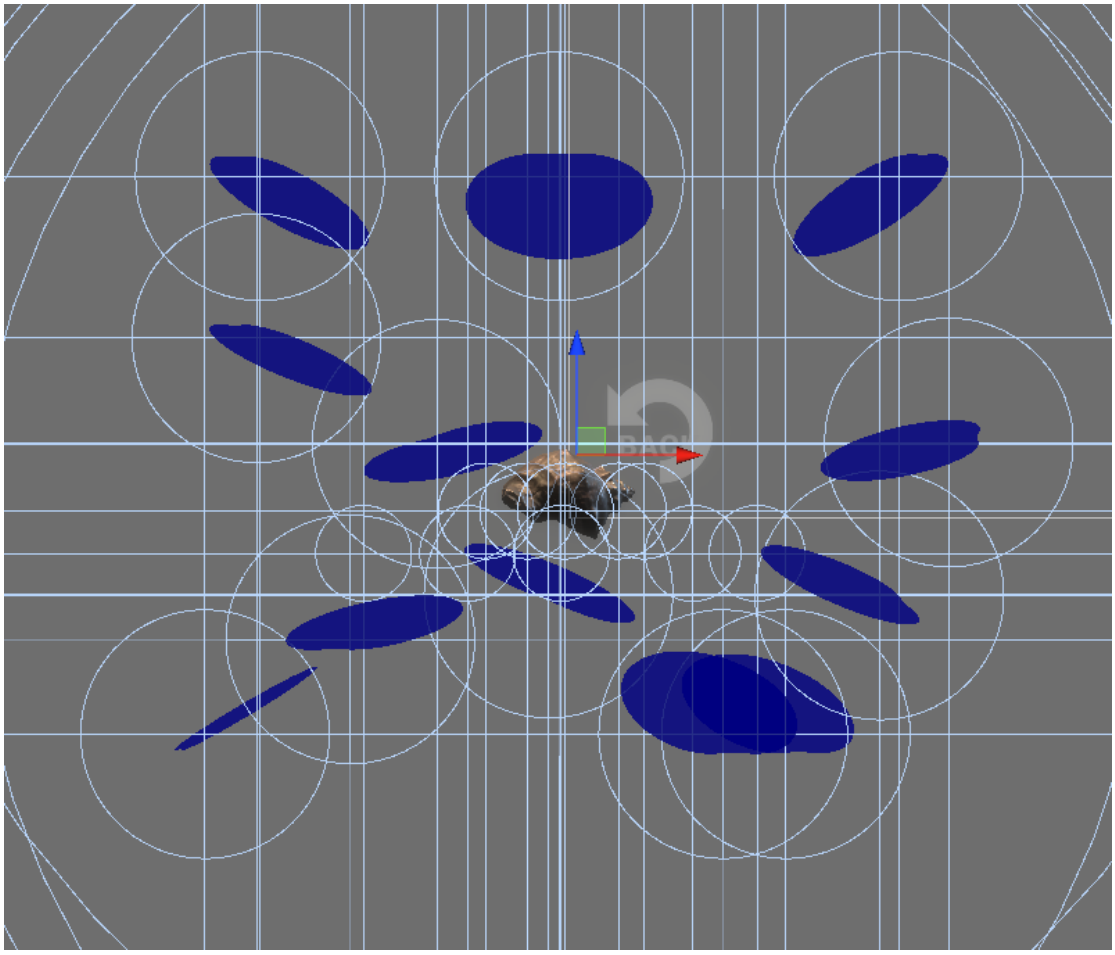


**Image 6:** Distribution of audio sources around the conch shell in Unity. Elevation view. The blue shapes represent the directionality of the audio sources.

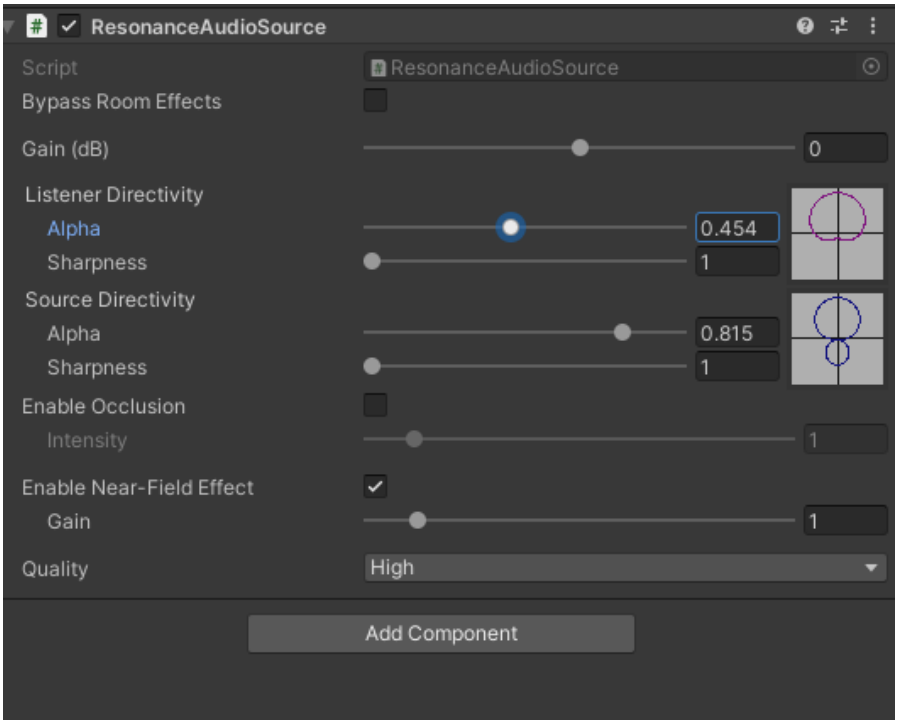



**Image 7:** Resonance Audio Source showing sound and microphone directionality.

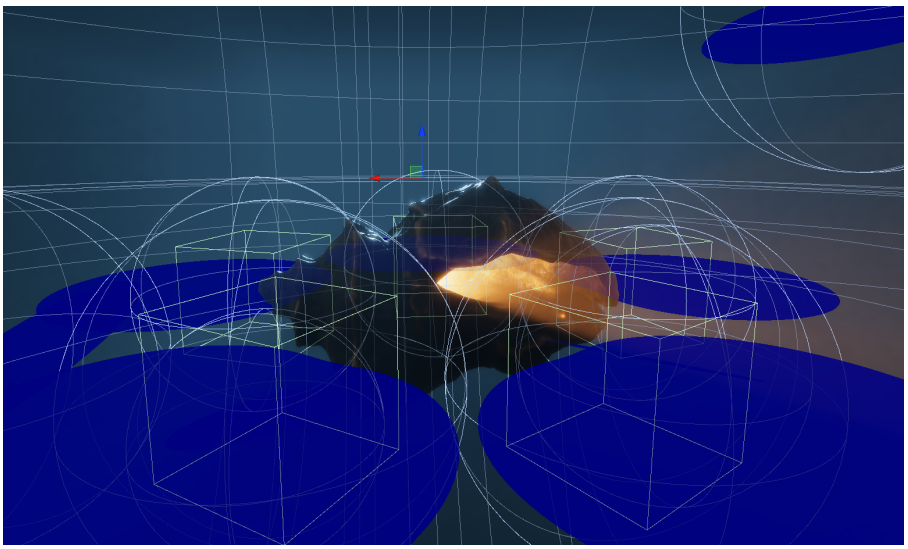


**Image 8:** Still from *At the Threshold* with Resonance Audio sources.

***Photogrammetry***

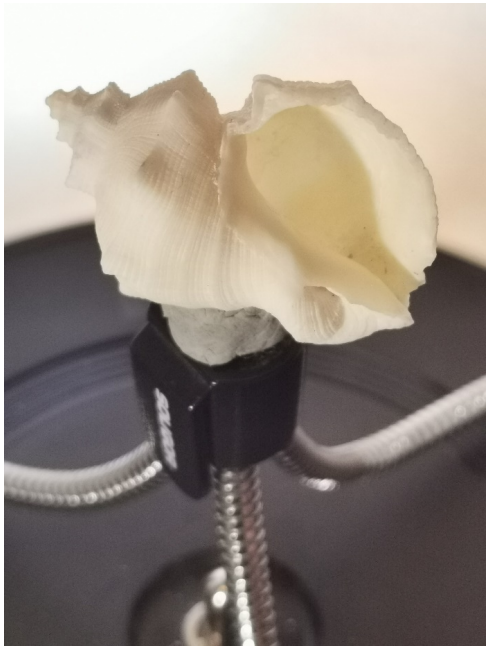


**Image 9:** Shell mounted on a tripod on a turntable.

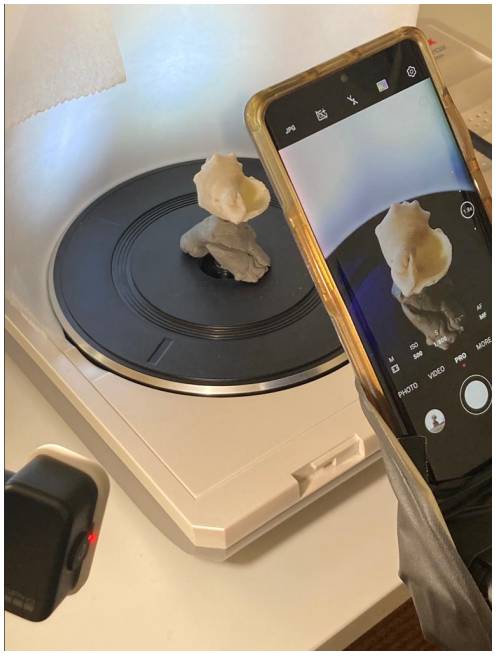



**Image 10:** Photography with a smart phone. The turntable is moved incrementally after each shot.

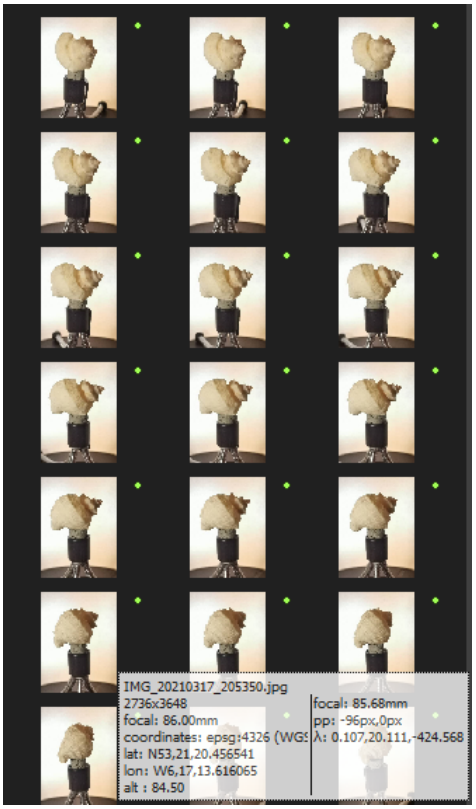



**Image 11:** Array of photos in Reality Capture.

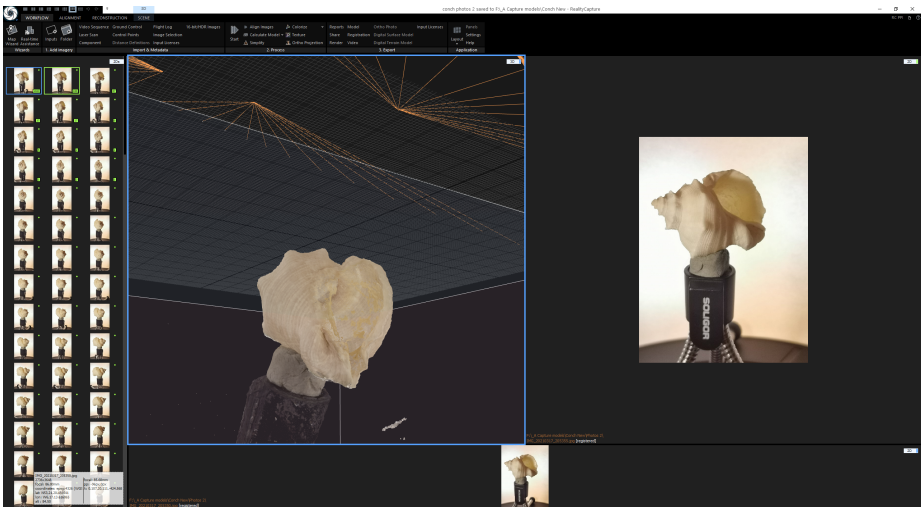


**Image 12:** Reality Capture algorithm produces a model.

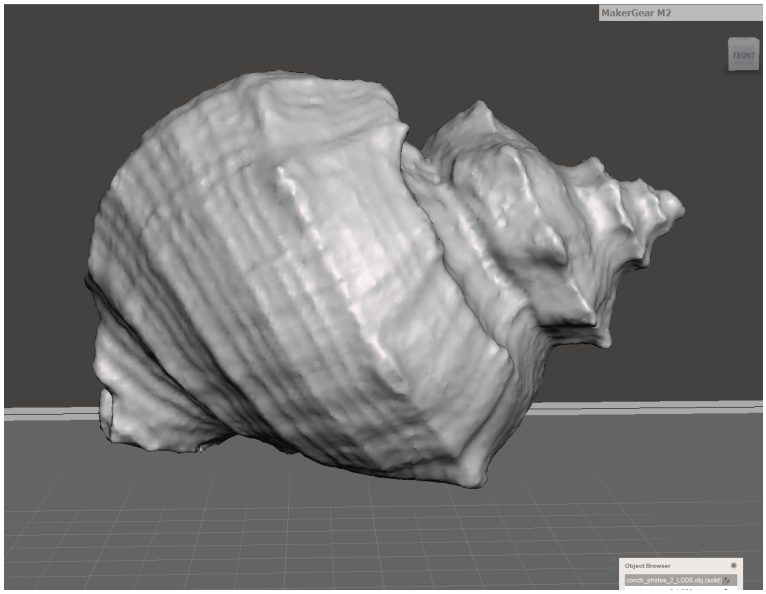



**Image 13:** Scan taken into Meshmixer for clean-up.

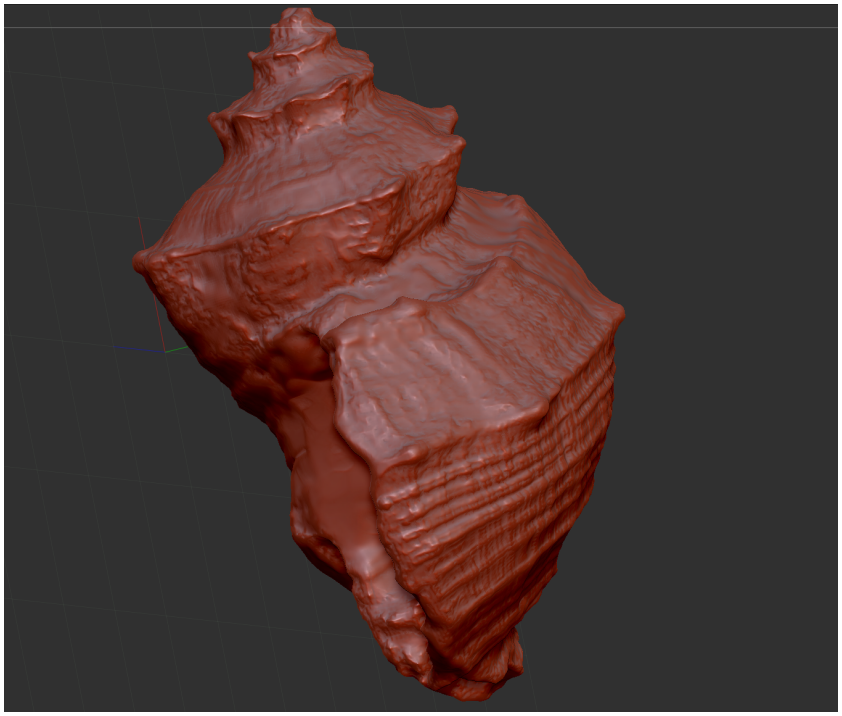


**Image 14:** The mesh is then sculpted further in ZBrush.

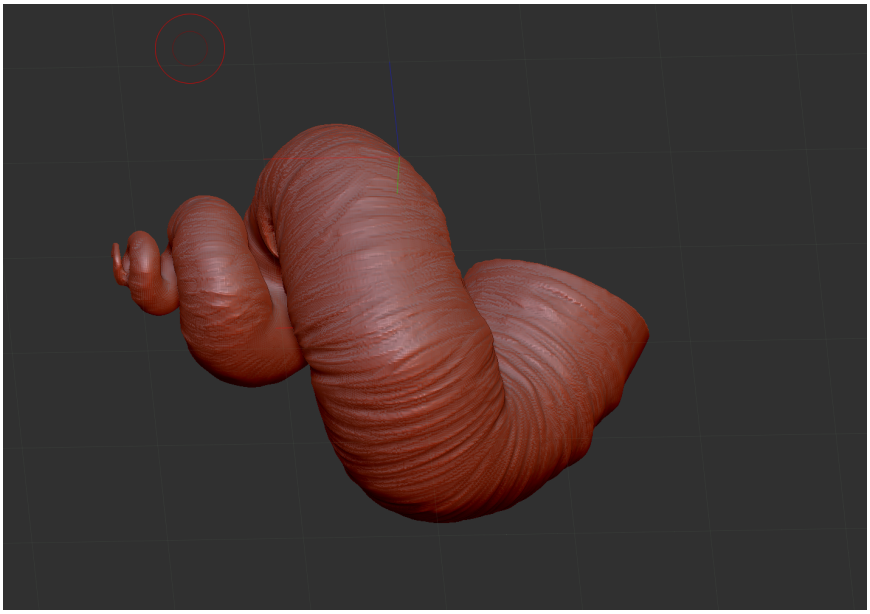


**Image 15:** The interior - missing from the scan - is sculpted to perform a Boolean operation on the mesh.

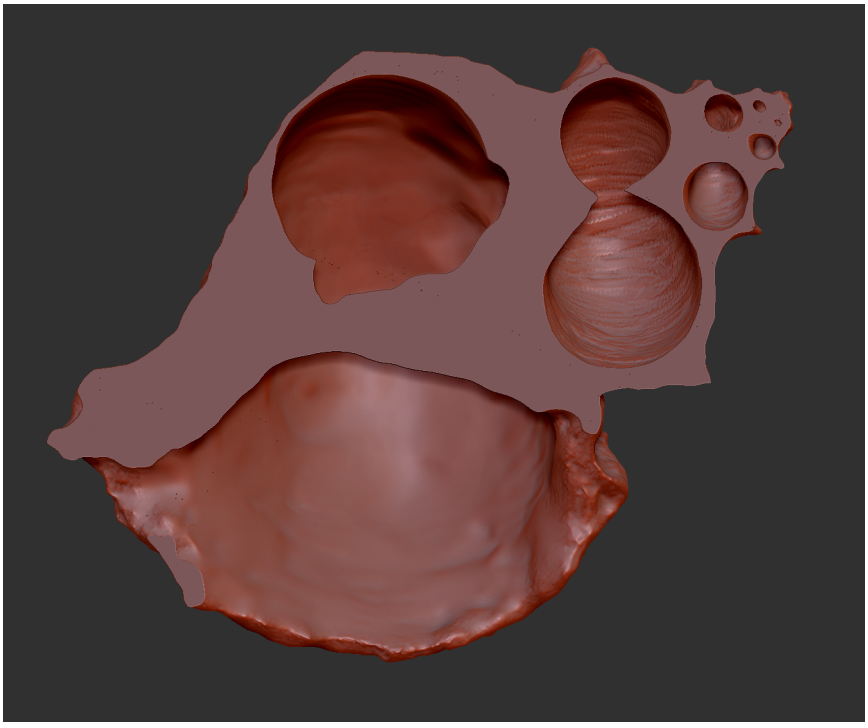


**Image 16:** Cross Section of the resulting Boolean subtraction operation.

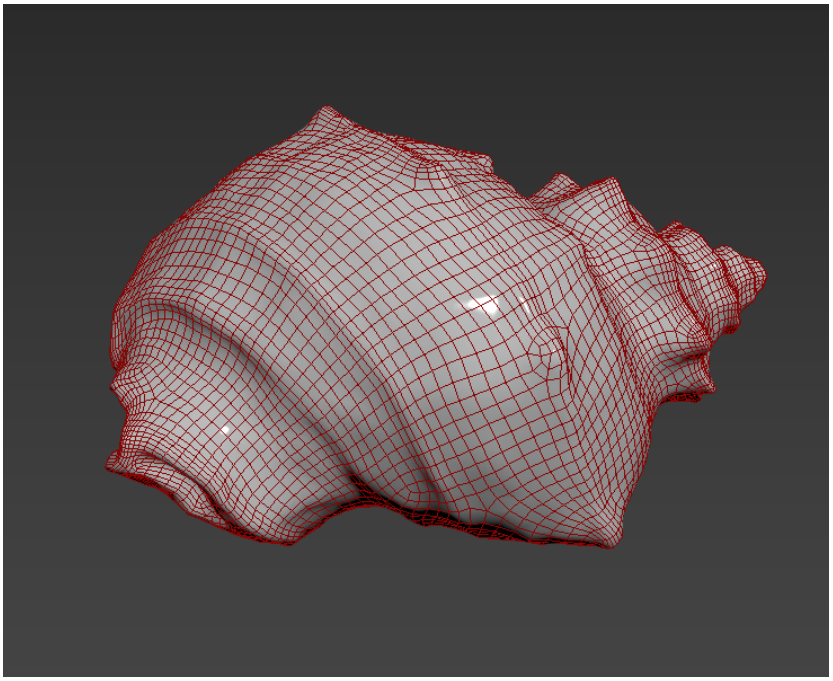


**Image 17:** Retopologised mesh. The resulting mesh is over 600K triangles and thus too many for display in Unity. The mesh needs to be “retopologised”. This is a low-resolution mesh draped over the high-res mesh in order to extract the high frequency information as a normal map.

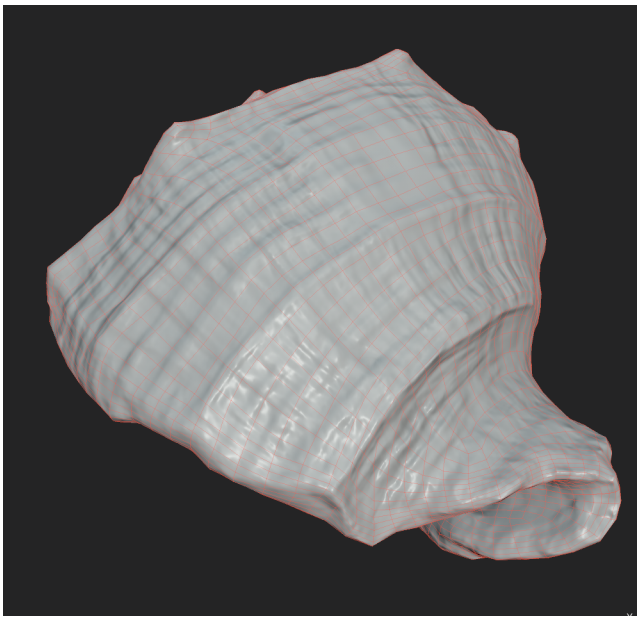


**Image 18:** Retoplogised mesh with high frequency detail encoded as a normal map. Low res wireframe is in red.

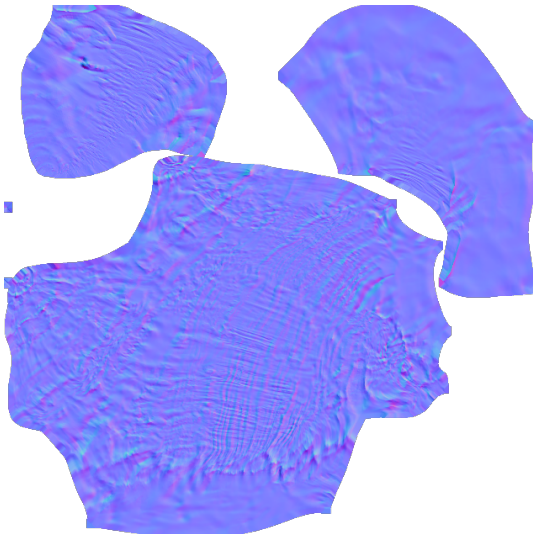


**Image 19:** Normal Map.

**Image 20:** Diffuse Colour Map.

**Image 21:** Early rendering of the bronze conch shell.

***Red Ink***

**Image 22:** Still from *Red Ink.*

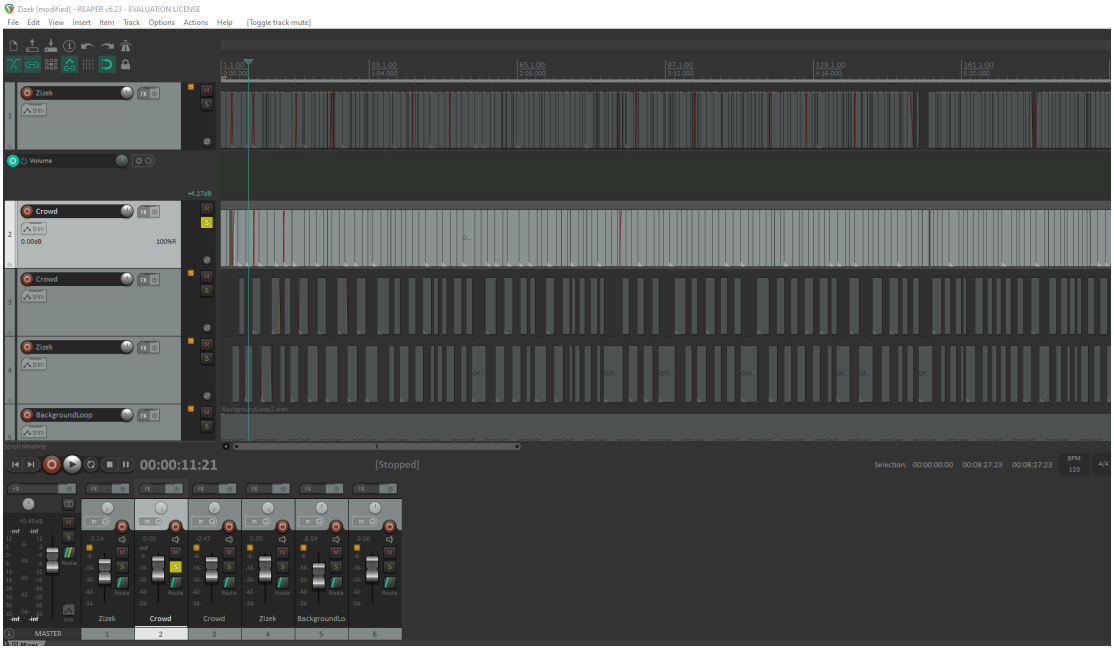



**Image 23:** Zizek's performance at Occupy Wall Street segmented into clips of the call and response.

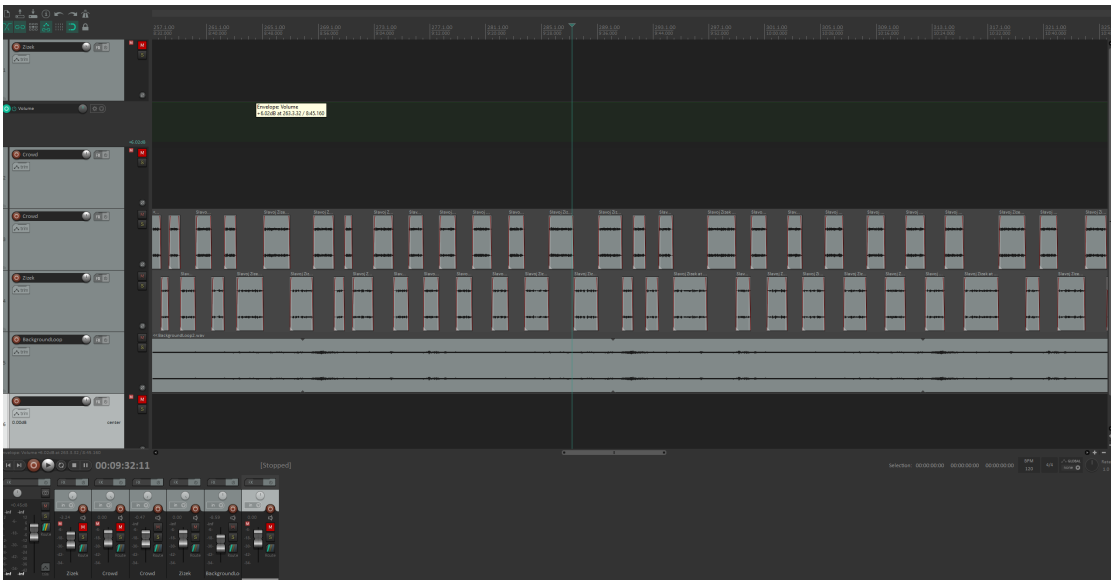



**Image 34:** Closer view with background ambient track at the bottom.

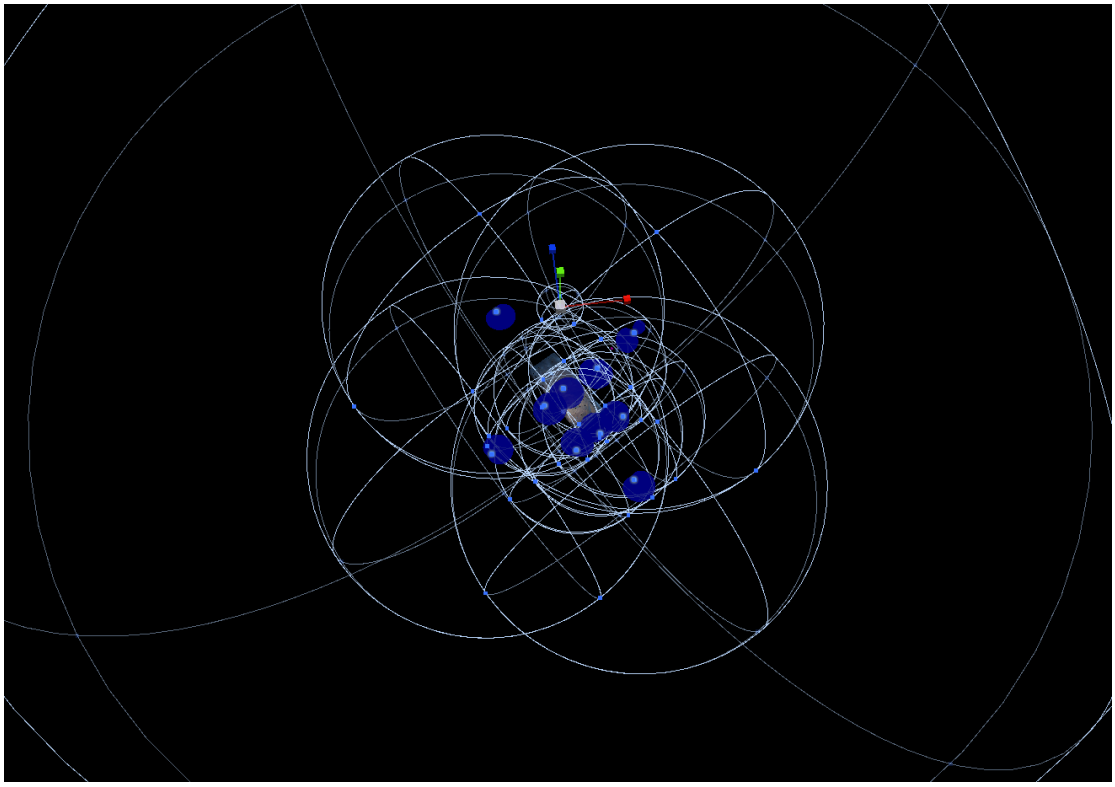


**Image 25:** Audio Sources distribution.

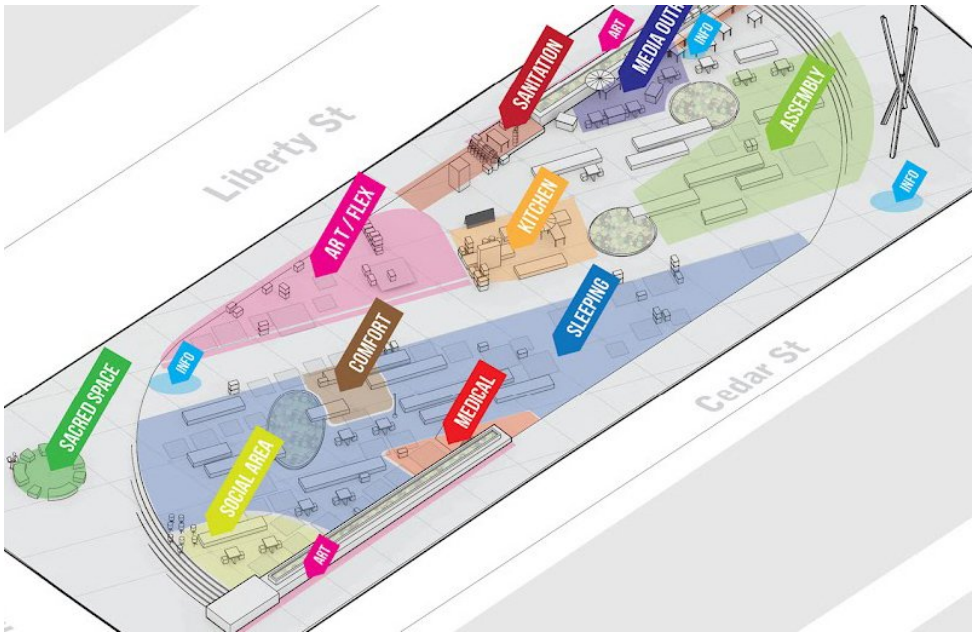



**Image 56:** Illustration of OWS from Mapping Liberty Plaza. [online image] https://placesjournal.org/article/mapping-liberty-plaza/.

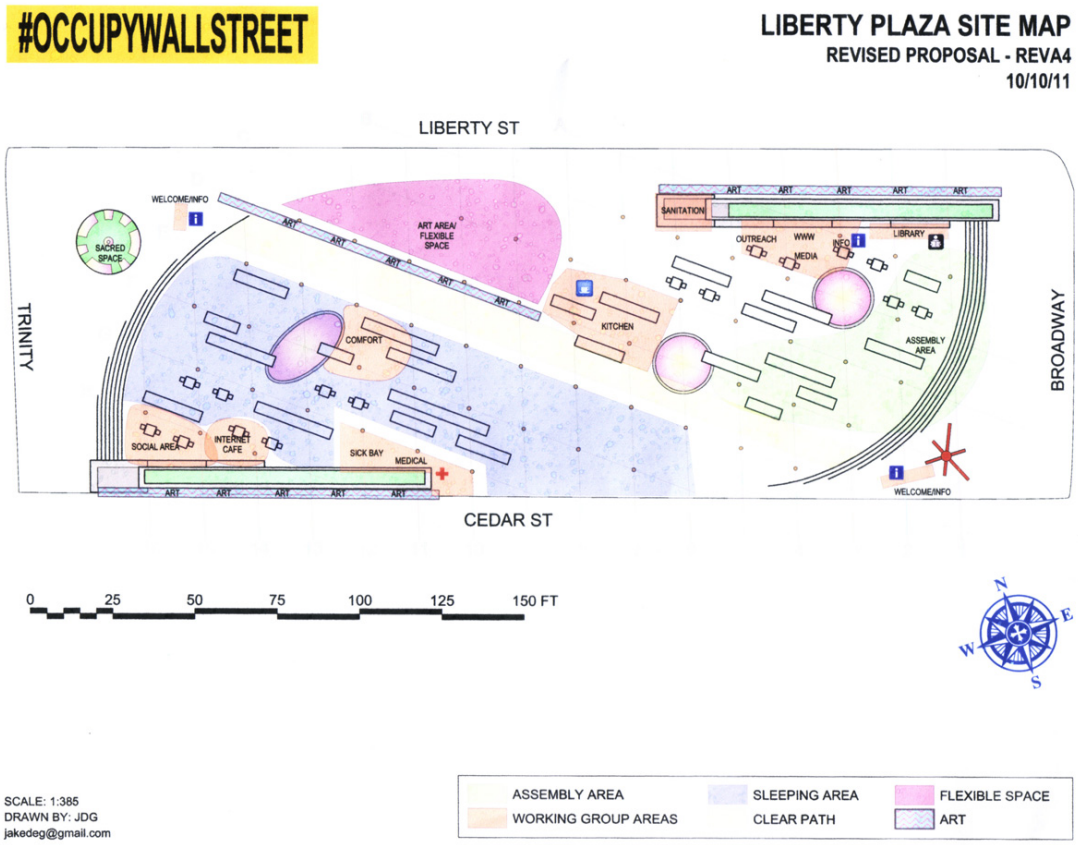



**Image 27:** Map from Occupying Wall Street. [online image] https://www.orbooks.com/catalog/ows/.

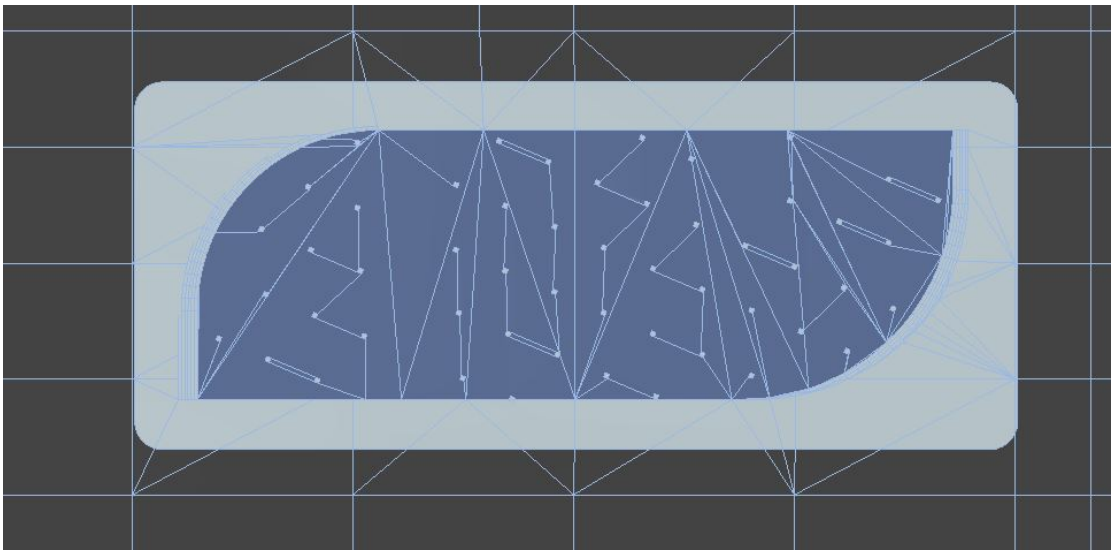


**Image 28:** First attempt at a reconstruction of Zuccotti Park.

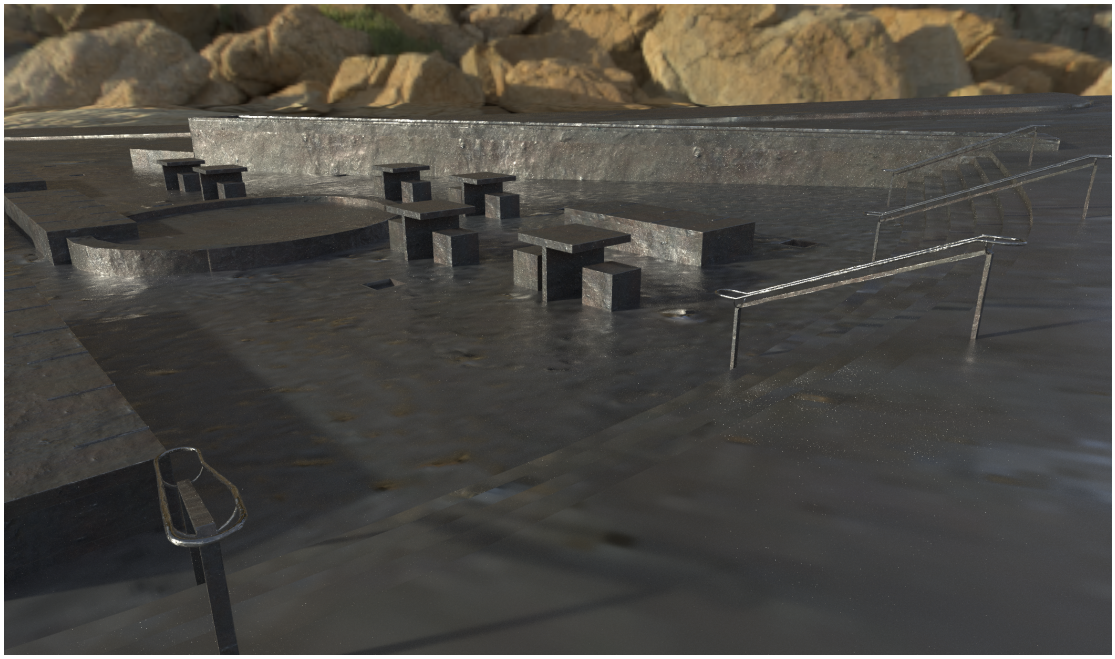


**Image 29:** Textures and material applied.

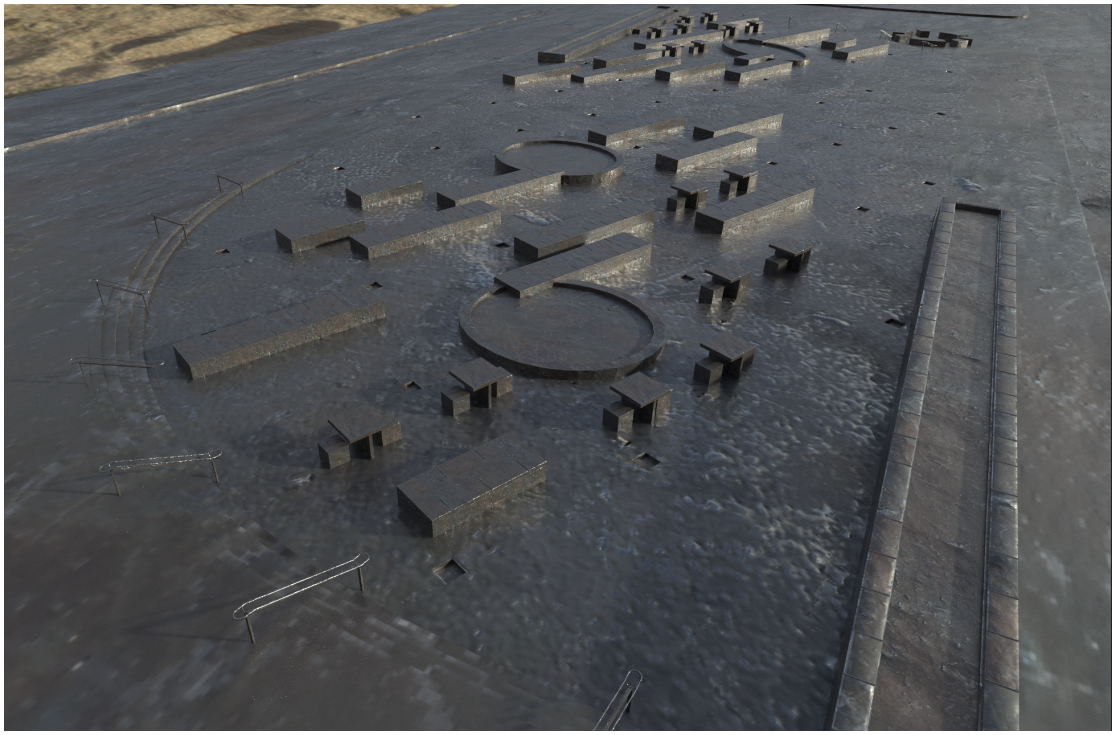


**Image 30:** Iray render from Substance Painter.

**Image 31:** UV layout of Zuccotti Park model.

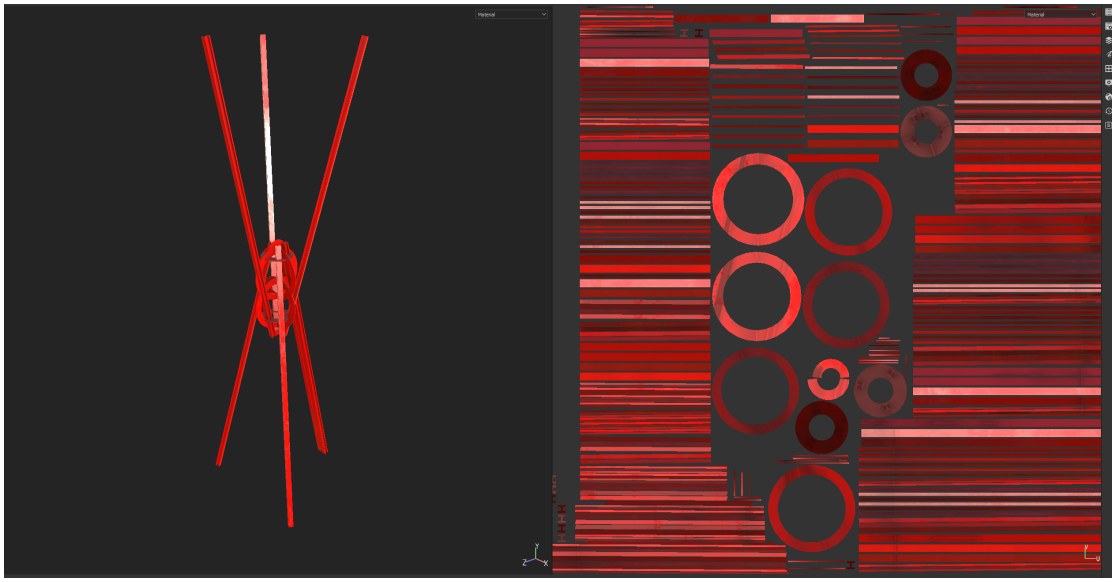


**Image 12:** Model of ‘Joie de Vivre’ by Mark di Suvero at Zuccotti Park. This was ultimately abandoned from the work, in favour of a more minimal space.

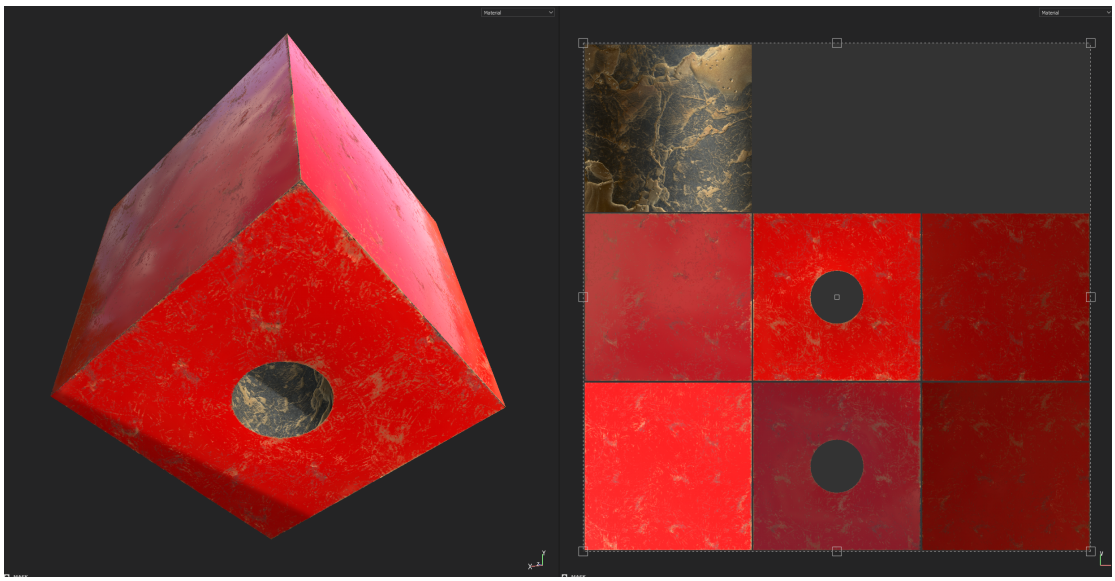


**Image 33:** ‘Red Cube’ by Isamu Noguchi. Similarly discarded from the final render.

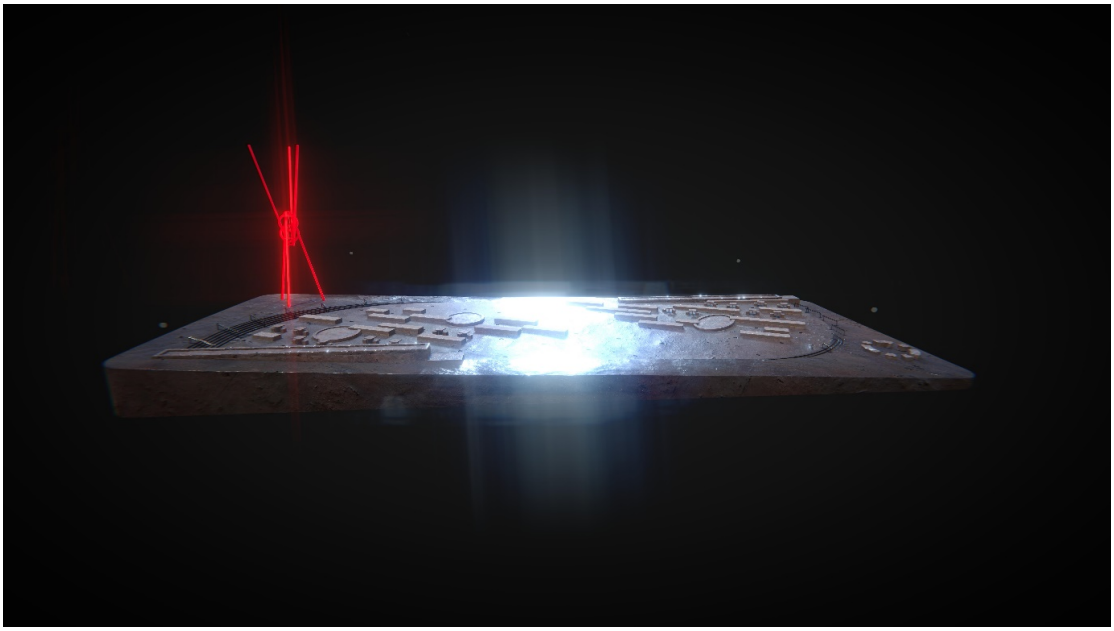


**Image 43:** First iteration of *Red Ink*.

***Echo Encounters***

**Image 45:** Still from *Echo Encounters.*

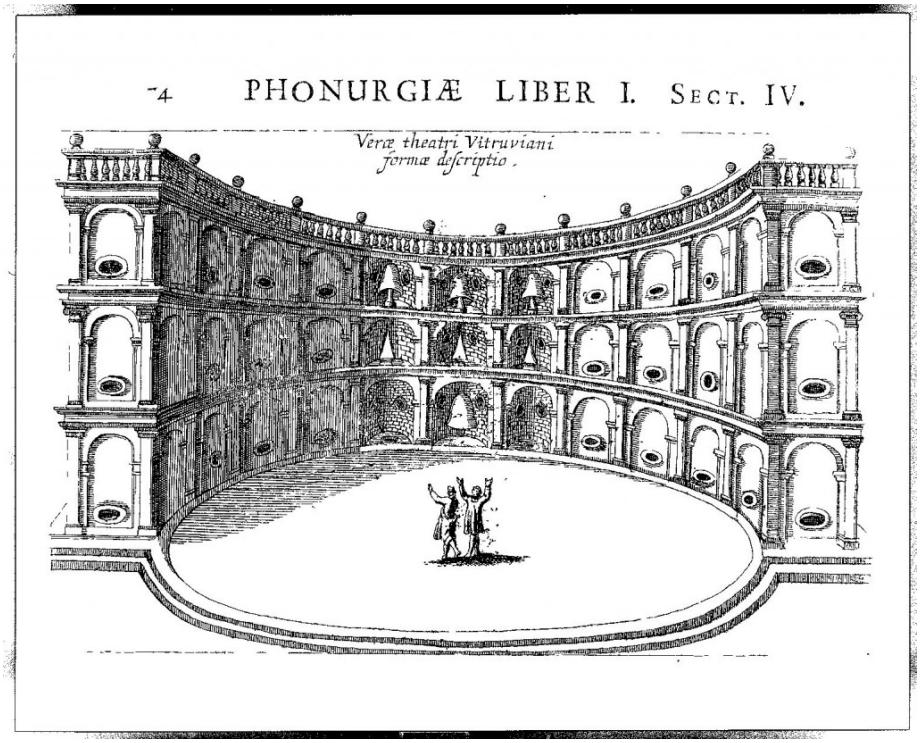



**Image 36:** Original Source image from Kircher's *Phonurgia Nova.* [online image]. https://web.stanford.edu/group/kircher/cgi-bin/site/?attachment_id=675.

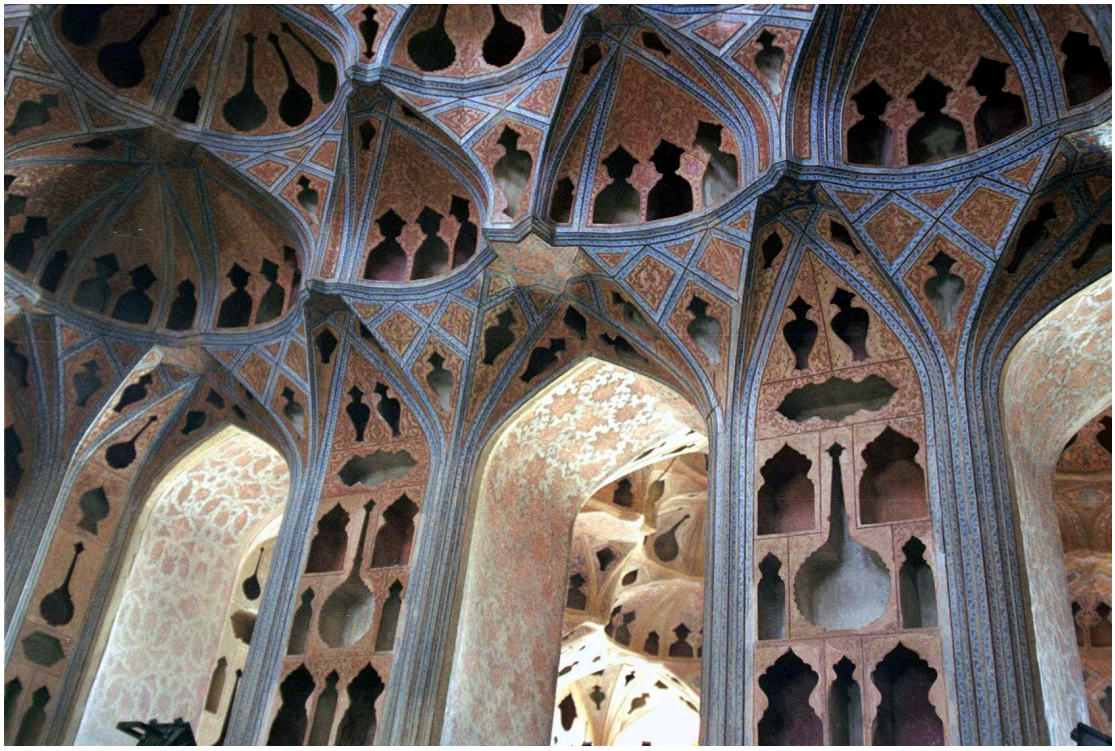


**Image 37:** Music Room of Ālī Qāpū Palace, replete with resonance cavities. [online image]. https://commons.wikimedia.org/wiki/File:Music_Room,_Ali_Qapu_Palace,_Isfahan,_Iran_(1267169451).jpg.

**Image 38:** 3D rendering of echo-vase used in *Echo Encounters*.

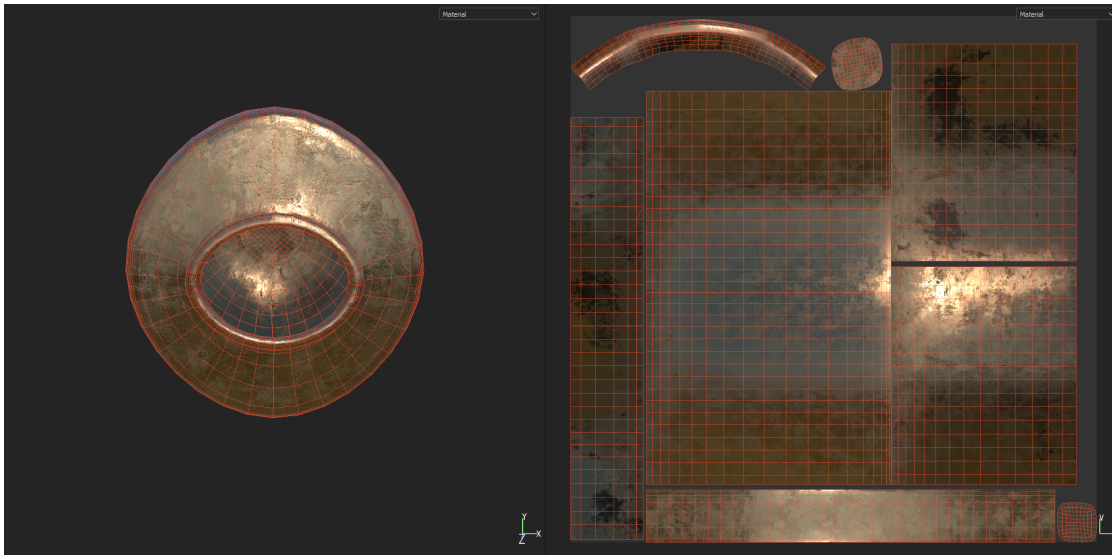


**Image 39:** 3D Model of the echo-vases of *Echo Encounters,* with UV layout on the right.

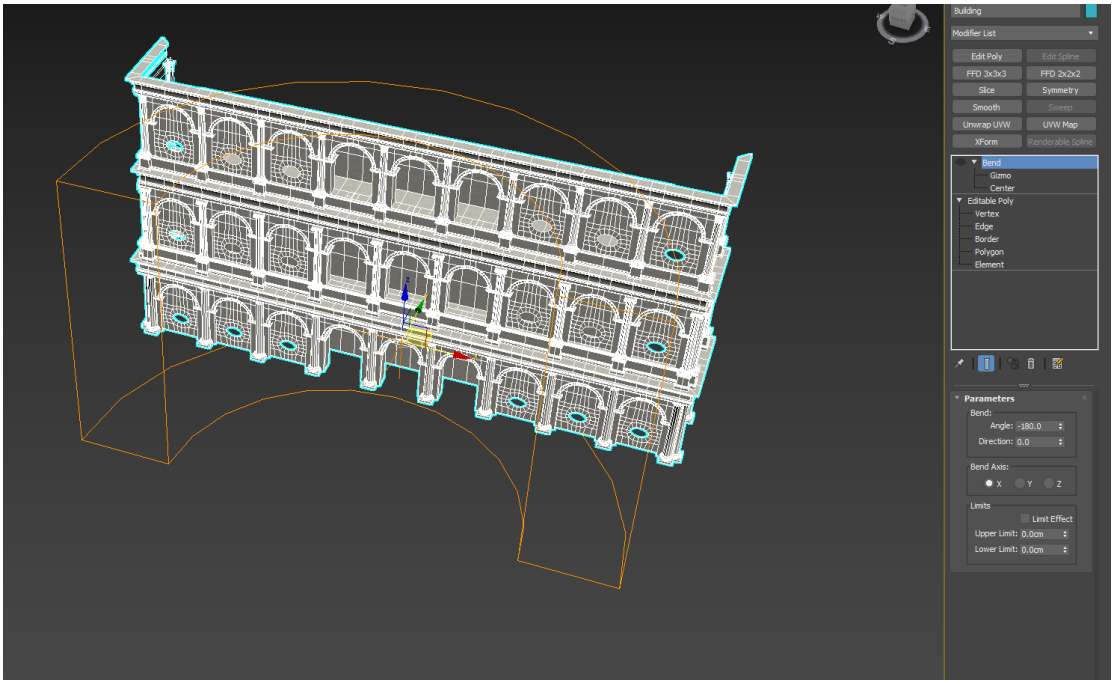



**Image 39:** Planar elevation of Kircher's Vitruvian Theatre before a Bend modifier is applied.

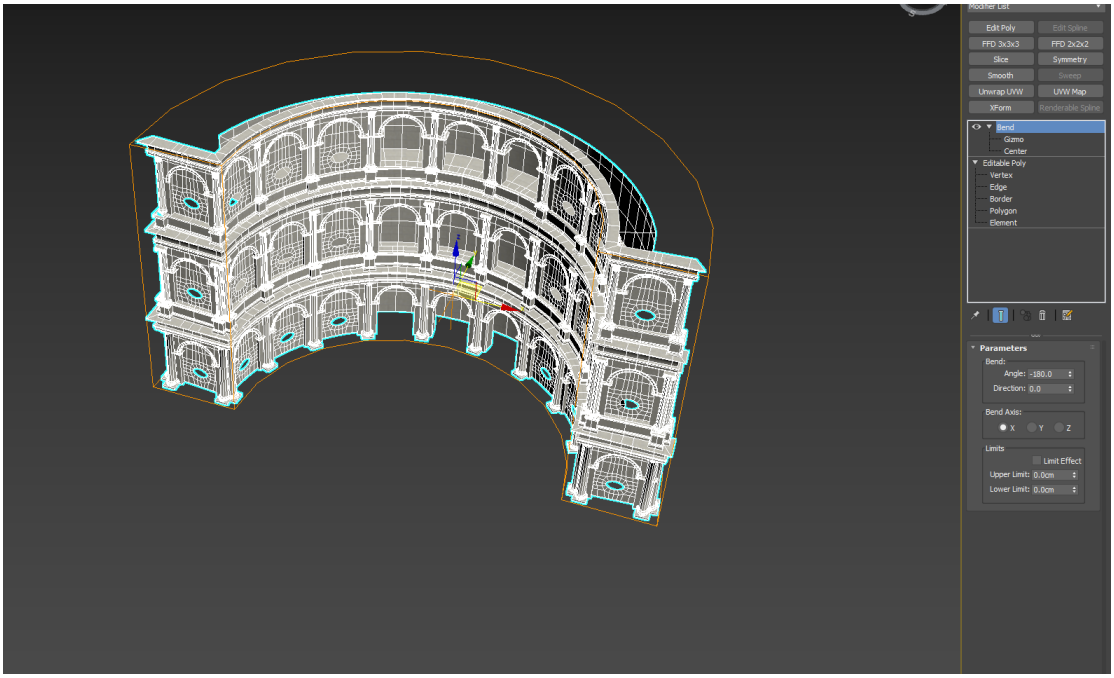



**Image 40:** Model with Bend modifier set to -180 degrees.

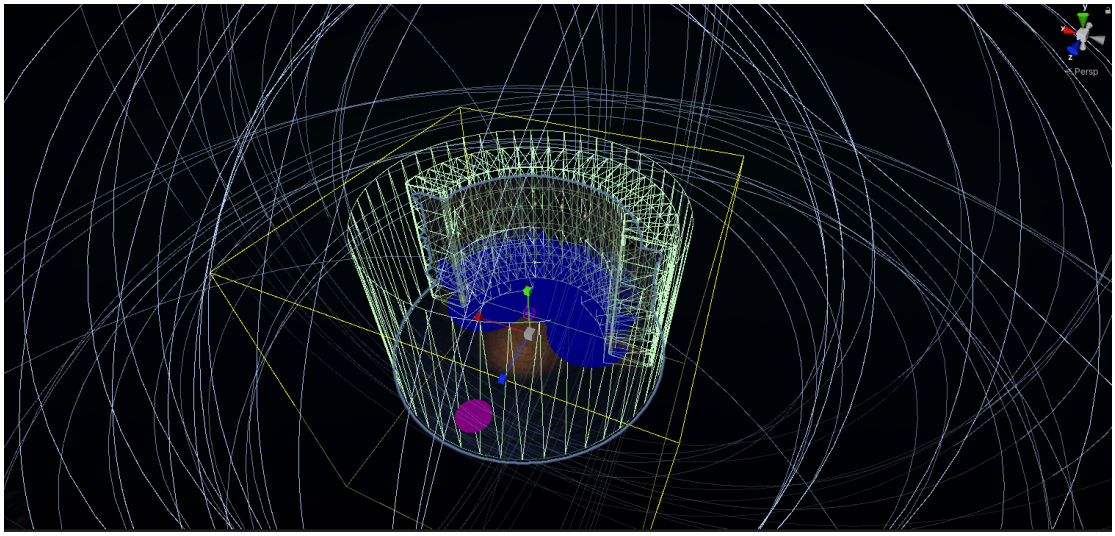



**Image 41:** Audio Sources in Unity.

***Muted Revolutions***

**Image 12:** Still from *Muted Revolutions.*

**Image 43:** Pearl Monument in Bahrain. [online image]. https://photos.travelblog.net/16191/464581/f/4619330-pearl-roundabout-1.jpg.

**Image 44:** Pearl Monument during the Bahrain Uprising, 2011. [online image]. https://en.wikipedia.org/wiki/File:Thousands_of_protesters_gathering_in_Pearl_roundabout_2_days_before_crackdown.jpg.

**Image 45:** Completed 3D model of original structure, prior to digital simulated destruction.

**Image 46:** Image sequence of demolition Hamad I Mohammed/Reuters. [online image]. https://www.nytimes.com/2011/03/19/world/middleeast/19bahrain.html.

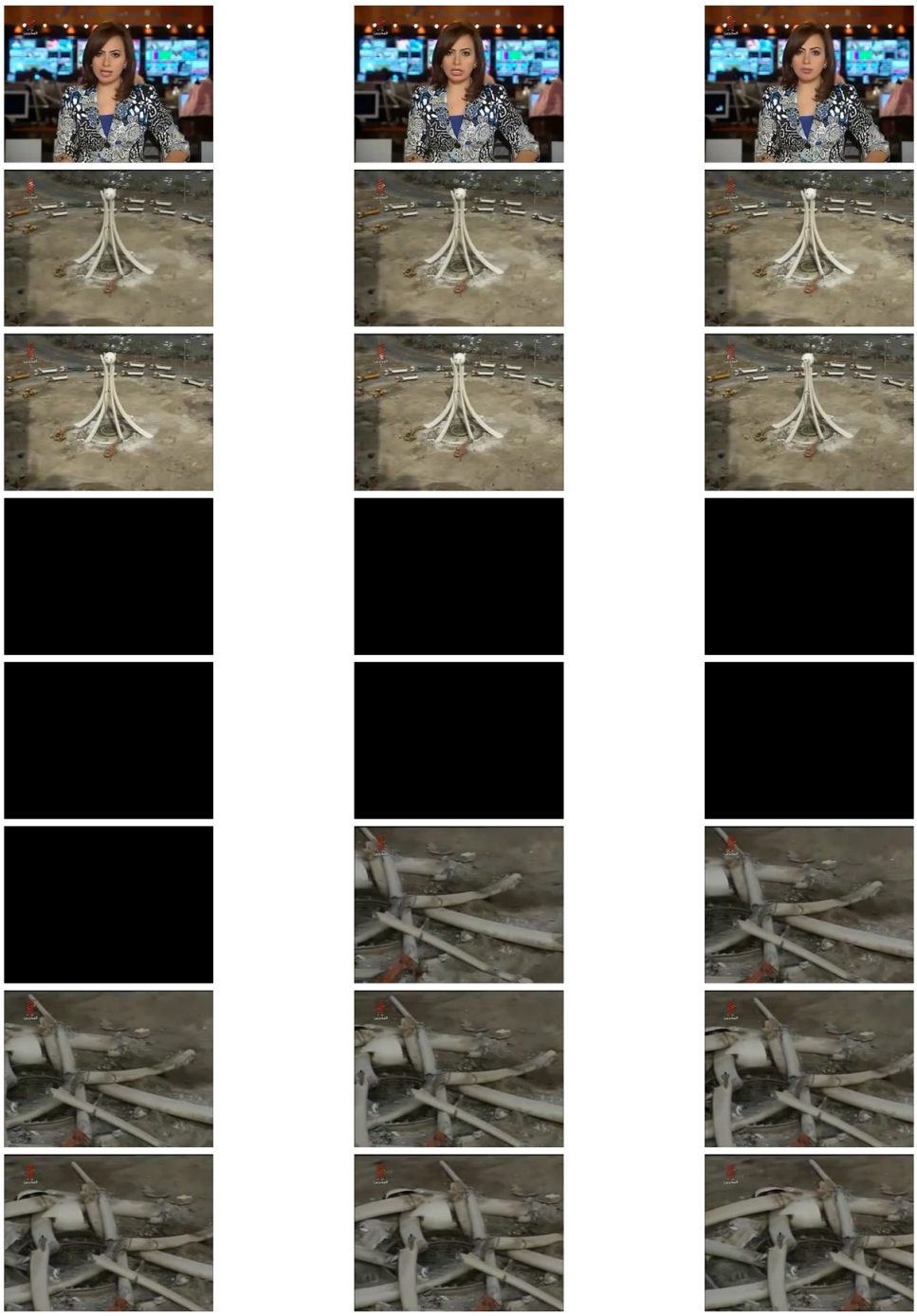


**Image 56:** News coverage of the demolition of the Pearl Monument was redacted to omit the actual collapse. It also masks the tragic death of one of the crew. [video montage]. https://www.youtube.com/watch?v=ZjL7ssHxl5M.

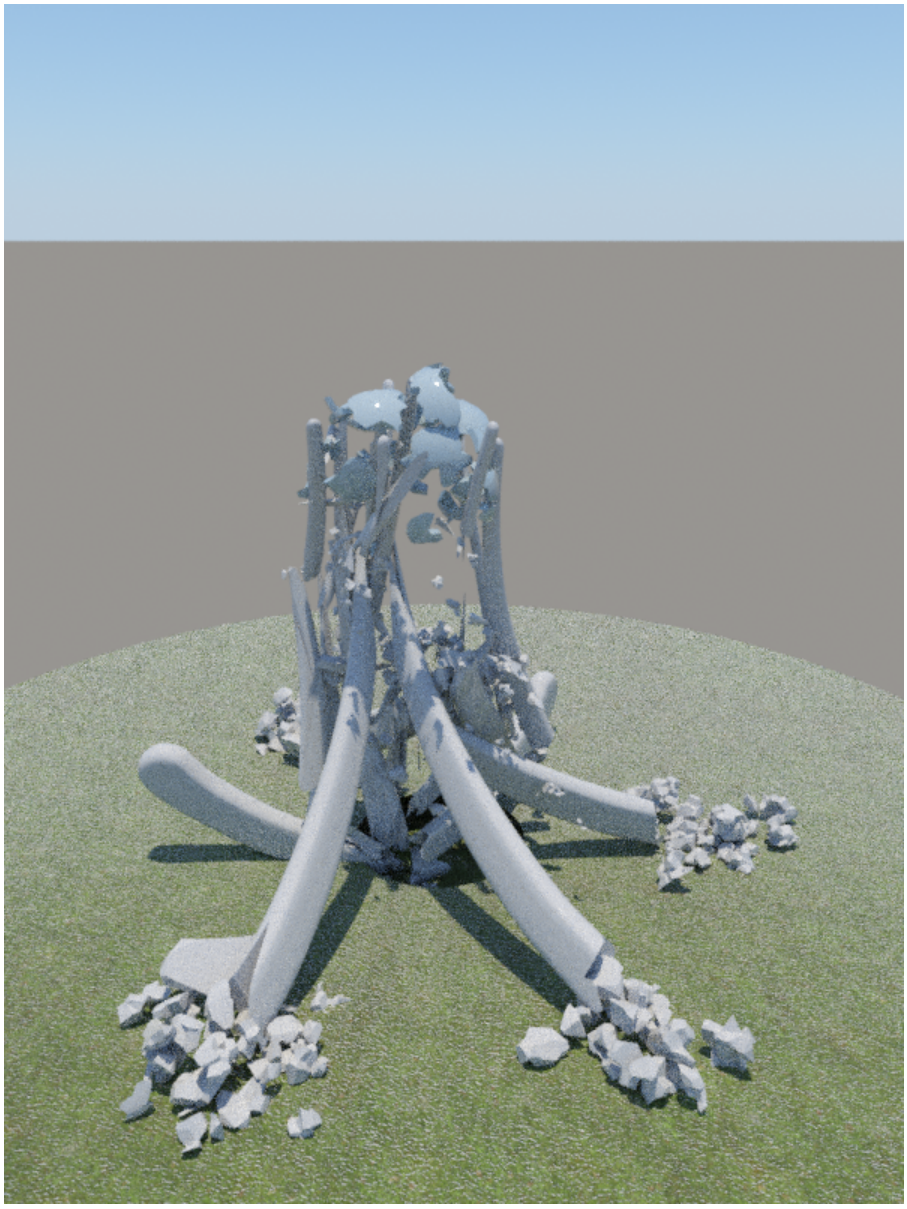


**Image 47:** Digital simulation of monument destruction using Rayfire for 3DS Max.

**Image 48:** 3D rendering of the bone fragments.

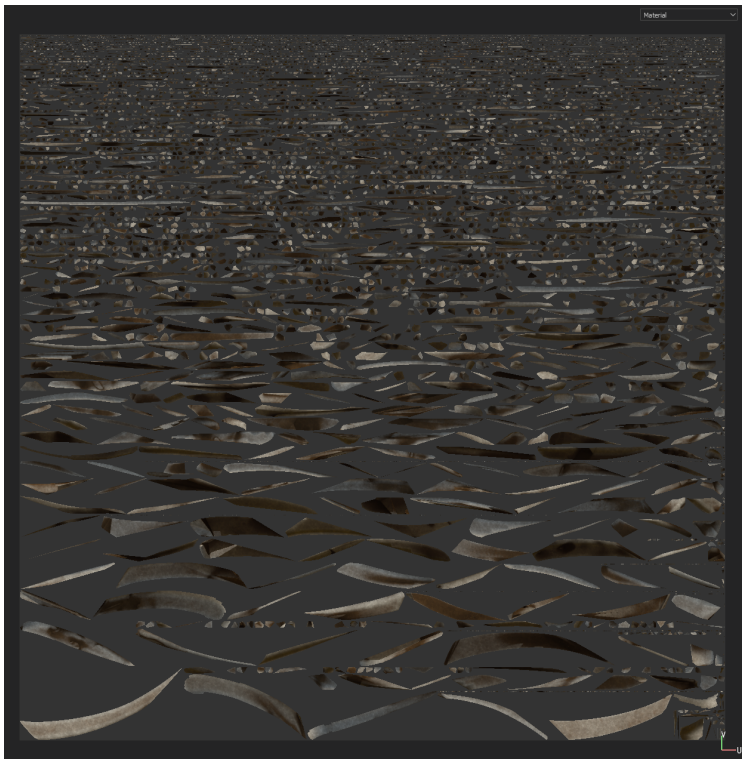


**Image 89:** UV layout of fragmented model.

**Image 50:** The Pearl Roundabout in the years since its erasure. [online image]. https://en.wikipedia.org/wiki/Pearl_Roundabout#/media/File:Al_Farooq_Junction_under_construction_at_former_site_of_Pearl_Roundabout.jpg.

***Self Other Echo***


**Image 51:** Captured frame from *Self Other Echo.*

**Image 51:** 'La nymphe Echo', by Paul Lemoyne, 1822, Musée du Louvre. [online image]. https://commons.wikimedia.org/wikiFile:La_nymphe_Echo,_Paul_Lemoyne,_1822,_Mus%C3%A9e_du_Louvre_(2).jpg.

**Image 52:** 3D Scan from ‘Scan the World’ used in *Self Other Echo.* [online image]. https://www.myminifactory.com/object/3d-print-echo-the-nymph-at-the-louvre-paris-france-6624.

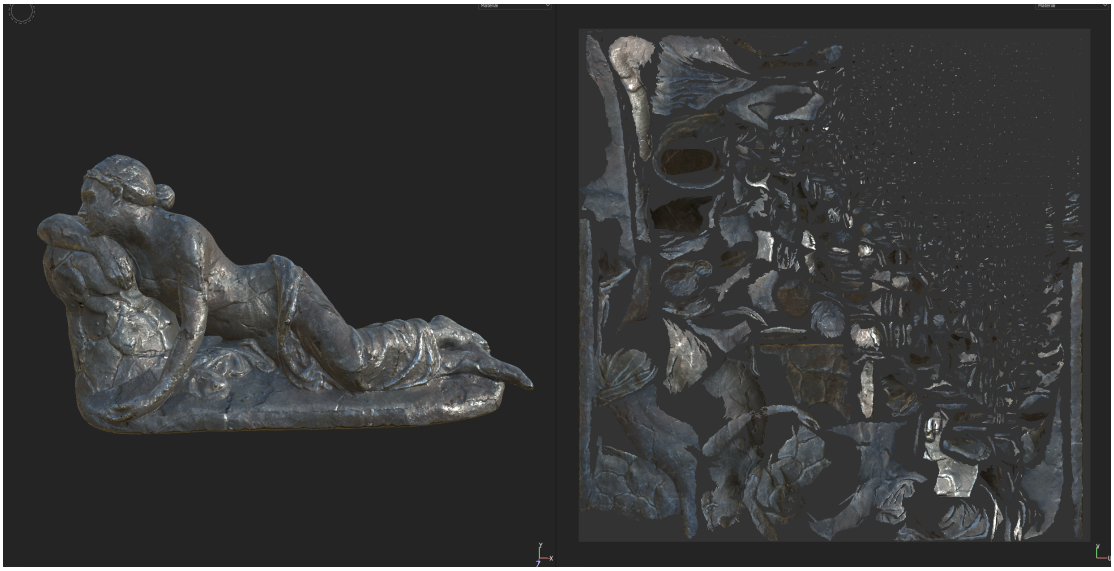


**Image 23:** Rendering in Substance Painter.

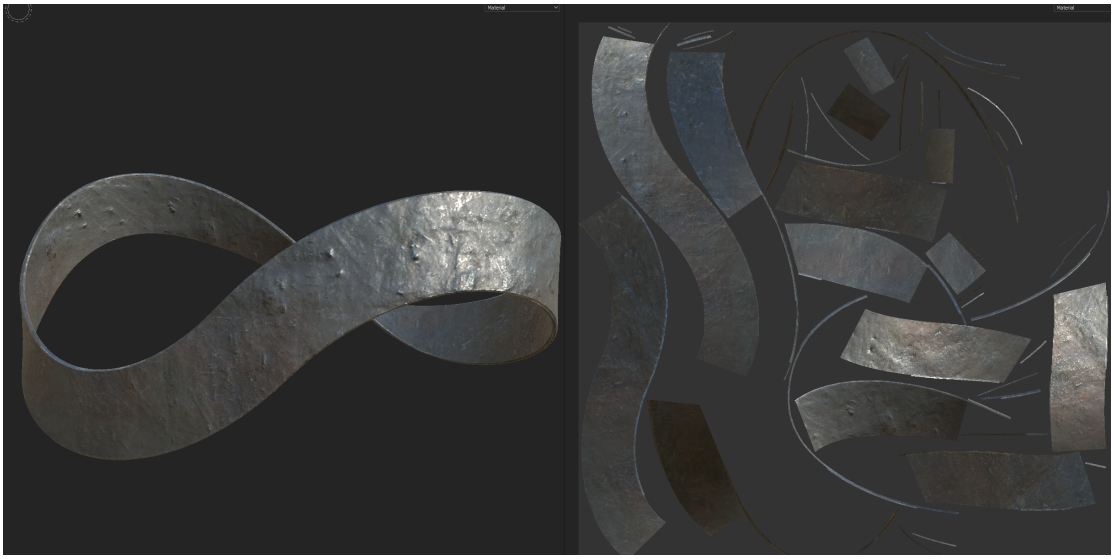


**Image 34:** Mobius Strip unfolded.

**Image 55:** Photograph of interior of Khamis Mosque, Bahrain.

## viii. *Biographical Note*

Sharon Phelan is an artist, musician and writer, born in Bahrain and based in Dublin, Ireland. She has a BA in Fine Art Media and History of Art and Design from the National College of Art and Design, an MPhil in Music and Media Technologies from Trinity College Dublin, and is a classically trained vocalist. Specialising in digital media and sound, Sharon's practice and research explores sonic communities, audile techniques and technologies of voice, which inform her current project *Vocal Artefacts* — a series of primaudial virtual sculptures in the realm of sonic fiction. Her writing has appeared in various exhibition contexts, artist monographs and journals, with recent texts addressing topics including echoes, the human microphone and voices of memory.

## ix. *Research Outcomes*

The ideas in this thesis developed during my time at the Arts Technology Research Lab in Trinity College Dublin. Some of the preliminary thinking and research for this thesis has appeared in publications, conference presentations, performances, and exhibitions. These include:

**Performances and Exhibitions**

Sound & Fiction, Bahrain (December 2020)

Dark Arts Festival, Dublin (October 2019)

IKLECTIK, London (September 2019)

Culture Night at The Space Between, Dublin (September 2019)

Spatial Music Collective at Sounding Out the Space, Dublin (November 2017)

**Publications**

*Songs and the Soil,* edited by Mark Garry and Louise Reddy (2020)

*Sonic Urbanism,* edited by &beyond for Theatrum Mundi (2019)

**Conference Paper Presentations**

*Crafting a Sonic Urbanism*, MSH Paris Nord, France (September 2018)

*Radio Cause Commune,* 93.1 FM (September 2018)

*Loud Objects Moving Air*, University of the Arts, London (January 2018)

*Sounding Out the Space — An International Conference on the Spatiality of Sound*, Dublin Institute of Technology, Ireland (November 2017).

*The Sound of Memory Symposium: Sound-track/Sound-scape,* Goldsmiths University of London, UK (April 2017)

*Digital Arts and Humanities Ignite Session,* Trinity Long Room Hub, Dublin (February 2013)

*CTM Festival for Adventurous Art and Music,* Berlin (January 2013)

*Digital Arts and Humanities Ignite Session,* NUIG, Galway (September 2012)

*Symposium on Creative Technologies,* Science Gallery, Dublin (April 2012)

*Arts Technology Research Lab,* Trinity College Dublin, Ireland (March 2012)

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