
In the Betweens:
An Exploration of the Interstices

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The second component of the submission is in the form of a visual archive on MP4 which includes the exhibition of visual art installed in LICA, Lancaster University March 2022. This exhibition and the process leading to it is documented through digital recording in the virtual archive of this thesis.

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Dedicated to my father, Alexander Opalinski and the memory of my mother, Teresa Weronika Opalinski, 1931 – 2022.

DECLARATION

I declare that the thesis is my own work, and has not been submitted in substantially the same form for the award of a higher degree elsewhere.

Yvonne Opalinski

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CONTENTS

<i>ACKNOWLEDGEMENTS</i>	2
<i>DECLARATION</i>	3
<i>CONTENTS</i>	4
<i>LIST OF FIGURES</i>	5
<i>ABSTRACT</i>	6
<i>1 Introduction</i>	7
1.1 Prelude in C^{2b} minor	9
1.2 the Bogey-land	11
1.3 Spaces Set	15
1.4 A Free and Savage Creation	19
1.5 In some shape or form unfolding	23
1.6 Things in Phenomena	28
<i>2 Folding the Universe</i>	32
2.1 Begin with a Bang	32
2.2 Collapsing Nightmare	33
2.3 Vanishing Vat and Mont Ste. Victoire	44
2.4 Entangling Bifurcations	57
2.5 Of folds and inframince	70
<i>3 The Sound of the Inframince</i>	80
3.1 Introduction	80
3.2 Reverb off the Tympanum	82
3.3 surround-sound	91
3.4 by Chance improv	98
3.5 Reciprocal Removal	104
3.6 Sound rips	109
<i>4 Speak Between the Lines</i>	120
4.1 Introduction	120
4.2 Iridescent Chaos	121
4.3 Uncaged	125
4.4 Renga Jenga	133
4.5 Inside Inframince	143
<i>5 Conclusion</i>	162
<i>Appendix A – Poetry Journal: Excerpts</i>	170
<i>Appendix B – References</i>	193
<i>Appendix C – Visual Archive and Mapping</i>	193

LIST OF FIGURES

Figure 1: Yvonne Opalinski, <i>Rêves</i> (2014), Oil on Modeling Paste and Multiple Canvases, 48”x 86”	34
Figure 2: Yvonne Opalinski, <i>WW1_3-1</i> and <i>WW1_3-3</i> (February 2018), Digital Animation	38
Figure 3: William Kentridge, <i>Felix in Exile</i> (1994)	39
Figure 4: William Kentridge, <i>Monument</i> (1990)	40
Figure 5: Yvonne Opalinski, <i>Zo Figs</i> (2018), Digital Animation	41
Figure 6: Yvonne Opalinski, <i>Waterwind2</i> (2018), Digital Animation	42
Figure 7: Yvonne Opalinski, <i>WW2</i> (2018), Digital Animation	42
Figure 8: Paul Cézanne, <i>Bibemus Quarry</i> (1900) Oil on Canvas, 65 x 81 cm	46
Figure 9: Phyllida Barlow, <i>cul de sac</i> (2019), Royal Academy, London	52
Figure 10: Phyllida Barlow, <i>cul de sac</i> (2019), Royal Academy, London	53
Figure 11: Yvonne Opalinski, <i>Unhinged 7_3_i</i> (2021), Digital Animation	55
Figure 12: Yvonne Opalinski, <i>Unhinged 7_3_ii</i> (2021), Digital Animation	55
Figure 13: Yvonne Opalinski, <i>Unhinged_Images2021_ii</i> , Digital Animation	61
Figure 14: Yvonne Opalinski, <i>Unhinged_Images2021_iii</i> , Digital Animation	62
Figure 15: Yvonne Opalinski, <i>Unhinged_Images2021_iv</i> , Digital Animation	63
Figure 16: Yvonne Opalinski, <i>MindST June 2019</i> , stills from LICA Confirmation Panel Installation	66
Figure 17: Marcel Duchamp, <i>La mariée mise à nu par ses célibataires, même (the Large Glass)</i> (1923)	76
Figure 18: La Monte Young, <i>Composition 1960 #10</i>	94
Figure 19: John Cage, <i>Aria</i> (1958) – instructions	96
Figure 20: John Cage, <i>Aria</i> (1958) – a page from the musical score	97
Figure 21: Yvonne Opalinski, <i>Unhinged 6_1b</i> sequential frames, Digital Animation	115
Figure 22: Yvonne Opalinski, <i>Unhinged</i> (June 2020), Digital Animation	128
Figure 23: Yvonne Opalinski, <i>Unhinged Part II</i> , Digital Animation	129
Figure 24: Yvonne Opalinski, <i>Waterwind</i> (December 2017), Digital Animation	135
Figure 25: Yvonne Opalinski, <i>Number 11–requiem</i> (February 2018), Digital Animation	138
Figure 26: Yvonne Opalinski, <i>Mind Wandering 8</i> (November 2018), Digital Animation	139
Figure 27: Yvonne Opalinski, <i>MST 3</i> (March 2019), Digital Animation	140
Figure 28: Yvonne Opalinski, Excerpts from animation <i>MST_7</i> (May 2019), Digital Animation	141
Figure 29: Yvonne Opalinski, <i>Mind Wandering 5</i> (May 2019), Digital Animation	142
Figure 30: William Kentridge, <i>Stereoscope</i> , (1998-1999) multiple stills	144

ABSTRACT

This thesis and its accompanying project are part of a critical exploration of space, identified as the interstices. Space is considered a void, a measure of separation or a counterfoil that accentuates material mass in art. In spite of these traditional associations, my aim is to alter how we think of space not only in art, but as a creative, cross-disciplinary medium. This research project investigates the minutia of space where sound, drawing, animation and poetry form a scholarly framework in conjunction with physiology, physics and philosophy to open interstitial encounters. As a structural tool and a macroscopic example of the organic interstices, the Japanese art of *renga* runs through this thesis to guide us inside those spaces.

Through this interdisciplinary approach, the project shapes an awareness of space as a material of substantive metamorphosis outside of time. By integrating media, this project establishes a new method of bringing things together inside a reworked *renga* continuum between virtual and physical. Accordingly, a new way of understanding from the inside out has been developed to shatter conventional separations, beginning with those divisions between artist, artwork and audience. As such, the subject-object gap is challenged as a method for knowledge acquisition, creative thinking and doing.

This study affirms that in the dissolution of separations antiquated grooves of thinking no longer function and knowledge cannot be limited to a set information point in a moment of time. Rather, their disintegration is a mandatory condition for physical-intellectual knowing within quantum reconfigurations. Understanding then occurs inside the infinite *renga* circle. The expanded spatial poems developed in this project demonstrate this new way of thinking and being. As a result, a fundamentally different method of looking at things is presented inside the spaces of the interstices and from this materiality an ultimately transferrable research tool has been developed for interdisciplinary knowledge generation.

1 Introduction

My experiment has two aims: to show outward connections and relations between art, biology, physics and metaphysics and, from that, to establish how the spaces of the betweens, the interstices, formulate understanding from inside that space. Both aims are in response to the question concerning the association between spacetime, Paul Cézanne's collapse of space and Marcel Duchamp's gap. This thesis is firmly underpinned and informed through my research presented here in five chapters and my art practice resulting in the work *Unhinged*.

The Introduction begins with the example of *renga* as an entry into the organic structure of the interstices. After a brief explanation of the interstices (the spaces in the betweens) and the grey-zone in which they dwell, I discuss my rationale behind interdisciplinary connectivity as an approach to understand what they are and what transpires in this space. I introduce key philosophers in Alfred North Whitehead and Jacques Derrida. I discuss the significance of flux within the interstices to establish the mechanism behind the complex spaces of creativity. Then Cézanne's collapse of the subject-object distinction is introduced within the context of quantum theory and a discussion of how Karen Barad's agential realism supports my ideas.

Chapter Two examines how transformations of materiality facilitate the collapse of subject-object in a diffractive art praxis. I demonstrate how this occurs beginning with the methodology and choice of materials in my own art practice, which leads to a discussion on Cézanne in these terms. I identify the risk involved in this collapse and rework it by reflecting on space and materials in the practices of William Kentridge and Phyllida Barlow. I reformulate art spaces as reciprocal binaries or dyads through Derrida via Whitehead to discuss the intimacy Duchamp achieved finding the interval or gap of the interstices in his art practice. This leads to a reflection of intimacy in my own art practice.

In the third chapter, I show how sound further dissolves subject-object. I discuss this through sound and music as the nothingness that constructs material spaces and in

which occurs a letting go of ego into what Keats' calls negative capability. Through the practices of John Cage and Duchamp, I consider how sound and music redefine time and identity, unfolding an egoless continuum of experience that is a way in to generative dispersion. I use my art practice and that of Christian Marclay to examine the material state of nothingness that structures extreme intimacy and connectivity and enables audience integration into artwork, which formulates understanding from the inside.

In the fourth chapter, I reflect on the organic expansion of poetry in my art practice and how it shapes space and collapses subject-object. I establish the importance of play and the absence of rules that facilitate interstitial understanding and examine these in the works of James Joyce, John Cage and Stéphane Mallarmé, which also illustrate aspects of space and materiality. Through their musicality, I ascertain that words operate as another substance inside which artist and audience enter the interstices in a subjectless-objectless-egoless state. Finally, I analyse the function of words in transitional spaces as a link in the detemporalisation of sense and what this means in terms of understanding in the interstices.

Lastly, the final chapter provides a summary of these concepts, how they are reflected in my art, *Unhinged*, what findings came as a result of this experiment and how these outcomes transfer into broader cultural implications.

1.1 Prelude in C^{2b} minor

To begin my exploration, I invite you to imagine standing as one in a circle of poets asked to write a line or two for a poem on a given topic. The first, randomly assigned poet, speaks her lines, then moves to the next and so on around the circle twice, even three times to create a living poem. In September 2019, I had the opportunity to participate in this modified version of Japanese poetry called *renga* at the Museum of Contemporary Art in Toronto organized by Canadian poet Kelley Aitken. *Renga* started several hundred years ago in Japan to encourage collective poetic collaborations.¹ These poems follow a set structure until the poem is determined complete.

While we did not follow those strict conditions of Japanese *renga*, we did form a complex, organic structure that serves as the basis with which I examine my art practice in the context of the interstices², because this space is understandable for me as a doctor and is transferrable for deeper consideration in art theory. For example, in cell biology, the interstices are the spaces between cells. Cells stabilise in relation to one another with protein links that allow structures to keep their shape so a particular organic structure maintains a specific function. Between cells exists a dynamic continuum of interstitial fluid filled with water, solutes and ions. These components circulate throughout the organism in this continuum, crossing membranes in and out of cells around which interstitial fluid flows.³ Although the interstices describe an internal, microscopic ecosystem within the organic body, I reference the image of the *renga* circle as a macroscopic example of this environmental network. I will return to this image as an aid that clarifies how my art practice works in these spaces.

¹ <https://poets.org/glossary/renga>

² **in·ter·stice** | \ in-'tər-stəs \ **plural interstices** \ in-'tər-stə-,sēz , -stə-səz \

1a: a space that intervenes between things especially: one between closely spaced things

b: a gap or break in something generally continuous

2: a short space of time between events - <https://www.merriam-webster.com/dictionary/interstice>

³By tracing silver and hyaluronic acid deposits found in tissue distant to their dermal portals of entry, researchers concluded interstitial spaces are not segregated from each other, but are a continuum (Cenaj 2021).

Introductory Glossary

interstices = in·ter·stice | \ in-'tər-stəs \ **plural interstices** \ in-'tər-stə-,sēz , -stə-səz \ noun

1a: a space that intervenes between things especially: one between closely spaced things

b: a gap or break in something generally continuous

2: a short space of time between events

<https://www.merriam-webster.com/dictionary/interstice>

dyad = dy·ad | \ 'dī-,ad, -əd \ noun

1: a group of two; couple; pair.

2a: a secondary morphological unit, consisting of two monads: a chromosome dyad.

2b: the double chromosomes resulting from the separation of the four chromatids of a tetrad.

3: an element, atom, or group having a valence of two.

4: two vectors with no symbol connecting them, usually considered as an operator.

5: two persons involved in an ongoing relationship or interaction; the relationship or interaction itself.

<https://www.dictionary.com/browse/dyad>

noetic = no·et·ic | \ nō-'e-tik \ adjective

: of, relating to, or based on the intellect

Noetic derives from the Greek adjective *noētikos*, meaning "intellectual," from the verb *noein* ("to think") and ultimately from the noun *nous*, meaning "mind." *Noetic* is related to *noesis*, a rare noun that turns up in the field of philosophy and refers to the action of perceiving or thinking.

<https://www.merriam-webster.com/dictionary/noetic>

1.2 the Bogey-land

Current discussions in art have moved towards inquiries of materiality, assemblage and entanglements of subjectivity as rearticulated through forms of representation in diffractive art practices⁴. Where once the idea of cross-disciplinary artists or artists intersecting with science for experimentation fell under criticism (Graham 2014; Prophet 2011), art practices have increasingly relished the challenge of seeking out full frontal diffractive methodologies (as evidenced in numerous collaborations such as The EcoArt Network, Leonardo, the National Endowment of the Arts collaborations with NASA, and the International Conference on Brain-Body Imaging and the Neuroscience of Art, Innovation and Creativity and the hybrid research institutes at MIT or the University of California Irvine). These interdisciplinary partnerships, whose foundations faced a somewhat stealthy and sometimes turbulent naissance over a century ago, reflect a changing inclusivity within and beyond the artistic community. My ideas of the interstices as a microscopic *renga* are constituted on this basis.

My thesis begins at the intersection of the following three points not previously examined in relation to each other. Because of this indeterminacy, it remains a grey-zone of the unknown. This thesis is activated by the question: how are spacetime, Cézanne's collapse of space and Duchamp's gap related? My interdisciplinary background in science and art led me to connect those three points and here I introduce this connection. Physics, chemistry and biology, among other topics, composed my Bachelor of Science studies, immediately followed by medical school and more biochemistry, biology, anatomy and physiology. That early undergraduate

⁴ Indeed, artists Jane Prophet and Helen Pritchard in *Diffractive Art Practices: Computation and the Messy Entanglements between Mainstream Contemporary Art, and New Media Art (2015)* developed the term 'diffractive art practices' to describe how materiality informs art practice in relation to each other. Prophet and Pritchard directly involve physicist Karen Barad's discussion on diffraction as a physical phenomenon that describes the interference patterns occurring when different entities (for example: art works, art theories and art practices) entangle. Diffraction permits patterns of difference from which new entities emerge. It moves away from the concept of reflection, which concerns copies and mirror images. This distinction is of importance in my thesis because diffraction incorporates the idea of an internal, subatomic exchange through which new material entities form rather than the imitation of a reflection. By extension with interdisciplinarity, when diverse fields of knowledge and materials diffract, new unexpected or unanticipated knowledge develops with each diffraction/encounter.

exposure to Einstein's relativity and the spacetime continuum, which redefined time and mathematically demonstrated that subject can also be object, became my first point of interest. Subject being object in the same instance implies a collapse of space and boundaries in dimensions constituting another world.

The next important point in this intersection was a subsequent outgrowth from my struggles with subject and object when using paint and canvas during undergraduate art studies. Paul Cézanne's descriptions of time, space and volume in conjunction with his paintings caused me to recall spacetime and that a link existed with Cézanne's painting methodology. The third point is ensconced in Marcel Duchamp's discussion of the gap between artwork and audience as the real space where the completed art exists. To be specific, Duchamp's gap refers to the 'difference between what [artist] intended to realize and did realize', which amounted to an artwork in a raw state that the spectator still needed to refine (Duchamp 1973, 139). Besides the intimacy inside such a collapse, Duchamp's claim suggested the emergence of something new from the interaction between, from the space that I concluded is the same grey-zone in which Cézanne and spacetime dwell.

To understand how these three points (spacetime, the gap and Cézanne's collapse of space) connected, I began this doctoral research by turning to what made sense for me as a physician, which was physiology and the very particular aspect of physics called quantum theory. This and relativity were the parts of physics that remained interesting because their grey-zones caused even Bohr and Einstein difficulty as evidenced by their occasional backtracking. Although I initially reverted to scientific principles to find the academic foundations for this question, I wanted to understand how and why I saw a connection between spacetime and art. Why was this important to me? The formalities and formulae of physics did not burden Duchamp and Cézanne, which seemed to allow the freedom of thinking I was looking for in order to find answers and understanding. As a double-edged sword, their art made fresh connections with inquisitive eyes, but they also did not have the language that bridges art and science. None of these physicists or artists were biologists and I saw particular facts in human physiology that supported a connection between these disciplines that

are transferrable in a broader sense to cultural theory. I am their point of confluence through which this grey-zone of indeterminacy can be exposed and understood.

Inside the oddity of spacetime something familiar resonated. I noted that the early metrics formed in the knowledge of physics, chemistry, biology and metaphysics worked from the premise of a firm separation between subject and object. This perception was the difficulty I encountered when painting and shared with Cézanne. We have always perceived things through this Cartesian duality. The above-mentioned disciplines steer us to trust that this is how we think. These separations lead us to believe that this is how the world functions. They form the main sources of contention in discourses on art, science and technology. Yet, I do not agree with such separations. My medical background reinforced the connections between all things despite the fact that medicine is guilty itself of these stark separations. I saw in the physiological interstices a pivotal place of doing for all conversations in art, the sciences and metaphysics.

My insertion of physiology as a link into cultural theory follows along the ideas of interconnectivity explained in the 1970's by physician-chemist James Lovelock and microbiologist Lynn Margulis, who developed the Gaia theory, in which all organic life influences the Earth as a single entity.⁵ This interrelationship applies biology to flesh out other sciences and is evolving as the area of study called quantum biology⁶. I am using the same line of thinking, using biology and quantum physics to flesh out concepts in art that connect to a larger picture within cultural theory. This has not yet been done through the unified lens of an artist who is also a physician.

⁵ Gaia theory <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/gaia-hypothesis>

⁶ An emerging field, quantum biology research remains theoretical with questions demanding further experimentation. Physicists in the 20th century proposed quantum biology was critical in the future medical world and saw applications for quantum mechanics in biological problems. Erwin Schrödinger's book *What is Life?* discussed biological usages of quantum mechanics. Other innovators, Niels Bohr, Pascual Jordan, and Max Delbruck contended that the quantum idea of complementarity was fundamental to the life sciences. In 1963, Per-Olov Löwdin coined the term "quantum biology" as a new field of study in his paper on proton tunneling as a mechanism for DNA mutation. https://en.wikipedia.org/wiki/Quantum_biology

Indeed, a significant part of this dissertation will invoke and deal with questions around quantum physics because it and relativity opened up a zone that is still very grey to our understanding now. Erwin Schrödinger, Niels Bohr and Karen Barad recognized this 'Bogey-land' of sorts within quantum theory, in which no one wants to tread and that involves biology. They acknowledged it exists, but they did not know how to get in there, how to approach it. Philosopher Alfred North Whitehead found himself in the same position, knowing this question contained a number of pitfalls. Rather than suggesting any new single truth in physics, I am using art, physiology and our specific historical and cultural moment to open this grey-zone and to delineate a paradigm of how to understand the world that changes how we think and will no doubt one day change again.

My original contribution takes this discussion into the 'Bogey-land', inside the grey space of subject-object collapse and regeneration. I am using art and science together to form an understanding from inside outward for your consideration. This thesis is not a scientific paper aiming to prove a scientific fact. It may lead to critical new questions in certain science disciplines such as quantum biology or aid in answering older ones on its foundations. Art and science collaborations are relatively recent in our history, but I build from a precedent set by Leonardo where in one person each discipline informs the other with no distinction. In so doing, I unfold another step into a way of thinking and doing where art and science open together to understand the gap and expose the grey-zone so that it is no longer a 'Bogey-land' where no one wishes to step because of the risk of getting bogged down in something perceived as a hoax. Instead, I wish to introduce this place as one of confluence and discovery.

This thesis demonstrates through my art practice how thinking occurs from the intra-actions⁷ inside this place of confluence, that I have determined are the interstices, that act like the gaps between poets in a renga circle. The three arms of my art practice (drawing/animation, music and poetry) integrate subject-object inside this gap and all

⁷ Intra-actions refer to Karen Barad's key term meaning a fundamental internal molecular change that occurs between a subject-object and is based in quantum physics, which will be expanded upon in the next chapter.

belong to the same research space. As I will show, Cézanne, Duchamp, James Joyce, Stéphane Mallarmé, and John Cage among others, operated in this zone from different artistic fields. They responded to the same challenge that demands a reconfiguration of the world away from our ancient understanding of subject-object separation. I link this internal world to our external one, building on organic and inorganic diffractive patterns of materiality to examine the spacetime continuum from an integrative point of view. Questions of materiality, time and space, subject and object, and inside outside are considered through each arm of my art practice to open the space of the interstices to understand how spacetime, Cézanne's collapse of space and Duchamp's gap depend on each other. I point out that this relational dependency is where knowledge begins within a subjectless-objectless state.

1.3 Spaces Set

Since Leonardo, artists have seen connections between art and science. New knowledge in science sprouted the Cubists, Futurists, Dadaists and Surrealists through to AbEx and Pop Art and continues to affect artists in reflective aspects of their practices to present day (Dalrymple-Henderson 2013). A legacy formed in the radical revelations of the Scientific Revolution, which lead to the Industrial Revolution to assert the supremacy of subject over object as demonstrated in steam engines, atom bombs, spacetime continuums and cyborg technology. Science and technology seemed to confirm a binary in nature and mind as vocalized through Emmanuel Kant and René Descartes (Latour 1999; Clark 2003; Gell 1998; Shaviro 2011; Ingold 2018; Whitehead 1929), yet early undercurrents in diffractive art practices coincidentally questioned these separations.

As evidenced in the 19th century, Cézanne confronted concepts of materiality by connecting the artist with nature through the medium of paint (Danchev 2013). Extending this, Duchamp transformed artist and audience into the media that materialised a completed artwork (Duchamp 1973; De Duve 1993). At the same time in science, the transmutation metaphors of quantum theory reconfigured traditional

subject-object material relations and lay the groundwork through which diffractive art practices now reshape these discourses (Larson 2018; Stapp 2006; Bohr 1958; Smartt Gullion 2019; Kotze 2018; Hellman, Lind 2017).

Implementing the term diffractive art practice acknowledges artist Jane Prophet's definition as 'a process-based approach that does not fix the object of study or subject in advance and allows for emergence in the research process' (Pritchard, Prophet 2015). Emergence recalls the something that materialises from Duchamp's gap and Cézanne's collapse of space. Prophet and Pritchard draw on Barad's material-discursive reading of diffraction across ongoing spatial and temporal entanglements as the starting point in art practices, which permits different entities to emerge (Barad 2007). Prophet and Pritchard obliquely link quantum theory to the art process through Barad, suggesting implicitly that a new material entity arises from these intra-actions.

While they do not go so far as to say that in order for this to occur, a subject-object collapse is necessary, I do. My understanding of diffractive art practices develops directly from the dynamically incomplete quantum world of Bohr and Schrödinger in which we are active participants buttressed with Whitehead's organic unity of nature in which connectivity and flow form an assemblage of conditions for the creative process (Stapp 2009). Within this rubric, notions of subject and object vaporise and bifurcations dissipate in the infinite ripples of altering materialisations determined through movement and choice.

As an artist whose education in science progressed in conjunction with my artistic development, relations between the two were never mutually exclusive reflecting the accessibility of knowledge as a vector, 'a chain of experiences woven into the tissue of life in such a way that... there is no interruption in the chain' (Latour 2007, 91). Music contained mathematical structure, painting defied and embraced physics, while aspects of medicine required the same overlapping elements of creative, critical perception experienced as an artist. Personal integration of scientific and artistic environments reflects in a growing number of artists, such as Angelo Vermeulen, Brian May, Margaret Wertheim and v. meer, who escape the fixed identities Deleuze

described, to insert versions of their materiality inside diffractive practices in a self-assemblage.

These artists and their methodologies erase lines of differences to embody quantum interconnectivity, the spaces in between, the interstices of Whitehead and the *inframince*⁸ of Duchamp. In the example of *Unhinged*, I present an encounter inside the interstices where material enactments are part of a felt phenomenon contributing to knowledge-making. Collapsing splits and bifurcations, repurposing binaries, I focus on animating poetry and drawing with sound against which opposing dialogues of the real (here inclusive of but not limited to the material) and the virtual (expanding beyond the digital to the entanglement of subjectivity) are revealed as modes of discursive reasoning within a contiguous experience.

Establishing a fluid matrix, these notions coalesce in my thesis through seemingly incongruent vehicles within philosophy, physics, biology and my diffractive art practice. Over the duration of this experimental research, my art process explored what Alfred North Whitehead described as life lurking ‘in the interstices of each living cell, and in the interstices of the brain.’ (Whitehead 1929, 105-106). As I described in the previous section, interstices in medicine are those loosely connected by collagen, fluid filled spaces between all cells. These spaces receive little thought unless fluid sequesters in them and then is suddenly and massively released back into our vasculature, affecting every macro-organ negatively as a rule. In referencing cells and then the brain specifically, Whitehead factually challenged the Cartesian disconnect. I build on his mantle within the interstitial fluid flowing freely between brain and body.

My exploration of interstices is influenced by its secondary and tertiary definitions (see Introductory Glossary, p.10), shaping an idea of movement in space through time, which is, I believe, where Whitehead tread. Marcel Duchamp’s description of the *inframince* as the sound of velvet trousers when walking approaches this notion (Duchamp 1980, 4, 9, 15). *Inframince* is the possible implying the becoming (Ibid, 1). When coupled to Deleuze’s fold (Deleuze 2006), I understand it as the

⁸ I defer to the original French, meaning infrathin throughout the essay.

interface that dissolves in the *betweens*, like interstitial fluid, where between exist in between the formed, folding and unfolding into infinity to mimic the diffractive ripples of quantum theory. As such, I draw on numerous registers within the arts, incorporating poetry, drawing, animation and sound as an installation to question notions of assemblage, materiality, indeterminacy and deterritorialization.

Pared down, these themes reflect an account of binaries or dyads (my preferred term), which I will later discuss in more detail as shifting connections of change within continuity, not fixed points of opposition. As a cautionary note, the goal of this thesis is not about undoing binaries. Binaries are endemic to our descriptive terminology (Stengers 2011, 442; Haraway 2016, 59; Whitehead 1929, 45)). Their importance lies in between, in their interstices as dyads. Dyads form an entryway into discourses of overlap forming what Catherine Keller terms, ‘an interstitial language in which a certain regenerative flow becomes possible’ (Keller 2002, 8). In those between, where flux nestles at the core, in the eye of the storm, where calm and turbulence meet, this thesis congeals.

To a large extent, the ideas in this thesis materialised from a personal perception of being suspended with time churning around and past me as my position waxes and wanes through space. On further reflexion, I realised that flux issued through me, inhabiting my modes and methods, constituting my interior. I wanted to understand why shifting can be so essential for me in my art practice and beyond. As a first generation Canadian aware that my heritage had nothing to do with the land in which I was born, stories of displacement, discomfort and risk emerged to me as a child between the narratives of my parents, who were removed from their country of birth while young because of a war-torn Europe. Flux is my heritage. At the start of this academic research, movement as explained through quantum theory made sense to me as the essence linking spacetime, Cézanne’s collapse and Duchamp’s gap, particularly when seen from the viewpoint of cell biology.

In developing these connections, flux ceased to exist as a synonym for change or movement. Flux morphed into an approach towards new knowledge. Movement is

the lifeblood composing flux and is used to describe quantum physics. Amongst species, movement stands as a stimulus to flee from, a curiosity inviting investigation, a mode from here to there. Within those eddies, surges risk, potential danger and discovery, an existential threat to the permanency of the recognized and the accepted. Movement enticed me into the Bogey-land of the betweens inside which swell tensions, disparities and cohesions. Transformations in movement are intrinsic destabilizations of the known that challenge closed systems of thought, place, and matter to contest concepts of space and time, risking disruption (Haraway 2018). Risk stabilizes and disrupts this thesis, forming the platform for my interstitial language. It situates my art practice as a mode of questioning and discovery. As such, I chose art genres notable for plasticity (digital drawing and animation) and mutability (poetry and music) in order to encounter and expose flux in the interstices as an open process of inquiry and knowledge acquisition/generation.

1.4 A Free and Savage Creation

To unravel flux as a mechanism for negotiating the interstices in my art, I rely on the deterritorialization of philosophical grounds alluded to at the start by Alfred North Whitehead. Belgian philosopher Isabelle Stengers has referred to her exploration of him as an attempt to ‘inhabit the movement that Whitehead proposes for thought’ (Stengers 2011, 25). Her tactic implements the ‘free and savage creation of concepts’ which displace, but do not destroy, releasing the constraints of conventions to allow an equalization of ideas. It is in this spirit I approach each of the thinkers that make up the matrix of this thesis beginning with Whitehead.

Whitehead (1861–1947) was a British mathematician at Cambridge University and co-authored with Bertrand Russell the momentous tome in mathematical logic *Principia Mathematica*. After moving to the United States, at Harvard university he developed a process relational system of metaphysics. Whitehead fits in my work because he provides a base for postmodern science, parity of nature and ecology, deconstructionist views surrounding a substantial self and essentialized substances,

while structuring an infinite complex of interconnectivity which dislocates the privilege of rupture over connection (Griffin 2007; Keller 2002; Mooney 2002). From Whitehead an assemblage of overlapping philosophical, scientific, anthropological and psychological networks advance this thesis.

Philosophy professor Timothy Mooney, summarizes Whitehead's contribution to process metaphysics as the rejection of the notion of substance, emphasis on intra-worldly experience and the incorporation of ideas from modern biology (Mooney 2002, 29). From these three notions, Whitehead penetrates the thinking of Karen Barad, Henry Stapp, Donna Haraway, Isabelle Stengers, Bruno Latour, Jacques Derrida and Gilles Deleuze, who are some of many belonging to a collective entwined in his fluid complex of thought. Whitehead acts as disrupter and integrator. He bridges Anglophone to Europhone, and arguably Eastern, modes of thinking. He operates on the inside, dissolving and installing bifurcations, to enter those fissures from the past left by Kant and Descartes, by Einstein and Bohr, and in so doing preserves open formats of investigation and knowledge-making for the present and future, promoting as Stengers notes a perpetual 'adventure of ideas' (Stengers 2011).

Read as an overlapping series of waves, this thesis intersects leitmotifs between Whitehead, Derrida and Deleuze where descriptive lines drawn to separate and categorize fade into the inessential and artificial. Following the arguments of Keller, Griffin and Mooney, Whitehead flows in the intertexts of postmodernist, poststructuralist thinking. As these theorists have noted, if Whitehead is to be categorized, he fits in as a late 20th century postmodernist. In many instances, he is still situated within current dialectics regarding agential realism, cyborgs, non-humans, the pharmakon and new knowledge acquisition/generation, which extend into ideas of the Baroque, the uncertainty of technology and language, and conviction in the immateriality of music.

I use the risk within Whitehead to connect with other thinkers. For example, when discussing dyads in the following chapter, I note parallels between Whitehead's and Derrida's ideas in relation to my thesis. Theologian Joseph Bracken, describes their complementary metaphysical instincts, despite the two being ostensibly

positioned at dipolar ends of the binary formed between process thought, because of its cosmology and ontological relationality, and the disruption and heterogeneity of deconstructive theory. Two notions in particular, one the universal fluidity of reality and the second an interconnectedness of everything with everything, link their understanding of a transcendental activity Derrida termed *différance* and Whitehead called *creativity* (Bracken 2002, 100, 106). Whitehead and Derrida share a suspicion of abstraction as an absolute universal truth where there occurs 'a shift in their respective philosophies from Western views that give primacy to being, permanence, presence, space, detachment, and individual substances, to views that incorporate becoming, change, time, interrelations, and fluidity' (Pedraja 2002, 75). These ideas support my notions of movement transferring creativity from the inside to the outside and its role in materiality and assemblage.

Each thinker attempts to frame the dynamism of becoming and the moment of creative advance when the new emerges from the old without severing connections to the past (Bracken 2002, 92-93). Both philosophers see futility in rigidly systematizing human experience and wish to unmask the inaccuracy of philosophical and scientific desires to glue reality to a single fixed meaning (Pedraja, 85; Griffin 2007, 6). Through their ideas on language, Whitehead and Derrida construct parallel notions of consciousness and the metaphysics of becoming (Bracken 2002, 98-100; Mooney, 44). As employed in my thesis, Derrida advances Whitehead in these specific contributions.

Many of the overlaps between Derrida and Whitehead also occur with Gilles Deleuze. Deleuze is situated in the earlier described shift with Whitehead and Derrida from a position of stasis to movement. In *Thinking with Whitehead*, Isabelle Stengers formulates a web of connectivity between Whitehead and Deleuze regarding notions of creativity and planes of immanence, ideas of constant reinvention in deterritorialization and the similarities between virtual and potential (Stengers 2011). Stengers points out that Whitehead introduced interiority through the specific concept of the interstices (Stengers 2011, 323). The idea of interiority moving outwardly to locate the 'creative advance' also runs through Derrida and Deleuze (Clark 2002, 192). With Derrida, it most clearly begins in his description of the movement of

deconstruction (Derrida 1981). With Deleuze, his fold closes and unravels alongside altering interiorities of knowing (Deleuze 2006, 39; Stengers 2011, 429). Deleuze used Whitehead to pull beings through a complex connectivity of openings from inside to outside. Notions of creativity stemming from interiority outwards form critical layers in the diffractive process of my practice and transfer directly into ideas surrounding virtuality and reality that also form a common tangle between Derrida, Deleuze and Whitehead. These understandings frame the immateriality of substance that relates to my use of poetry and music as direct spaces of indeterminacy.

Whitehead enabled Deleuze to formulate ‘a radical relational nomadology’ from which anthropologist Donna Haraway’s ideas expand Whitehead’s notion of object where entities are realized through each other. Haraway is but a peripheral figure in this thesis, yet her reflection on reflexivity as diffraction, a complex interference pattern of experiences or events that alter and shape the world through knowledge creation (Haraway 2016, 16, 34; Segall 2016, 188) must be linked as a direct influence on Karan Barad. Both rely on Whitehead’s unsettled cosmology and engagement with the natural sciences to ‘disarm closures’ (Keller 2002, 60-61). Both embrace Whitehead’s rethinking of matter beyond its classical constraints of physics to construct a frame of thought that avoids the metaphysics of individualism upheld by Kant and Descartes. Both carry forward Whitehead’s view that continuity occurs from one intra-action at a time (Segall 2016, 196). From these ideas, Barad recruit quantum theory as an ontological explanation of agential realism (Barad 2007, 29; Segall 2016, 189), which is a foundational tool in this thesis.

Whitehead describes organic theory in terms of reiteration and endurance unfolding over time which Deleuze develops with his boundless Baroque fold to the extent that the Whiteheadian prehension becomes the Deleuzian fold (Whitehead 1925, 134; Deleuze 2006, 88; Keller 2002, 58-59). From yet another such touching point, Whitehead slips into Barad’s agential realism. He describes ‘the possibility of organic deformation’ using light waves as an example to point out that organic theory makes up only a fragment when viewed from the outside through the lens of materialism (Whitehead 1925, 133, 136). Whitehead draws on Bohr’s quantum theory

by way of Heisenberg to connect the organic with the inorganic (Whitehead 1938, 24; Keller, Rubenstein 2017, 8). Barad's agential cuts become these separation points marked through choice and build on Schrödinger and Bohr through Whitehead. I stand on the work of all of them, bringing my influences and perspectives to develop a description and a language for the previously hidden interstices.

1.5 In some shape or form unfolding

Earlier in the introduction, I established the interstices as an organic continuum, resembling a *renga* poem. I will explain how spacetime is understood through this organic continuum and examine how early ideas in physics initiated the consideration of space and time in my art practice. I intend to formulate a primacy of space over time as another component inside the interstices, where time assumes a peripheral role in art process. To this end, I cannot overstate how Cézanne's research methodology exemplifies, decades after his death in 1906, ideas of movement and substance as later described by quantum theory. While he certainly did not use the mathematical tools of physics, nor asserted anything resembling physics theory, Cézanne astutely observed spatial collapse in the process of painting. He documented his observations and ideas through copious writings, often frustrated by not verbalizing what he saw precisely enough for his liking (Cezanne 2001, 39, 111, 120, 160; Danchev 2013, 353). Yet, his explanations actually amounted to a description of the involutions of subject into object. I will return to his importance with respect to my thesis shortly.

To introduce what I am purporting begins with quantum theory, which came on the heels of Einstein's relativity and moved physics from a static classical view of the world into a quantum one. Although he eventually rejected his own suggestion that light was both wave and particle, continuous yet discrete, Einstein helped to establish this theory, which Bohr (and later Heisenberg) embellished (Bansal 2018, 33). Bohr extended Planck's and Rutherford's ideas where electrons occupied moments in spacetime during their particular orbit around an atomic nucleus. He critically showed

electrons moved in unconnected quantum leaps from one orbit to the next, joining orbits of different nuclei. Bohr defined such orbital leaps as individualized instances.

In a nutshell, substances form through joined orbits of these shared electrons that bond atoms into structures termed solids, liquids or gases. This understanding is vital to my arguments about the interstices. The apparent paradox in quantum theory lies exactly here in the interval between the discrete event of a quantum leap and Bohr's concept of complementarity. In complementarity, interactions define and determine information outcomes. These correspond to individual processes of observation and description of the phenomenon (Bohr 1958, 90-92). This idea is the essence of Barad's agential realism: the idea that matter intra-acts⁹ and mutual choices determine the length and extent of the intra-action. This definition of agency is crucial in my discussions about subject and object and is the basis for material thinking.

Beginning with Niels Bohr, this physicist described a unique form of entangled interactions between objects, the instrument measuring them and observers (Bohr 1958, 25, 86; 19; 1937, 293). In Bohr's model, object, observer and measure interconnect so observations become highly dependent on the observer's choices, the measure of interaction and the capacity of the instrument recording it. Bohr referred to this as *subject-object separation*, implying that the measured point represented only a moment, a cut (Bohr 1963, 12). Knowing is limited to what the instrument captured in that one instant. Building on this, physicist Erwin Schrödinger described a form of reciprocity in which the point of interaction or contact between two things represents a new state, a third entangled state that dissolves once the entities stop interacting (Schrödinger 1980). Distinctions between subject and object and environment collapsed using this model in the same way Duchamp insisted artist and art were

⁹ Barad makes a painstaking distinction in their book, *Meeting the Universe Halfway*, between intra-actions and interactions, in which 'phenomena are the ontological inseparability/entanglement of intra-acting "agencies". The notion of intra-action (in contrast to the usual "interaction", which presumes the prior existence of independent entities or relata) represents a profound conceptual shift.' (Barad 2006, 139). Meaning, that intra-action implies an intimate material transfer at the quantum level rather than the macroscopic exchange of interactions. Intra-acting entities become something else while entangled and use their individual agencies to terminate intra-actions.

completed by the onlooker through the interaction (Cabanne 2009, 31, 70) or when Cézanne observed artist and object dissolved into one on the canvas.

Imagine the *renga* circle again. Each poet is a cell, linked through words to the next. Sounds are electrons in orbit, joining to form the new substance of the poem. No separation exists between subject and object as each poet fulfills both functions and new matter is created until a choice is made, a cut occurs. The poem exits. I wish to emphasize how inextricably linked is this image to quantum physics in which Schrödinger surmised each property of matter was entangled (Aspect, A, Darrigol ed. 2016, 149). A century later, quantum physicist and professor of feminist theory and philosophy Karen Barad, more punctiliously, described these concepts of interactions as *intra-actions*, explaining:

It is through specific agential intra-actions that the boundaries and properties of the components of phenomena become determinate and that particular concepts that is, particular material articulations of the world) become meaningful. Intra-actions include the larger material arrangement (i.e., set of material practices) that effects an agential cut between "subject" and "object"(in contrast to the more familiar Cartesian cut which takes this distinction for granted). (Barad 2007, 139-140)

Barad restated Schrödinger and recalls physicist Arthur Eddington's description of the reciprocal deformations our elbows have on a table and the table has on our elbows (Eddington 1948, ix-x). Not only does the intra-action create two points, between which Schrödinger distinguished a new entangled state, but as Barad's reading further describes, the two loci then determine when the relation is terminated, signalling a resolution of the intra-action. Barad terms this point of choice the agential cut, where instant separation occurs to enact boundaries and delineations within the continuum of experience. I advance this notion through these material articulations that occur on a biological, namely physiological basis, in the interstices. I demonstrate it in your experience of *Unhinged*.

At this point, Karen Barad's influence on my thesis (rather than on my art) must be contextualised versus current artist entanglements with Baradian theory.

Many artists such as Katherine Behar, Sophie Lisa Beresford, AK Burns, Catherine Hoffman, Anna Hickey-Moody and Marissa Wilcox, Stacy Alaimo and Lea Porsager absorb Barad's ideas in their art. In works such as *STRIPPED 2021* or *CUNT-SPLICE [Virtual component of Cuⁿt-Splicing Thought-Forms – Promiscuous Play with Quantum Physics and Spirituality] 2021*, Danish artist Lea Porsager finds Barad's quantum physics playful to the extent that 'they open dimensional ecologies not sensorily available to us'¹⁰, which then springboards this artist into explorations of quantum particles, sensuality and feminism. My ideas on material interactions began years ago during my undergraduate studies with physics and chemistry theories as discussed in Section 1.2. Barad's notions around diffractive intra-actions are a refinement in understanding *how* electrons make matter and how we, as artists, therefore mingle with matter *in actuality*. Their agential cuts further dissect and expand the language around the nature of Schrödinger's third substance and describe agency in combinations of animate/inanimate, organic/inorganic as real materials that are formed and exist because of these intra-actions. They partly explain the process and because of this join a *renga* circle with Bohr and Schrödinger.

The relation between Barad and art is in diffractive evolution. The early days of my thesis research found artists, who used Barad as an inspiration to examine aspects of quantum physics through diffractive art practices as I mentioned on p. 16 with the example of Prophet and Pritchard. In the past few years, feminist new materialism has developed in direct response to Barad's work as artist AK Burns illustrates in her video installation *A Smeary Spot, 2015*, which Burns states is guided by Barad's 'metaphysical weirdness that I deeply relate to, and my conception of negative space is definitely influenced by Barad's thinking on the void/nothingness.'¹¹ I assert that my exploration of the interstices builds on the quantum physics-materiality explained by Barad, but that my talking points are from inside this yet unknown space. I push to explain it past any discourses from Barad using the physiology with which I am so intimately

¹⁰ https://arthubcopenhagen.net/en/media_item/talk-karen-barad-lea-porsager/ Art Hub Copenhagen, August 7, 2021. Barad's materialist thinking involving agential realism inspires the work of Lea Porsager. The lecture was held because of Porsager's exhibition *STRIPPED*.

¹¹ <https://www.artnews.com/art-in-america/interviews/becomings-and-transformations-an-interview-with-ak-burns-56441/>

familiar. I am developing something entirely new. I am insisting on a reversal of thinking which restructures space from the inside. Barad never mentions space as filled with somethingness in an egoless state because it is physiologically based within us. Furthermore, while much of what I write about integrates with contemporary conversations on feminist new materialism, decolonisation and object-oriented theory, I negotiate this discussion from an organic physiological, genderless space outside feminist discourses to embrace one human/non-human existence. In the future, my work might incorporate that space and those discourses into mine because of this serendipitous alignment, but that is not the exploration intended for this thesis.

My use of Barad's lens is unique. For me, Barad provides a stepping stone (like Schrödinger and Bohr did for them) that I could use to connect physics with the physiology of the interstices in order for others to consciously enter this real space and understand its role in creative knowledge generation as manifested in my art. They support me with a particular academic language structuring the materiality of that space in which I already exist and which developed from my previous science and medical studies, which vitally is transdisciplinary. I saw Barad as another scholarly bridge, not as a source of artistic inspiration. Inspiration inside the interstices develops from those third material substances which we as artists form. It came from the media that speak to me: music, words and drawing. If anything, spacetime itself is my start and its early exploration by Cézanne and Duchamp are my inspiration. From this position, I expand and discuss the interstices as the space for knowledge creation using those associations Barad provides to formulate my discussion of the very specific and still poorly understood material mechanics that explain process. In this way, I join the above *renga* circle, while forming another from the inside with those artists I selected in this thesis who work not from the outside in but who understood the inside and created from the interstices outward. This is the fine distinction on which this thesis extrapolates. My hope is to bring you inside the interstices from this academic and artistic platform.

1.6 Things in Phenomena

Throughout this thesis, I build on quantum physics' description of materiality to discuss this *inframince* point of intra-actions where rules collapse and permit an openness to experience complexity. I link subject-object collapse to this phenomenon, where the agential cut, through random chance or choice, allows for the generative dispersion of ego. I discuss how this state of 'nothingness' externalizes the interstices in my art practice and is in actuality a state of 'everythingness'. Through this model unfolds a 'process of realisation' in which mutual creation occurs between things in the duration of contact termed experience. Cézanne described this intra-action in his observations where, 'on the riverbank the motifs multiply, the same subject from a different angle provides a fascinating subject for study, and so varied that I think I could occupy myself for months without moving, leaning now more to the right, now more to the left' (Danchev 2013, 370-371). Although Cézanne speaks of a seemingly static situation, he depicts subtle, microscopic change between himself, the landscape and his art practice.

His recognition of such delicate shifts echoes in Whitehead's notion of becoming where, 'An actual entity is to be conceived both as a subject presiding over its own immediacy of becoming, and a superject which is the atomic creature exercising its function of objective immortality. It has become a "being"; and it belongs to the nature of every "being"' (Whitehead 1929, 45). Whitehead was not anthropocentric in his view. Rather he exposes a transition of states and the relation of things intra-acting where a 'thing', a being, an entity mutates in response to the experience and other 'things' composing this encounter. A sense develops of entities mutually affecting each other and shaping endlessly new events.

In Whitehead's view, all entities exhibit the same degree of reality with the same properties and interactions. His dialectic 'involved the abandonment of traditional scientific materialism, and the substitution of an alternative doctrine of organism' in which all things, objects and entities equally interact and influence each other (Whitehead 1925, 80). Cultural critic Steven Shaviro explains Whitehead's

position where, ‘human perception and cognition have no special or privileged status, because they simply take their place among the myriad ways in which all actual entitiesprehend other entities’ (Shaviro, Bryant ed. 2011, 281).¹² To this point, Barad argues away from an anthropocentric model of substance into one of ongoing agential reciprocity where, ‘Reality is composed not of things in-themselves or things-behind-phenomena but of things-in-phenomena.’ (Barad 2007, 140). ‘Things in phenomena’ describes not only Cézanne at the riverbank, but also the interval between the ends of a binary, musical notes or the attractions between orbits of electrons. These descriptions become that ‘third entangled state’ which Schrödinger described and the harmony of Pythagoras’ third principle I discuss in the next chapter. All of these are an extension into a fourth dimension where space structures time to redefine spacetime.

On a physiological level, things in phenomena and prehensions describe every process in the interstices. The interstices of things demonstrate quantum behaviour when third entangled states form and disperse. A plane of immanence or dyad of becoming materializes within the multiple dipolarities of biology, which Whitehead attempted to explain in his philosophy of organism.¹³ In this philosophy, Whitehead looked to biology to reconcile physics with metaphysics but failed to develop his idea far enough. Bohr also recognized a stop at the same point in his attempt to reconcile subject-object (Bohr 1937, 293-295). He refrained from using quantum theory to explain physiology because ‘no direct analogue to biological processes involving a continuous exchange of matter and energy between the organism and its environment’ existed (Bohr 1957, 66).

In this thesis, I build on notions of interdisciplinarity to integrate physiology into their dialogue, rupturing barriers to make them my own. Physiological standardization offers a continuous view of the world Whitehead

¹² ‘Whitehead’s key term prehension can be defined as any process—causal, perceptual or of another nature entirely in which an entity grasps, registers the presence of, responds to, or is affected by another entity.’ (Shaviro, Bryant ed. 2011, 281)

¹³ In the philosophy of organism, Whitehead sees the organism in its microscopic form as a constituent of an actual occasion, a process of realizing an individual unity of experience, or what he terms an actual entity, whereas the macroscopic limits an actual occasion because it is a stubborn, external fact (Whitehead 1929, 129). The actual entity is only describable as an organic process (Ibid, 215).

could not obtain from quantum mechanics. Stengers points this out, because it annoyed Whitehead, prompting him to seek, ‘not a unifying vision of the world that is proposed with the organism, but what Whitehead designates as a new mode of abstraction, capable of reconciling science and philosophy.’ (Stengers 2011, 130). Whitehead and Bohr saw biology and organism offering a potential for reconciliation, but could not construct the links I do to achieve this resolution.

I form these links at intersecting points to dematerialize boundaries. I suggest that Cézanne, in his art research methodology, offers a way into this paradigm of continuity on which artists now build. The Provençal painter exemplified the process Bohr, Barad and Whitehead purport. His methodology rejected spatial separability as a condition for objectivity. Trying to explain it was a point of extreme frustration for Cézanne. I link it instead to Barad’s and Schrödinger’s highly interiorized ‘cut’ transpiring at a critical moment of extreme intra-action or intimacy to redefine subject and object. Furthermore, I am suggesting that this cut formulates not only an interface approximating Schrödinger’s third entangled state and Duchamp’s *inframince*, but that all these points shape space outside of time to allow thinking and understanding from the interior out.

Such a stance reframes materiality. Building on Barad’s development of materiality as ‘inseparable from the apparatuses of bodily function’ (Barad 2007, 153), thinking becomes a material practice (Višňovský 2019). Boundaries between interior/exterior metamorphose into connexions of ‘iterative intra-activity’ in a universe where there is no outside because everything occurs within (Barad 2007, 351), where matter is not a fixed substance, but an ‘intra-active becoming—not a thing but a doing, a congealing of agency’ (Barad 2007, 151-152). Accordingly, diffractive art practices form in the mode of Cézanne from which thinking, substance and processes emerge as a way of doing, of being undone, transforming the material with the sublime.

The next chapter examines the transformations of materiality in a diffractive art praxis. I formulate the basis for the letting go of ego by collapsing the Cartesian disconnect between subject-object. I demonstrate how this occurs in art practices beginning with Cézanne. I identify the risk involved in this collapse and rework it by reflecting on my art practice along with those of William Kentridge and Phyllida Barlow. I reformulate spaces as reciprocal dyads through Derrida via Whitehead to discuss the intimacy Duchamp achieved finding the interstices in his art practice.

2 Folding the Universe

2.1 Begin with a Bang

My exploration of the interstices begins by examining the collapse of subject and object as seen and painted by Cézanne. I start from my realisation that subject and object have wrongly come to define substance from a position of isolation. Beginning with Descartes' Scientific Revolution and the subsequent Enlightenment, our notions of thinking and information accuracy rely on separation from object. This includes a split from self with its objectification. Such a split developed the groundwork for my ideas about the interstices. Cézanne's thinking provided a mode to begin an investigation of this discrepancy. His building blocks helped me to remaster subject-object inside my art practice.

Cézanne instigated a paradigmatic shift in thinking. Although he restricted his focus on this shift to the language of paint and the making inside artistic intention, in this thesis, I build on him and push from inside outward into places he relinquished. I argue that doing and thinking from within the interstices outward belong in the spacetime continuum and the 4th dimension wrapped in quantum mechanics. It is this notion that forms the core of my explorations. I contend that these instruments of physics, chemistry and biology, explained in the introduction, were used to weaponize knowledge when they actually are only beginning to describe this microscopic realm of intra-actions and knowledge creation, which is critical to and situates my art practice.

In this chapter, I demonstrate how my art research occurs inside spacetime as opposed to the Cartesian coordinate system within which we are accustomed to locate everything. Through an investigation of my practice's visual component, I examine what materiality means and how thinking inside this continuum has a diffractive effect that permits unforeseen transformations in artist, artwork and audience, recruiting William Kentridge's and Phyllida Barlow's artwork as another example. I build on Whitehead's concepts of dipolarity and the bifurcation of nature so that where he

stopped at the edge of biology, I frame an interstitial dialectic which I maintain actually manifests inside the physiological. Referencing Derrida and Latour, I rework this idea of dipolarity or binary into a dynamic dyad on which I expand the interstitial space as a connected place of knowing. The composition of the interstices is further deterritorialized through Karen Barad's agential realism to reveal this space of doing into knowing. Finally, I expose the intimacy of Duchamp in order to identify the interstitial setting from which music and poetry will be discussed in later chapters.

2.2 Collapsing Nightmare

Before I worked with the technical tools of computers and animations, I was a painter. I loved the smell of oils through which I could almost taste them. I loved their feel on a brush. The way their colours mixed on a palette was magical, nothing short of the best sort of sorcery. The only sense painting did not engage fully was that of hearing, but I forgave that as I listened to my playlists while painting amid the muted sounds of paint applied on canvas softly asserting vindication. No matter the topic, there was always me, the paint and that subject of interest meshing physically and mentally. We moved inside that canvas or wood panel, merging with it. The paint was an extension of me, allowing me to mingle with that item I painted as much as that item mingled with me and I knew it. I understood what that thing was in detail, be it landscape, article or person. There were no hierarchies.

Although my previous methodology used the computer to generate drawings of fragmentations, which I painted onto my canvases, that was technology's sole input, a means of technical support to a visual end, which is shown here:



Figure 1: Yvonne Opalinski, *Rêves* (2014), Oil on Modeling Paste and Multiple Canvases, 48”x 86”

When I transitioned to the strictly digital during this thesis (a choice made because of its mutability as a medium and because I research from a distance so the digital offered the convenience of transmission) the absence of paint's physicality hit me violently. The temperamental drawing screen of my Microsoft Surface Studio and the volatile programme, that would often freeze or spontaneously delete my hours of effort, were sterile and detached from me. I could not smell them nor really touch them. They had no texture, no substance. The joy of mixing colours and colour experimentation were gone. There was no way for me to push back and no way to feel them. They moved not with me but against me as unpredictable objects of opposition. I had to bend to their programming and idiosyncrasies. I was no longer on the inside of my medium, connected in a thousand ways to everything. I was, instead, isolated on the exterior in a perfect Cartesian nightmare.

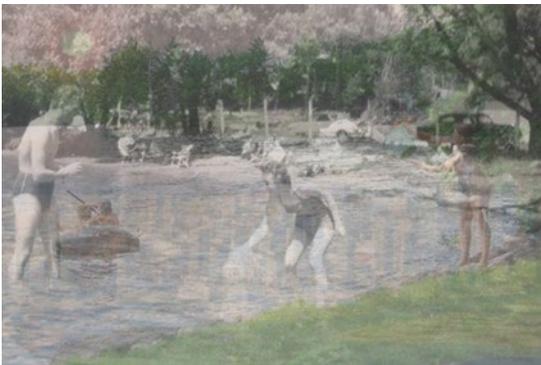
As we proceed, I elaborate on the development of my methodology in more detail, but suffice it to say now that what was at stake here for me was to find a way to merge with my new medium, to feel it so that I could interiorize it and it could become a means of expression and exploration. For me, the risk was not in the loss of control and hierarchy that a collapse between subject and object supposedly instigates. For me, the risk was exactly the opposite. Not only about Stenger's forfeiture of thinking independently, more than that, it was a loss of connectivity and sensation, of not feeling my medium, of complete intellectual detachment from the physical. Not developing an understanding of it through the physical connection (as happened when I painted from the inside out) prevented my independent thinking. The risk became my loss of dispersion in the physicality of a medium so that it could gently meld with me to together discover things.

This risk manifested as my loss of intimacy with my art practice, a loss of interiority, the risk of becoming a stranger to the democratic ecosystem of heightened perceptions to which I had worked so hard to return. As a compensatory mechanism,

in the first months I created worlds of multilayered landscapes.



More and more, figures and settings came from sources that were important to me, either family photos or found images that held personal meaning.



On these I directly inserted what had once been just technical supports, those morphing drawings removed from their animations and frozen from the chosen still inside these worlds.



I used them to form a greater connection with this medium in the attempt to force that technology so removed from me into a personal



means of expression.

These layered connections framing topics of sustainability, poverty, privilege, displacement, memory and loss previously informed my experiments in transformation and flux. Because I had the direct physical medium of paint that affected me on multiple sensory levels, any image I appropriated became mine through paint. However, despite filling my work with personal associations, I struggled to connect with technology. Pieces were missing that I needed to locate. I needed to go further inside.

I wanted to enter that gap between medium and me, hoping to find something of value, perhaps to be cherished. As a further exploration, I played with tiny animations that lasted less than 30 seconds. The intention behind the animations was to experiment with movement that generated mutating images weaving in and out to form spatial structure. I theorised that movement in the animations established the disequilibrium of spacetime described by Einstein as shown in the examples here:

connected glance or glimmer from desirable conditions,

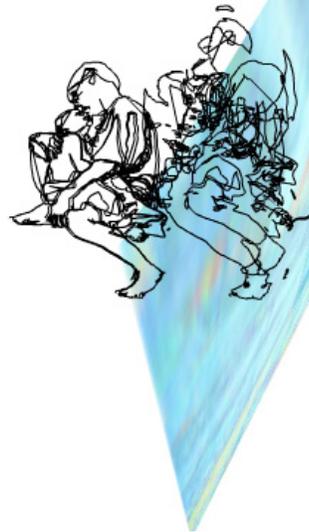




Figure 2: Yvonne Opalinski, *WW1_3-1* and *WW1_3-3* (February 2018), Digital Animation

Flipping images in and around the movement of the drawings allowed me to create a different space. While I was playing with these technical supports, pushing and rotating animations, the visual aspect of materiality manifested across physical rhythms so that movement unfolded the spaces of this medium. Movement allowed me to structure visual virtual spaces which opened my access inside this medium.

Rethinking notions of materiality from the inside outside, back and forth through sensations marks technology inside a post-medium condition of authenticity, which Rosalind Krauss defines when discussing artist Marcel Broodthaers' process as an 'implosion of medium specificity' (Krauss 2000, 10). Rethinking materiality is implosion and explosion followed by assemblage, repeat. Derrida instigated this, in part, with his assertion of deconstruction, which I discuss in the following section as the critical metamorphic interval between the dyad. By extension, Krauss discussed how Artist William Kentridge exemplifies Derridean interdisciplinarity between media to disintegrate boundaries through his animations that, as Krauss asserts, act as a technical support for his drawings rather than a medium in itself (Krauss 2000, 9).

On this point, I contend that each influences the other without the moniker of ‘technical support’. Kentridge uses his drawings as the essential fulcrum which shapes his art. His process includes filming each stage of the charcoal drawing on a single sheet of paper to form the basis of his animations, which Krauss terms ‘the derivative of drawing’.¹⁴ Krauss emphasises the gap between his drawings and animations, yet Kentridge himself experiences their intra-actions as ‘the actual demands of the film, its actual narrative, bring into being a whole set of images that I would never have arrived at otherwise’ where ‘the drawings contain the traces of the whole progress of each sequence—a lot of rubbing out and ghost images are built into them’ (Kentridge 1999).



Figure 3: William Kentridge, *Felix in Exile* (1994)

¹⁴ Examples of Kentridge’s work are *Monument* (1990), *Sobriety, Obesity & Growing Old* (1991), *Felix in Exile* (1994), *History of the Main Complaint* (1996), *Weighing and Wanting* (1997), and *Stereoscope* (1999).

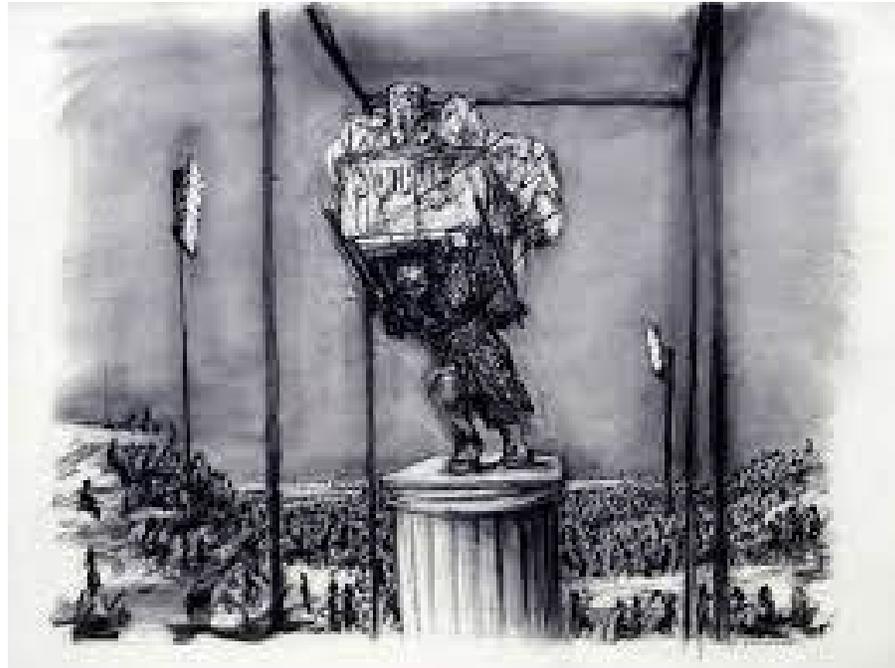


Figure 4: William Kentridge, *Monument* (1990)

His animations inform his drawings which inform his animations within a multidimensional shifting that moves beyond just a technical support to express the liminal 'multi-linearity' of the dyad, which is not an empty gap between.

Important in my process was that thinking about spacetime and making art within it helped me to develop and confirm my hypothesis that **space** was the critical aspect inside spacetime. More and more through the doing, I saw Schrödinger's experiments manifest each moment I chose to stop time during the development of my animations. Time was a marker used to find moments, here now and then gone after, but space and matter were always present. I advance this thinking further through music shortly, but I ask that you recall the space in and around the renga circle and maintain that image as we proceed.

The flat screen of the computer, the same screen on which I draw and then use to assemble the animations, started developing material spaces similar to wood panels or canvases once I played with the intersecting planes of poems, drawings and alternate worlds. These negative spaces opened to me. This was particularly true while

working on the minutiae of each animation segment involving my poetry when I watched the words intra-act with the drawings and intensified later when I added sound and music. As I describe in Chapter Four, these visual poems directed me to experiment with written poetry. During this making and doing, I started to understand how my poems could be used as physical insertions that strengthened connectivity with this medium of technology inside the interstices. Developing spatiality in each layer of medium with movement through words and the shifting lines of drawings, I felt myself entering this space, discovering and exploring its sensualness. Through the material doing and with a sensitivity to new signs that opened before me, I understood the alterations happening between subject and object that allowed me to inhabit this volatile medium from the inside. I focus on these changes now.



Figure 5: Yvonne Opalinski, *Zo Figs* (2018), Digital Animation



Figure 6: Yvonne Opalinski, *Waterwind2* (2018), Digital Animation



Figure 7: Yvonne Opalinski, *WW2* (2018), Digital Animation

During the process of my art experimentations and being aware of their sensory nuances, I developed a knowing from the inside of how my willful stylet and drawing screen and even more contumacious digital animation programme could meld with me meaningfully and inform my practice. Subject melted through substance into object and back as a fluid binary, as a dyad, mediated by the interval called technology in the same manner Cézanne's perception wrought paint as a conduit for exteriorization.

I learned that neither the medium nor the artwork particularly mattered in so much as the truthful realisation through a thorough and intimate interplay with and understanding of one's medium, which artist Barbara Bolt refers to as 'material thinking' or the 'logic of practice' (Bolt 2007, 29-30). Once I opened myself to the computer as a medium, the relationship developed through my material thinking and a willingness to be absorbed by this medium, lose myself in it and respond to its qualia. I noted that in the joining of eye, hand and mind new knowledge was generated from the inside outward through this medium and with it a new means of expression.

Subject-object disintegrated and technology became more than a technical support because such reciprocity permits a dissolution in which artist is placed not only in the centre of knowing, but audience opens to this space. Cézanne demonstrated this, for example, through his increasing abstraction of Mont Ste. Victoire, in which the viewer experiences the sensations of the mountain through colour and form rather than strict representation. Maurice Merleau-Ponty viewed this interplay as the necessary function of the artist's process to 'portray the world, to change it completely into a spectacle, to make *visible* how the world *touches* us. ...[and] awaken the experiences which will make their idea take root in the consciousness of others' (Merleau-Ponty, 1991, 19). Medium, the matter of paint in Cézanne's case and technology in mine, develops value through its communication of the artist's interior environment, which in turn is determined through those sensations activated by the external environment.

In a complete reversal of what we gratuitously accept as fact, by collapsing subject-object through our material intra-actions, we create with an intimate material understanding felt from the inside so our art is no longer an abstraction, a

representation of a representation. It is its authentic self assembled from the bits and pieces we come to know from the inside when our materialities meld. In this way, it enters our interstices, our consciousness to become experienced and interiorized information. I am describing an internal ecosystem, the *renga* circle inside of us, the physiological community between cells we call the interstices. Cézanne sought to retrieve a mental and collective ecology, which Stengers explains, ‘gives the situations we confront the power to have us thinking, feeling, imagining, and not theorizing about them’ (Stengers 2008, 57). Situations transform into experiential ecosystems instead of foes held at a fearful distance and as such reflect an authenticity of encounter. The doing and the thinking intertwine in a continuity of engagement where each influences the other in an indistinguishable entanglement of substance and thought.

For Cézanne, feeling suggests a means with which to access and shape knowledge from the inside. Emotion becomes the vehicle of understanding exteriorized. Cézanne speaks of awareness essential to this understanding, because an internal awareness permits the connection with object as direct information to bodily perception and interpretation, from which one can alter and transform exterior structures to communicate the interior. Material processes and thinking then generate authenticity in the realisation. Through the materiality of media, originality, novelty and creativity in the art process open and bifurcations reform into an entangled continuum (what Deleuze termed ‘the plane of immanence’ or the virtual).¹⁵ I explain this idea of space and substance within the continuum as a platform for understanding in more detail in the next section.

2.3 Vanishing Vat and Mont Ste. Victoire

Imagine standing again as one in that circle of poets, writing your line or two for the next *renga* round of the living poem. I return to the *renga* artform because I want

¹⁵ See also Deleuze, G., Boudas, C.V., Lester, M. and Stivale, C.J., 1990. *The Logic of sense*. London: The Athlone Press, pp.99-111

you to visualise the larger image of people connected by words standing in an infinite circle where the spaces between each are open and filled with silence and sound, saturated with nothing and everything. I want you to understand that this image of *renga* macroscopically describes the miniscule, microscopic level of the interstices where time is not linear and where Duchamp's n^{th} -dimensional wheel materialises in the revolutions of the circle we form, where the present evolves from one to the next artist with the past being very short and the future even shorter. In this reality, nothing and everything is inscribed and once the collaborations end, once the mergings finish, this materiality is indelibly gone. In this substantive reality, a sense emerges that we are instruments, performers and creation, dissolved subject-objects inside a communal space of moving matter all at once.

In this section, keep the image of *renga* in the back of your mind while I introduce our exploration of the interstices with Cézanne. Well before Whitehead, he recognized no hierarchy of being in his methodology of painting, no anthropocentric focus on human form over non-human, because all material substances were processes mediated through sensation. At the same time physicists were looking beyond the macroscopic to break down Newtonian laws into what became quantum mechanics, Cézanne had already found this space of the microscopic and endeavoured to describe it through the eyes of an artist.

His ideas elucidating a centralized embodied experience as the starting point of the creative act were the first written from an artist's perspective. Art critics and theorists talked about what artists did and contextualized from their perspectives, but before anyone else Cézanne was the first artist to explain within 'the painter there are two things: the eye and the brain; they must serve each other. It's necessary to work to develop them mutually... the eye for its vision of nature and the brain for the logic of organized sensations which give one's means of expression' (Cézanne 2001, 158). Although he did not call the interstices by name, Cézanne recognized a space in which artist and object metamorphose into a new material reality, where '[o]bjects penetrate one another. They never cease to be alive. Do you understand? They spread

themselves out imperceptibly among themselves by intimate reflections, as we do with our gazes and our words' (Cézanne 2001, 157) as shown here:



Figure 8: Paul Cézanne, *Bibemus Quarry* (1900) Oil on Canvas, 65 x 81 cm

Contemporary discourses, in the past few decades have accelerated an interdisciplinary shift in thinking through cultural, interpersonal and historical contexts to dispel Cartesian concepts of disarticulated knowledge (Latour 1999, 2013, 2017, 2018; Miller 2005; Lyotard 1984; Haraway 2016, 2018; Barad 2007; Stiegler 2018). I have found that these discourses absorb lines of distinction between materiality and immateriality, objects and subjects, humans and non-humans, building on a paradigmatic insistence Cézanne advanced over one hundred years ago in which:

to paint in the essence of the world, the vast world, one has to have the eyes of a painter who, in a single color, sees the object, seizes it, and relates it to other objects within himself.... He must not force it to conform to him, but he should conform to it, let it be born, let it germinate from within. (Cézanne 2001, 121)

He explains the artist's metamorphosis as a delicate balance inside a democratic ecosystem of experienced perceptions in which sensations are heightened for the artist, yet lost by those caught up in the utilitarianism of daily life (Cézanne 2001, 120). For Cézanne, delving deeper into the interstices must occur through sensation, which melts lines of material distinctions inside outward and:

to make progress in realisation, there is only nature, and an eye educated by contact with it. It becomes concentric by dint of looking and working. I mean that in an orange, an apple, a ball, a head, there is a culminating point... the edges of objects recede towards a centre placed at eye level. (Danchev 2013, 342).

Realisation occurs through sensation that allows one to 'see one's model clearly and feel it exactly right, and then express oneself with distinction and force' (Danchev 2013, 336). Concentrating on interiority, Cézanne described a melting confluence carried through feeling between himself and the item he was painting guided by his sensitive intellect. From his interior space, the perceived information brought sensation synchronised with understanding to emerge through the substance of art, in his case paint, not as precise external representation, but as an accurate extension of personal experience within our surroundings. In so doing, Cézanne succeeded to collapse the space between painter and object and between poets in the *renga* circle, which I explain in more detail now.

In *renga*, each poet stands equal to the next. My words and ideas are mine only before I speak them for then they immediately become linked to those preceding mine and those spoken after. Through this linkage I become part of a larger creative body in which I am at once subject and object and interval between them. We are equal parts in this creative organism. Cézanne's artistic deconstruction of hierarchy exposes the question of subjective interpretation and how this reconciles with that which is perceived and designated as object. According to Isabelle Stengers, the framework for subject-object separation formulates in terms of risk as she explains:

Our modes of thought, as soon as they concern humans, have this specificity as their question, including, perhaps above all, the doctrines that make nature bifurcate, with their explicit or implicit dualism. For both their "subject," claiming

a freedom that does not belong to any creature, and their "objective reality," defined by a highly exaggerated coincidence between explanation and submission, testify to the great refusal. (Stengers 2011, 442)

Collapsing the gap between subject and object collapses the autonomy of distance and with it claims of hierarchies so that anything goes and order (known order) vanishes. As a result, people feel risk and a loss of control. We cannot assert superiority or dominance of species or individual in the absence of this separation.

Rupturing this thinking philosophically, Whitehead's objection to the bifurcation of nature addresses Descartes' original damage, whereby the individual value Descartes placed on his own reality and his own experiences occurred independent of substance or body. Descartes concretized this final recoil of mind from body, which in turn devalued substance (Whitehead 1925, 194). Ironically, as non/thinking beings, fear over this loss of exteriority makes us create furrows of thinking, in which we embrace the illusion of objectivity found in a mantle of detachment. We become trapped in ruts determined by others' formulations of acceptability, which Whitehead notes:

to be mentally in a groove is to live in contemplating a given set of abstractions. The groove prevents straying across country, and the abstraction abstracts from something to which no further attention is paid. But there is no groove of abstractions which is adequate for the comprehension of human life. Thus in the modern world, the celibacy of the medieval learned class has been replaced by a celibacy of the intellect which is divorced from the concrete contemplation of the complete facts. (Whitehead 1925, 196)

In each distancing and abstraction, subject becomes a follower of someone else's interpretation of the object, which in turn becomes even further dissociated from us.

When they speak of abstractions, Cézanne and later Whitehead both meant that through the separation of subject-object not only is there an absence of understanding from the inside, but even perceived 'objective reality' becomes a construct of someone else's thinking or abstraction, a representation of a

representation. Object then is denied 'the status of existence proper' (Segall 2014, 190). As a result, we become at least twice removed from knowing. Abstractions develop a meaning outside their context and we give up thought, analysis, recollection and conjecture through acceptance without an imaginative leap (Stengers 2008, 107-108). Cézanne protests the separation of subject and object exemplified in purely retinal painting with its associated absence of thought, while Whitehead objects to the absence of thought occurring in subject-object separation when realities are constructed through a representation of a representation. Formulating interpretations when at a distance from knowledge leads to incomplete understanding. Separation of subject-object is a separation away from the interstices and underscores the crux of both Cézanne's and Whitehead's objections.

When thought is perceived as risky because it means losing control of object, we translate this as a paradigmatic disaster, where as Stengers suggests:

what will or will not be recognized as valid, is no longer a "social fact," but what is at stake: a problem whose terms are, of course, socially defined, but in a way that makes interstices proliferate. This is shown just as much by the minutiae of moral casuistry and examinations of conscience as by the ferocity of scientific controversies. Attention to truth demands sensitivity to new signs (Stengers 2011, 442-443)

For Stengers, this disaster is not the collapsed separation between subject-object, but rather the opposite. Their separation creates loss of thinking and unwillingness to differentiate from the crowd that has accepted twice-removed object information as a truthful fact by which to live. Sensitivity to new signs describes Cézanne's methodology of making (his relationship between eye and object and all the miniscule responses in between). Composing new knowledge or art reorganizes pieces of information into possibilities of assemblage. It does not stem from deconstruction motivated through fear of risk, loss or inadequacy.

Cézanne struggled to define these possibilities of assemblage and hoped to achieve through his painting a reconsideration of perceptions through the intellect.

Viewed from this context, Cézanne's methodology responds to an integrative experience rather than a finite opinion and as such avoids ascribing value on substance. Descartes' cut insists on remaining outside the experience and by extension the object, therefore perpetuating the retrospective glance, autocracy of subject and valuelessness of substance. In contrast, Cézanne scanned forward, entering the interstices to produce a tangible translation of sensation through substance in his painting where subject-object and substance are redefined and cherished.

Despite the gregariousness of humans, our fear of subject-object collapse exposes a fear of intimacy. Perceived risk occurs with the collapse between binary poles of remote objectivity and intimacy. From the inside, with the collapse of subject-object in the between, one activates an extraordinarily intimate space. I submit that this intimacy is a requirement for knowledge, which enables material thinking and the agential cut. The very process of art assemblage depends on such intimacy that artist Phyllida Barlow frames within a disappearing object where, 'sculpture, despite its physicality, refutes a static image and is always changing...' (Barlow 2014, Fortnum ed., 102). She emphasizes the importance of that iterative intra-activity on her art practice, saying 'I'm always seeking that surprise. Something where the work fights back and begins to take me on a journey, rather than me controlling that journey'.¹⁶ Barlow's work reflects the microscopic interstices of which I have spoken on a macroscopic plane.

Although Phyllida Barlow predicates much of her work on building, rupture and destruction remaking the object, viewed from another aspect her work illustrates exactly the same relationship to materiality as that of Cézanne. Barlow enters the interstices with a notion about making and then attempts to discover what it is that is being made by allowing the work to take over. She acknowledges alterations in materiality occurring in her process within an unexpected reciprocity, where form

¹⁶ <https://www.hauserwirth.com/stories/22920-phyllida-barlow-tilt>

bends and shifts in the maker and the made in accordance with Bohr's complementarity, Whitehead's doctrine of organism and Barad's agential realism.

Accordingly, agency shifts between substances, animate and inanimate as one guides the other in forming the cut, the moment of time in which doing moves to the past tense and the artwork stands alone as an actual entity. In her process of making, things become more removed from their source of inspiration and the event begins to replace the original thought process so that sculpture may exist as an immaterial thing, even a smell, the weather, a sound.¹⁷ Barlow layers materials of plaster, wood, plastic, and other odds and ends only to often smash them to reveal what lurks in their interior and then layers again in a series of constructive/deconstructive binaries which eventually resolve themselves at that point of separation where an agential cut emerges.

Performativity of practice with constant pushes back and forth between material and maker create an interstice in the sense of a space and a rupture, where an entry into a third entangled state becomes possible only because of the intimate understanding that crystallises through the process of getting inside, inside the material, inside the idea, inside the making. Resolution, what Cézanne termed realisation, often only emerges during installation for Barlow because the space then dictates what she views as a choreography.¹⁸ This directly relates to Cézanne at the riverbank, where he described a microscopic level of change translating into the macroscopic painting. With Barlow, the same is visible during her installations, where she may actually create more parts, more bits to add to the sculpture because the space so ordains.¹⁹

In June 2019, I experienced these interstices through the Barlow exhibition *cul de sac* at the Royal Academy in London firsthand:

¹⁷ Artist Talk, It mustn't be sculpture, April 6, 2017; Kunsthalle Zurich <https://www.youtube.com/watch?v=IvxHSdbHn6Y>, 18:55

¹⁸ Ibid, 15:55

¹⁹ Ibid, 35:10



Figure 9: Phyllida Barlow, *cul de sac* (2019), Royal Academy, London

The interface begins immediately because of the scale where one feels somewhat like a cell or an atom in the interstitial fluid, moving along through each chamber of a distinct and different world and then back again because there was only one way in and out. Visitors are free to wander through, on and about touching some sculptures, sitting on another, and what becomes clear is that these are functionless, as she says ‘useless’ works without assigned meanings, just ‘things in themselves’, much as Duchamp described his readymades. Her goal was to imbue the installation with a sense of unfinished precariousness, where something might topple at a given instant, changing the work.²⁰



Figure 10: Phyllida Barlow, *cul de sac* (2019), Royal Academy, London

In spite of the monumental size of her works, Barlow contends that sculpture becomes something one cannot hold because of its ephemerality in space. She sees it as ‘evidence of a ghostlike presence in the world’ that she can never make a reality.²¹ Such a description acknowledges the wraithlike quality of the interstices and our presence

²⁰ Artist Talk, Zurich Art Weekend: Art & Science Talk 3, July 16, 2019
https://www.youtube.com/watch?v=Ay9AvT_UmzQ; 15:55

²¹ Ibid, 13:50

navigating them, none of which could occur without complete intimacy deep inside this space. Interestingly, access stems from openness to the possibilities. To this end, Barlow's concern focuses on the relations of the outcome (her artwork) with the audience and the space, which she appreciates as a theatre of three protagonists²².

Meandering through the exhibit, I understood how work so materially present and dominant becomes ethereal. Despite sitting on some of the sculptures and touching others out of curiosity, each piece contained its own ephemerality beyond the sense of unfinished precariousness. While Barlow's work outwardly appears to be the polar opposite of mine because I use immaterial animation, we arrive at the same place in that our works convey a sense of being provisional inside materiality. By means of sound, *Unhinged* develops a physical interface immediately and without choice just as the physicality of Barlow's sculptures do through size.

However, where we are made to feel microscopic because of the size and volume of Barlow's works, *Unhinged* makes us aware of the microscopic within us. In particular, listen to the beginning of each part of *Unhinged* and notice the bodily sensation of being pulled into some microscopic space. Sound precipitates this and then the morphing drawings and dissolving words of the poetry contribute to the sense of flux. This feeling occurs after silences or with sudden sound changes among other things. I will elaborate on how this occurs more completely in the next chapter when I discuss sound and music. Similar to Barlow, by juxtaposing different materials and images through sound, digital visuals and poetry, my animation depends on the same provisional yet monumental sense of instability. Instability is movement, which engages us (see the last paragraph of section 1.2) as a curiosity and a risk.

²² Artist Talk, Zurich Art Weekend: Art & Science Talk 3, July 16, 2019
https://www.youtube.com/watch?v=Ay9AvT_UmzQ, 8:50

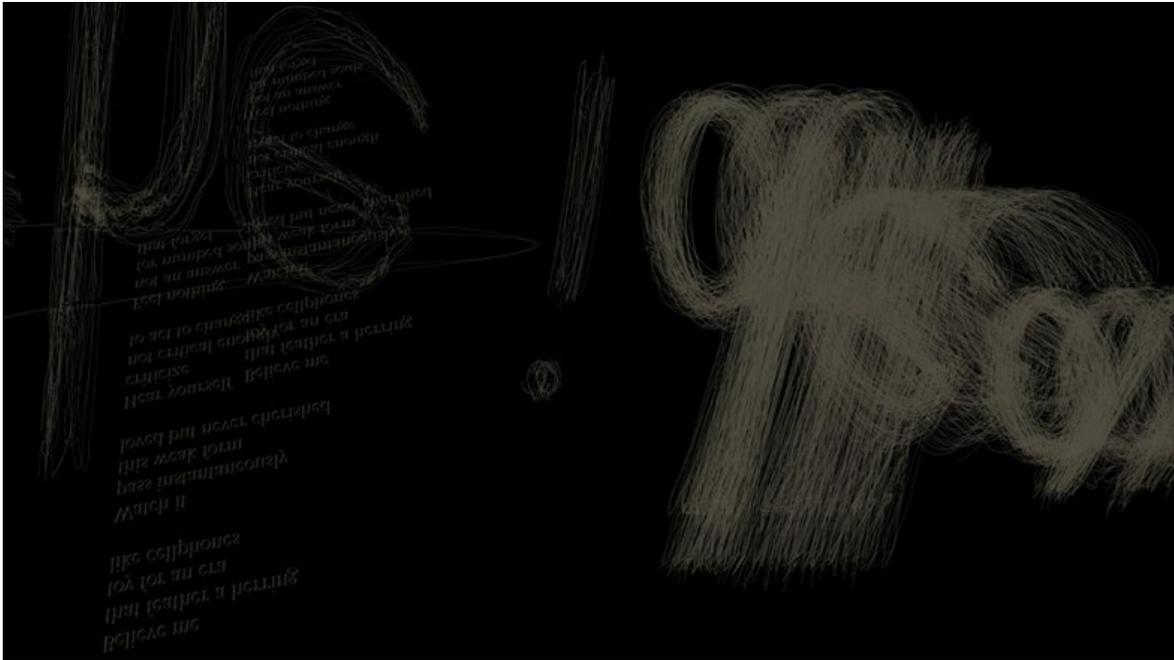


Figure 11: Yvonne Opalinski, *Unhinged 7_3_i* (2021), Digital Animation

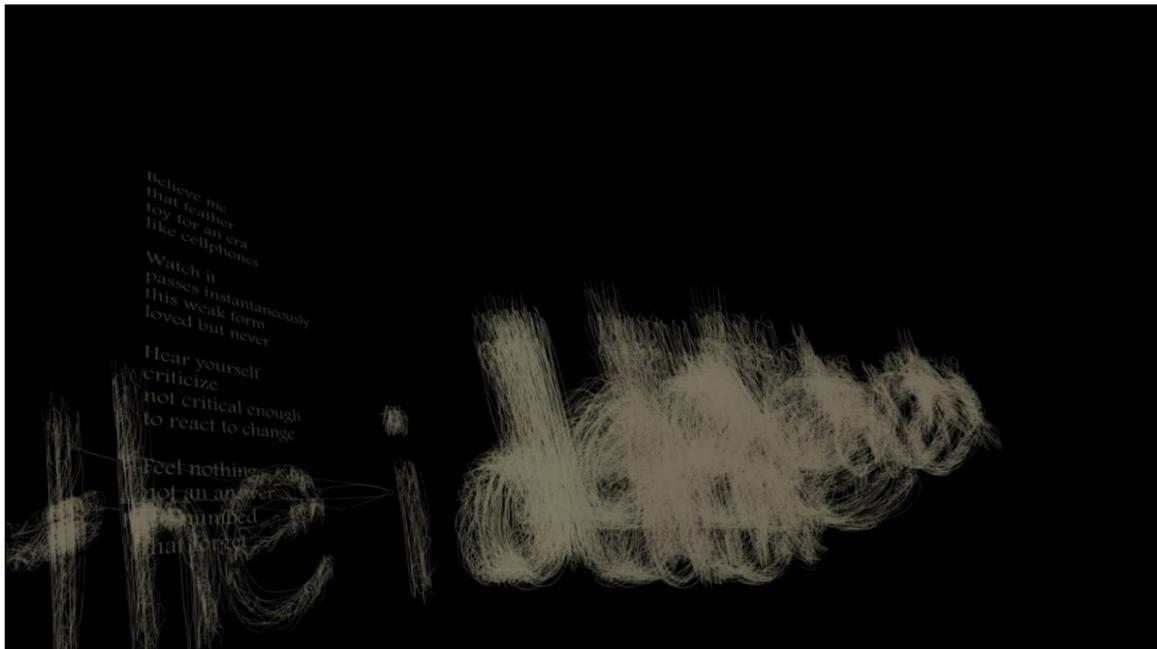


Figure 12: Yvonne Opalinski, *Unhinged 7_3_ii* (2021), Digital Animation

Such flux manifests through the making in which chance alterations occur. For example, in Segment *Unhinged 7_3*, the above two frames are 1.3 seconds apart. Poem *Number 106*, line 12 was written ‘to act to change’, but when I transferred that segment

of the poem to the next section during the process of the animation, ‘to enact change’ manifested in the doing. One may argue that this was a subconscious alteration on my part, but it occurred during the process of animation as a result of the animation tool without my intentional critical thinking regarding improvement of the poem. Only when I checked the original poem for the next line, did I notice what amounted to an error, which I embraced because it worked. In fact, I went back to the poem and altered it in the collection. Barlow and Cézanne described this serendipity happening through materiality. Duchamp and Cage engaged various tools to access this chance or randomness in their process.

In both Barlow’s work and mine, despite their obvious contrasts in materiality, one finds entry through microscopic ideas, recollections and materialities of thought the longer the interface continues and awareness grows of why specific senses are being recruited, leading farther into the performative discovery. Because her sculptures and my animations circumvent prescribed descriptions and appear quite different from different angles as installed in the room, one wanders through the interiority of personal interstices as one meanders within the exhibition. Interiority and exteriority interface and merge in counterpart space continuously and intimately such that a new world/space develops. Leaving either exhibition feels like departing this other world and an unmistakable disentanglement mentally and physically, macroscopically and microscopically, ensues.

As with Cézanne’s and Barlow’s methodology, I develop this interactive interface as a result of the noetic²³/mental experience combining with substance to materialise as new matter in the intimate spaces of the interstices. The interstices at this

²³ Use of the term **noetic** opens another discourse regarding its very definition and associated nuances. Foremost, this discourse surrounds philosopher Franz Brentano, who developed the idea that every mental phenomenon, every psychological act has content and is directed at an object. His student Edmund Husserl developed this idea further into intentionality, where the essential structure of consciousness is always about something, defining **noema** as that which is being disclosed to consciousness and **noesis** as the acts of consciousness by which noema is disclosed (Robbins, Friedman, Johnson and Franco 2018). For this thesis, of interest to me is their implied linkage of the word noesis to a collapse of subject-object-consciousness and mental-physical experience as conjoined entities. It is a loaded topic fit for further post-doctoral study. For the purposes of this thesis, I narrow my usage of noetic to the mental and intellectual which is by extension tied into consciousness and physical experience as outlined in the interstices.

point also begin to develop intriguing dyads of meaning, as spaces independent and oblivious to linear notions of time, but also as a gap, rupture or break in time between events to educe agency within the new substances created. These intra-actions continue through the medium, forming new materials that finalise in the external artwork. An interesting dynamic alteration occurs in the artist, which references Barlow's unexpected reciprocity and subsequent shifting agency, consisting of a dispersion of self that allows for material change. This will be explained fully in my discussion of music.

Pushing connectivity of the interstices as offered through Cézanne (of which Barlow's work provides another striking example) requires a deeper consideration of the nature of this process. In particular, I observed that Cézanne actually places the mental experience inside the shifting materiality of substance in two ways: as the reception point for an input and then as an output. First with embodied sensation or the reception of feeling, then in the translation of that feeling of awareness and analysis as an output that transmits the outcome through the medium of paint. Cézanne's process anticipates the notion of Whitehead's dipolarity and explains how I made the connection with the medium of technology. I expand now on Whitehead's idea.

2.4 Entangling Bifurcations

Whitehead reasoned that an almost liquid unity conjoined extreme opposites much as we now know the left and right hemispheres of the brain communicate through a corpus callosum²⁴. Entanglements of individualization occurred in the dipolar experience of both without which one could not understand the other as Whitehead explained,

²⁴ corpus callosum = The corpus callosum runs along the longitudinal fissure of the brain that divides right and left lobes. Its function is connective. It is the primary tract of the brain that joins the left and right cerebral hemispheres. It is composed of approximately 200 million heavily myelinated nerve fibers that form projections to contralateral neurons in the same anatomical layer.
<https://www.ncbi.nlm.nih.gov/books/NBK448209/>

an actual entity is essentially dipolar, with its physical and mental poles; and even the physical world cannot be properly understood without reference to its other side, which is the complex of mental operations. The primary mental operations are conceptual feelings. (Whitehead 1929, 239).

In this presentation, movement along one end of a pole to another assumes a position of metamorphosis rather than opposition. Hierarchies dissolve into transitions and vectors without division. As such, metamorphosis implies change inside materiality, unravelling and altering much like a chromosomic dyad in meiosis.²⁵ A sense of plasticity within solidity formulates from this view along with a perpetual flow of agency based on our material intra-actions. Whitehead insisted these intra-actions were mediated through feelings in response to metamorphosis without any noetic-physical, or subject-object, separability.

Returning to the word dyad as a fluid expansion, I extrapolate from Whitehead's use of dipolarity. Derived from the Greek *dyas*²⁶, meaning the number two, the word dyad contains cross-disciplinary associations. In psychology, it refers to an interactional relationship between two subjects such as mother and child. Chemistry uses the term to mean a bivalent element such as oxygen. Music designates intervals of two notes as dyads. Medical terminology defines dyad as a double chromosome, resulting from the splitting of a tetrad during meiosis. This last definition informs my usage of dyad as a unified duality or a coalesced binary that forms from breaking away— a rupture from something else. Within that physiological continuity, I also implement the Greek philosopher, Pythagoras' construction of dyad as described by Katherine Hillar in which monad is the first principle, dyad the second and Harmony the third located between one and two.²⁷

²⁵ In meiosis, a portion of one chromosome translocates onto another, on the homologue chromosome, modelling an exchange into new and unique entities.

²⁶ <https://www.etymonline.com/search?q=dyad>

²⁷ 'Monad was the undifferentiated principle of unity of the whole of reality ...the principle of all things, and as the most dominant of all that is, all things emanated from it, and it emanated from nothing....The next principle was the Dyad (*δυάς*), which represented diversity in the universe, the opposing powers, the duality of subject and object, and the beginning of the third principle, Harmony (*Ἀρμονία*). This third principle was the relation (the ratio, *logos*, in proportion, *analogia*) of one thing to another, ...the One was the unification of the whole reality, the Two represented diversification and

Consequently, in Pythagoras' description, the dyad turns inward. It is the diversity of two ends joined by Harmony. In Pythagoras' view, the third principle is not a triad, a trinity or a triangle, not a structure of exteriors. Instead, the third principle as harmony exists *internalized* in the dyad as the between of two poles, which remains part of the whole ecosystem of reality. By extension and similar to Whitehead's model, the two ends of a dyad signify diversification, but between them extends an intricate, relational bond. The idea of flux within the ecology of dyad takes shape through the chromosome. Its inherent interactive plasticity shapes Whitehead's dipolarity between mental and physical poles into a morphing dyad where that coherence translates as feeling, flowing back and forth from the physical to the noetic and back.

The element of feeling integrates rather than repels mental actions and facilitates communication and change between the poles of dyads. Dyads then become intra-active entities of metamorphosis that structure the relationship of the physical reality artists confront daily in their process through the materials they use. Bolt points out that new knowledge develops from this practical involvement with materiality as amplified through Martin Heidegger (Bolt 2007, 30). Heidegger makes the subtle distinction that discovery arises from the encounter with the material, stating,

Previously letting something 'be' does not mean that we must first bring it into its Being and produce it; it means rather that something which is already an 'entity' must be discovered in its readiness-to-hand, and that we must thus let the entity which has this Being be encountered. (Heidegger 2001, 117/85)

Without the possibility of encounter, understanding remains hidden. Only through the encounter do we further reveal materiality and form an understanding not only of the external, but also of self (Heidegger 2001, 186-87, 146-47).

differentiation of the One in the process of forming the world order or ordered world (*κόσμος*, *kosmos*), and Harmony or Logos, by extension, was the bond uniting these two extremes.' (Hillar 2012, 7-8)

I push one step further to emphasise that through our material encounters we let go of self, learning more about ourselves in the process and the 'object' in the collapsed subject-object relationship, which forms this third new substance. This is the substance of the between and the dyad's interval. What becomes clear in Cézanne's practice and his material encounter with paint is the formation of a dyad of experience between the physically perceived and internally interpreted. This dyad of experience forms a diverse and fluctuating matter. Through the substance of process, Cézanne works towards reconciliation or harmony whereas Whitehead identifies a bifurcation and a rupture. In my practice, the dyad forms from reconciliation and rupture in a constantly fluctuating actuality through which transformative new encounters occur relentlessly.

In my animations, the most obvious examples of subject and object collapse within a dyad occur in the way I morph the drawings. Initially, I draw the figure or object and then use other drawn images to initiate the metamorphic process. I need two images to morph a third. It is the image found somewhere between the two dyads that then is integrated into the animation because it has ruptured and resolved as this third image. In itself, it is a third substance arising from the collapse of two other substances. Using the third image also increases unexpected outcomes in the final animation.

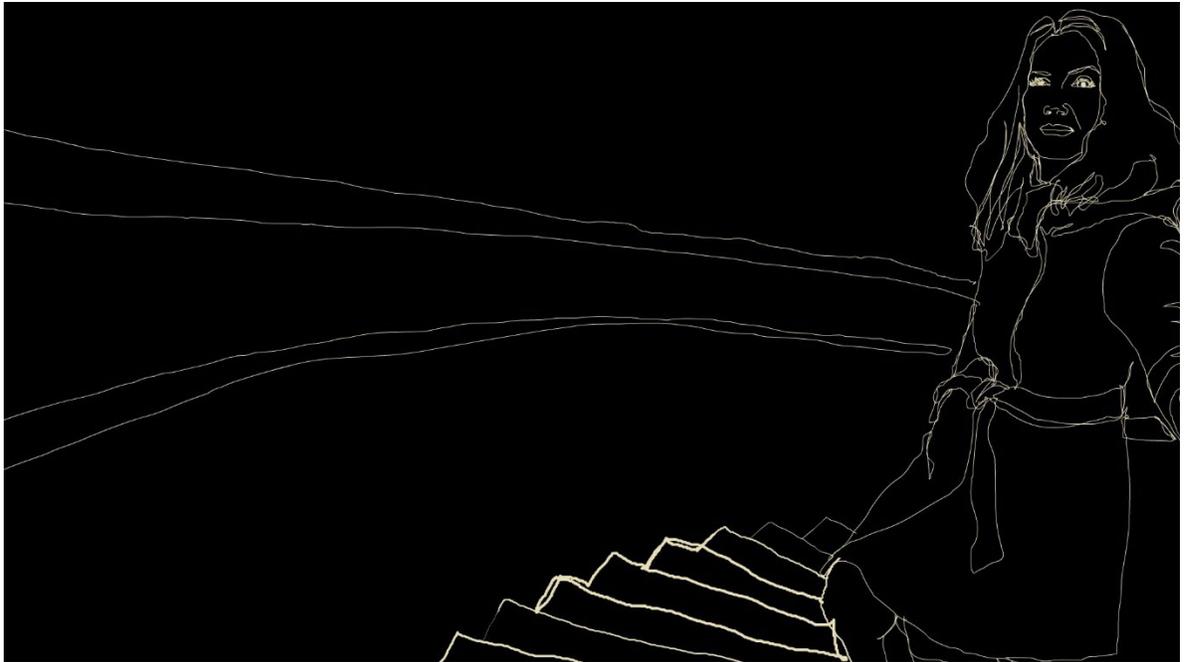


Figure 13: Yvonne Opalinski, *Unhinged_Images2021_ii*, Digital Animation

I emphasise that my methodology allows me limited control over the images produced and depends on randomness, chance, and uncertainty. The image above was drawn and not morphed in any way. The second drawing, shown below, was taken from another animation and already changed from the original drawing in an earlier metamorphosis. I prefer using these morphed drawings because their complex lines create a greater sense of indeterminacy and movement with no option for me to guess the outcome. Their downside is that they can often burden the computer programme with their intricacy, causing the animation to bog down, freeze or become choppy to which I must respond and determine how to incorporate this 'glitch' into the making.

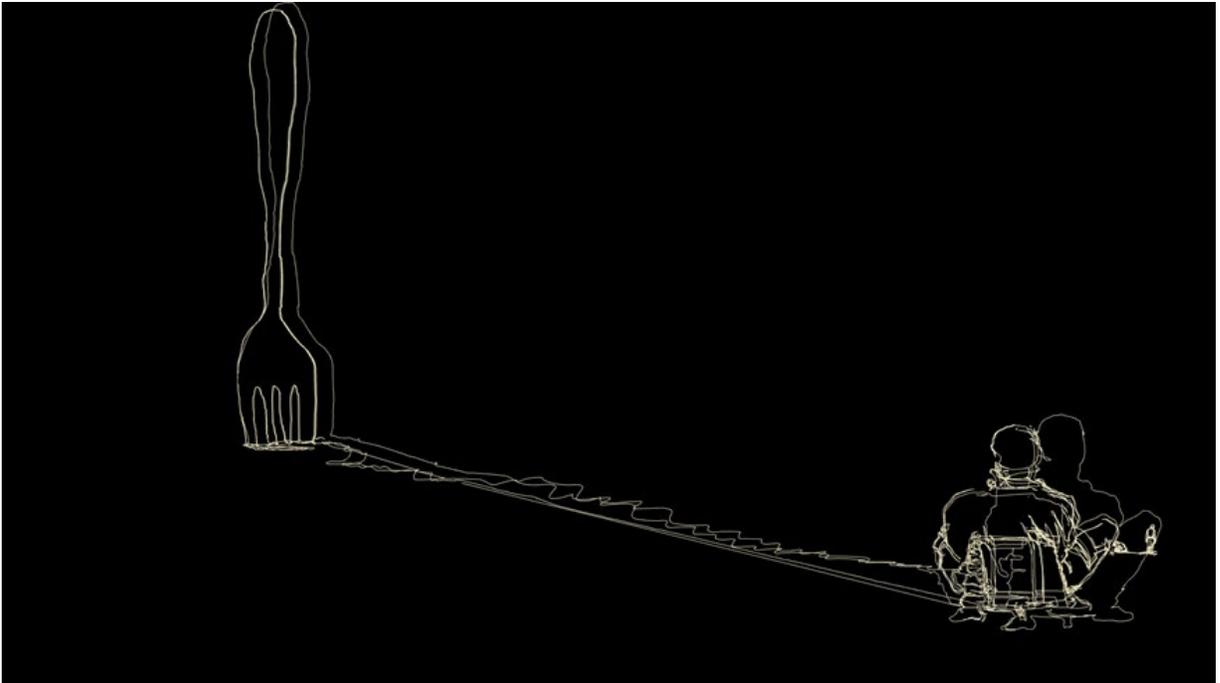


Figure 14: Yvonne Opalinski, *Unhinged_Images2021_iii*, *Digital Animation*

The final image below is the result of the metamorphosis between the dyad created by Figures 13 and 14. This image is a third substance, selected from somewhere in the centre of the dyad. It comes from the between of the other two images inside their interstices, which is Pythagoras' Harmony. Within this continuum, I then use the image as one end of the next dyad to create something entirely different in another animation. These images can be linked to drawn words, interspersed between other layers of poetry, and in this way fluctuate between words and lines of poetry. They can be changed indefinitely. Using morphing images within the continuity of Pythagorean harmony creates tension between reconciliation and rupture because one constantly changes into the other during the animation. This also occurs simultaneously within the audience between what is physically perceived and internally interpreted. The audience bears witness to the ruptures



Figure 15: Yvonne Opalinski, *Unhinged_Images2021_iv*, Digital Animation

and reconciliations forming a living moment inside the grey-zone. We exist inside the interstices when we watch how things move and morph. I use multiple layers of such metamorphoses to maximize that experience as a unified state between artwork and audience in which no subject or object exists.

Whitehead problematizes the character of the bifurcation of nature as a separation between physical perception (objectivity) and mental interpretation (subjectivity) of these perceptions (Stengers 2008; 2011 92- 93, 98). Whitehead's objection:

is the bifurcation of nature into two systems of reality, which, in so far as they are real, are real in different senses. One reality would be the entities such as electrons which are the study of speculative physics. This would be the reality which is there for knowledge; although on this theory it is never known. For what is known is the other sort of reality, which is the byplay of the mind. Thus, there would be two natures, one is the conjecture and the other is the dream. (Whitehead 1920, 30)

An interesting sort of dipolarity surfaces in this description, where Whitehead recognizes the absolute importance of sensation, of the biologically mediated

perception of exteriors, yet once that awareness is interiorized a risk of distortions and individual interpretations occurs. On the one hand, the information received through our senses contains its unique reality, yet that reality becomes subject to chaos in the folds of our virtuality. Whitehead insisted order was needed in the world and that the world craves order, yet experiences are structured according to emotions and the functional relations between knower and known (Whitehead, 1939, 31, 225-226). At this same juncture, Cézanne insisted on the temperance of intellect for integration rather than rupture.

Through my thinking and doing, I have come to understand that material reality through sensation informs and shapes noetic reality inside a reciprocal relationship that shapes reality *in harmony* between the two. Latour elucidates that the difference stemming from this bifurcation, ‘does not come, in other words, from the *vector character* of those two types of entities, but from the *stuff* out of which the successive segments of the two vectors are made’ (Latour 2007, 107). This translates into the artificial exteriorization of subject about which Derrida wrote in the formation of his binary. Accordingly, the problem becomes not so much the actual *stuff* creating differences, not the substance or composition of the vector or the dyad, but always the difference in interpretation foremost because interpretation engages a retroactive glance, a distancing, a separation of subject from object.

Derrida asserted that binaries of good/evil, man/woman transitioned or passed from one through to the other. The vector linking their dialectics folded back on itself and with this refolding (*repli*) defined both, so that one existed only because of the other (Derrida 1981, 103 -104). One’s antithesis gave meaning to its binary without superseding the other, and so they endure in equal unison. His understanding of the binary subverted its historical relationship. To borrow from Derrida,

we are not dealing with the peaceful coexistence of a vis-à-vis, but rather with a violent hierarchy. One of the two terms governs the other (axiologically, logically, etc.), or has the upper hand. To deconstruct the opposition, first of all, is to overturn the hierarchy at a given moment. To overlook this phase of overturning is to forget the conflictual and subordinating structure of opposition. (Derrida, *Positions* 1981, 41).

Binaries contain an inextricable dual nature upon which virulent hierarchies have been imposed, resulting in a split where one end of the binary secures authority over the other. The disservice of Descartes' enlightened dualism lies in its oppositional hierarchy, in its retraction of knowledge for the expansion of mental authority, platforming science as the vehicle for civilization's demand for legitimation and mastery (Lyotard *The Postmodern Condition* 1984, 27) and an agential reality with humans as the sole actors (Latour 2018, 43).

For Derrida, the subordinating structure of binaries artificially separated and exteriorized subject as distinct from the object in opposition. Such a division prohibits knowledge of the other as would occur when equal agency is conferred to both ends of the binary, and in direct contradistinction to what occurs within the concept of dyad, because understanding requires a kind of deconstruction, a pulling apart into digestible bits of information that can be reassembled into knowing. This condition is possible only from the inside as Derrida describes,

The movements of deconstruction do not destroy structures from the outside. They are not possible and effective, nor can they take accurate aim, except by inhabiting those structures. Inhabiting them *in a certain way*, because one always inhabits, and all the more when one does not suspect it. Operating necessarily from the inside, borrowing all the strategic and economic resources of subversion from the old structure (Derrida *Of Grammatology* 1997, 24).

Rather than binaries as a separation, if instead they are regarded in terms of a shift, a purposing or in particular as a dyad, the concepts of deconstruction and construction assume a molten, flexible structure, activating a description of what transpires in my diffractive art practice and those of Cézanne and Barlow.

On one hand, my animations may be viewed as a molten dyad. While my preferred form of their exhibition is within the multi-dimensionality of an immersive installation, in which their composite macroscopic and microscopic spaces alter seamlessly to increase awareness of physical, emotional and mental intra-actions, they are in essence a dyad from here to there. The between, their

interval, is what we witness, participate in and become part of when watching, listening, reading, and intra-acting with them (see any segment of *Unhinged*).



Figure 16: Yvonne Opalinski, *MindST June 2019*, stills from LICA Confirmation Panel Installation

The above sequence demonstrates the shifting between frames of animations in which we see, hear, feel and become those fluctuating intervals. We become immersed in them and they in us. There is no inside nor outside, no time within space. There is only one continuum in this space between. Through sensory intra-actions we access the animations, their gaps and spaces, as in my wanderings through Barlow's *cul de sac*, and we join the fluid plane of immanence.

Now returning to the bifurcation of nature, Whitehead's problem may be described as an artificial exteriorization of subject causing a retroactive glance that

actively destroys dyads. I see this when the externalisation of object is perceived as a 'safe' space from which to know, yet actually separates information from knowledge. Again, I experienced this when I perceived my new technological medium as separate from me, which caused me extreme discomfort. I could not absorb subtle bits of new information until I let go and allowed the process to take over from the inside. This is quite the opposite of separation as a 'safe space'. For me, it was detrimental because no nuances showed themselves, nothing subtle was revealed and no integration of knowledge transpired, because object was limited to the thing at a distance with only that information. No transformations and no randomness could happen when I wanted to control every aspect of this medium.

Medicine relies on the device of a retroactive glance to increase the strength of its studies because of this perceived legitimation of 'complete' objectivity and the assumed clarity of analysis implicit in the separated subject. It is the idea of looking retroactively to see the complex of information and understand it as a discrete package unaffected by feeling, subjectivity and personal interpretation, yet it is never actually like this. Such separations are meant to present new knowledge that fulfills set requirements in order to be accepted as fact (Lyotard 1984, 8-9). Lyotard emphasized that this format of knowledge acquisition excludes a great deal of information. Knowing becomes an act exclusively from the outside, where true facts and the real are external and inside lurks a subjective unknowable viewed as archaic and valueless (Latour 2018, 68-70).

Through such a polarization of information, true knowledge escapes recognition. Latour explicates this through the lens of knowledge acquisition in entities. Once an entity is engaged in knowledge acquisition, it undergoes an alteration, which progresses undetected in 'the grasping by a knowing subject' because the subject registers the information retroactively, that is once information becomes certain or, in a sense, seemingly concrete (Latour 2007, 104, 107). The information shapes both object and grasper of knowledge, the subject. However, because the subject is aware only of its own changes in response to the object, this produces a perception of movement in

the subject and stasis or permanence of the object and its contained information. This perception defines the object.

While making the visuals of my animations, I found that space and a sense of volume drew me into the interstices, but some subject-object separation still existed, because I only worked with virtual visuals. Nothing completely collapsed for me the way it had in Cezanne's descriptions of painting. When I layered words inside the animations, the sense of collapse developed through the way I made words come out at me, dissolve and flip about. I noted also that movement in the animations asserted its own rhythms. I heard music forming in my head because of those rhythms. Sound became a necessity for my access to completely find that place of intimacy where subject-object collapse was possible. These aspects of *Unhinged* will be discussed in subsequent chapters, but of importance in this chapter is that sound helps the animations pull the audience into their indeterminate space, because it does not allow the participant to stay separate physically. The viewer becomes most acutely aware of personal changes in response to what is being experienced. The audience enters the interstices without choice and then recognizes their discomfort with the increasing awareness of being inside a constantly changing space.

Everything intensifies. This is most evident in the opening of *Unhinged*. Where blankness is infiltrated with a high-pitched electric keyboard generated sound. As images enter the space, that sound is replaced with my voice, which penetrates the audience without choice. Space collapses. Unexpected sounds and visuals assail them. Viewers lose the safety of separation. Words contribute to this entry into personal spaces as entities that play with dualities of meanings and sounds in their own right. Eventually some aspect of my work jars personal points of reference, feeling and experience in the audience. Each mode of practice pulls one deeper inside into the hidden. That is why I use my triad, my three modes of practice. Such layering endows the animations with a Baroque density, yet I leave gaps and spaces and silence to provide the audience with, not the barrier of separation, but space to look around and assess what is happening – to breath and discover where they are. In that gap comes understanding, reflection and knowledge.

Unhinged is tangible proof dispelling the polarization of information as a method of knowledge acquisition. Instead, inside the dyad of subject/object a mutual exchange links audience to artwork. What this older model of knowledge acquisition is missing is 'knowledge from the inside', the awareness of the metamorphosis occurring in the intra-action, the process transpiring not only in the designated object, but also in the designated subject *in that moment* of intrafacing. It also cuts to the core of my research into spacetime because severing object from subject through the retrospective glance indicts time as the culprit of disconnection. Because of this, time and space are critical factors between object and subject in the formation of relations of attributes or characteristics of matter (Whitehead 1920, 14-15). Space and time occupy a central place in art as catalyst, curiosity and challenge, but also as an integrated portion of process, where through the materiality of thought, a cut or choice is always made and as such weaves into the essence of art practice instinctively. Time and space in the interstices will be discussed in more detail shortly.

What I am advocating is in essence the complete collapse of object. Object as perceptual stimulus, object as artistic medium and object as eternalised reconfiguration of this merger ceases to exist inside this intimate ecosystem. The information object simply becomes a designation of convenience to denote what Whitehead termed the 'event' rather than a distanced relationship where I am separate subject assessing object. From this vantage, I weave in and about the many openings and interfaces that present in the interstices. My hope is to provoke a similar sort of feeling of exploration in the viewer. From this framework, material practice becomes a flowing dyad moving from substance to interstices, where in those between artist, artwork and audience meet.

Reflecting on this methodology with respect to my art research, my situatedness prompts an inter/intra-cellular search to locate the feeling, the moment, the word, the image and the sounds that communicate the resulting knowledge creation. Without this initial feeling, perception inside experience, I struggle to locate a starting point for my poetry, visuals and music. The process requires not only my openness to the event, the external information object, but also a willingness to unravel internally, to allow a

self-deconstruction in order to reassemble that information into specific words, images and sounds. In this way, a generative dispersion of self, a letting go of my ego occurs so that feeling and thinking become materials of process, tools which explore the interstices and those interfaces that I encounter and become as new substance.

Throughout this thesis, movement from one dyad to the next shapes a performative path of inquiry that deterritorializes mental/physical and subject/object to question reified virtual/real and human/non-human assemblages. I concentrate on those linkages in the following section to assemble my thesis through the aperture opened by the science of quantum physics and the material thinking of Marcel Duchamp, to connect physical, mental and metaphysical, developing another mode from which to describe material productivity, creativity and knowing by any other name.

2.5 Of folds and *inframince*

Duchamp defined *inframince* obtusely as a warm seat, the sound of velvet trousers when walking or a painting on glass when seen from the unpainted side (Duchamp 1980, 4, 9, 15). *Inframince* was the possible implying the becoming (Ibid, 1). I understand it as the interface that dissolves in the *betweens*, Schrödinger's third state, the flux of the dyadic interval, harmony and the porous membrane of the fold.²⁸ The *inframince* congealed in Duchamp's mind the more he saw space, time and dimensions liquify into one quantum entanglement, although his more immediate influences were non-Euclidean geometry specifically the fourth dimension and spacetime (Adcock 1987, 149; Dalrymple-Henderson 2013, 248-251). For me, quantum theory illuminates Duchamp's noetic spaces as those physical, physiological spaces between cells, between intra-cellular molecules in which intellectually tempered feeling materialises

²⁸ Dalrymple-Henderson formalizes Duchamp's description in Euclidian terms as the z-axis found in paper which transforms the plane into a three-dimensional solid, "the qualitative degree or step by which one form turns into another...at the critical point of transition from line to plane to solid and beyond" (286-287). I embrace Duchamp's definition as "not an exact laboratory measure".

into knowing. I will show how Duchamp actually depended on the very same sense of intimacy as Cézanne and I do. I elaborate on how my methodology develops from those of Cézanne and Duchamp to provide a description of this realm through diverse entry points at the *inframince*. This section also examines spacetime as an extension of the interstices.

While by way of the materiality of paint, Cézanne brought the viewer through feeling and emotion into a third entangled state, Duchamp looked to enter the fourth dimension where time united in space devoid of emotion and feeling. Despite Duchamp's Cartesian nature (as documented by Duchamp, Cabanne, Nesbit, Suquet, Cameron and others), materiality remained his means with which to engage in the interstices. Works like *Paysage Fautif, 1946* and *Étants donnés [Given!], 1946-1966* demonstrate not only his intensely sensual relationship with embodiment, but also how he viewed the physical as an entry into the noetic. Duchamp called the *inframince* a separation and others such as Dalia Judovitz, Jean Clair and Rosalind Krauss uphold the view of *inframince* as a barrier in which,

The "infrathin" separation between the model and its copy becomes the site (a pun on sight) of the fragile interval separating a body from its impression, life from art, a work of art from its copy. In *Given!* this "infrathin" separation becomes the deceptive and reversible interval of sexual difference.... These figures turn eroticism inside out like a glove. (Judovitz 1995, 216)

Adcock elaborates on the intimacy of the inversion to speak of Duchamp's interest in androgyny as a means of accessing his mirrored self through a type of transsexual geometry 'in ways that are consistent with his interests in the transformational nature of four-dimensional rotations.' (Adcock 1987, 150). Within a broader explanation, he cites the 90° rotation of Duchamp's *Fountain, 1917* as a reference to an inside-outside transformation involving gender, concepts of art and materiality that describe 'a different dimension where the conventional polarities were no longer valid' (Ibid, 153). This amounts to an account of the dyad as a fluid interval where differences in polarity are a condition of the *inframince* as a point of fusion, hence transformation. In this specifically, I view Duchamp's use of physical intimacy as his twofold tool into the

inframince. Inversions allowed him to feel both sides of that membrane, destroying the barrier and dissolving this separation of the *inframince* so that he could dwell in his interstices in the same way ‘as when the smoke of tobacco smells also of the mouth from which it comes’ (Duchamp 1980, 33).

To my mind, sex for Duchamp merged making sensations with noetic knowing, creating diffractive intra-actions that united physical and mental and his works attempt to convey and share access into that space of unity and intimacy. In this regard, Duchamp’s methodology parallels and builds off Cézanne, substituting paint with the body. Both rely on movement through physical sensation in order to enter the mental and the *inframince* acts as that moment of transition between the two. Movement is key to the visual transformations in my art practice, which are, as Barad describes, diffractions of matter so:

There is nothing that is new; there is nothing that is not new.... Matter itself is diffracted, dispersed, threaded through with materializing and sedimented effects of iterative reconfigurings of spacetimemattering, traces of what might yet (have) happen(ed)... Diffraction is not a singular event that happens in space and time; rather, it is a dynamism that is integral to spacetimemattering. Diffractions are untimely. Time is out of joint; it is diffracted, broken apart in different directions, non-contemporaneous with itself. Each moment is an infinite multiplicity. (Barad 2014, 168-69)

The infinite multiplicity in the diffraction of matter, its quantum dynamism, forms the perceptions of how the physiological interstices behave in all organic creatures as a space where time takes shape as an agential cut. Inside the interstices, space is shaped through events and intra-actions and time is only a convenient reference. Flux is its only constant in a continuum that is physical, electrical and diaphanously cerebral all at once, where thinking morphs into a material practice as Barad described. The interstices become a space and a gap between to define time as nothing more than a willful snapshot of an instant of an event, a choice of recognition and acknowledgement of the particular moment in a circle of renga.

Whitehead described event diffraction as a mental diffraction between events in which reciprocities, ‘interpret events, each to the other. They are here in the perceiver; but, as perceived by him, they convey for him something of the total flux which is beyond himself’ (Whitehead 1925, 103, 151). For Whitehead, material, diffractive events shifted as barrierless, iterative intra-actions that included interpretation, sensation and awareness. These series of events formed what he termed a ‘continuum’, which describes interstices and between, acknowledging their integrated actuality. Whitehead and Barad articulate the occurrence of a transformative action through materiality that alters immaterial planes of becoming and the noetic being.

Perhaps painting and *la patte* were rejected not because as Duchamp stated, painting with its stylistic variances offered nothing novel beyond abstraction, but because he found himself unable to access those interstices through paint diametrically unlike Cézanne. I understand Duchamp because of my experience working only digitally at the start of this experiment. Virtuality, as framed in the programmes I use for my animations, left me with a disconnect. Although I held the drawing pen that put down the marks which became my drawings, the intimacy I felt with painting was missing. I needed to add other material elements to understand my integration with the digital intellectually. Interestingly, for Duchamp eliminating fabrication from the artistic equation ensured that only the wit, the idea, the mental remained (de Duve, 165) and this was Duchamp’s entry into the interstices. Materiality, like science, transformed into an agent of potential where, as Duchamp believed, ‘art takes man to reaches not ruled by time and space’.²⁹ As a manifestation of contradictions, Duchamp recognized the sexual act as substance-based *and* as part of this ephemeral, oscillating continuum. I submit that this encapsulates the process of making art. Reciprocity between the physical and the mental allows for a third state, be it artwork or orgasm.

²⁹ 1956 *A Conversation with Marcel Duchamp* and James Johnson Sweeney
<https://www.youtube.com/watch?v=DzwADsrOEJk>

In this sense, eroticism possessed the same function as paint, perhaps even leading him to view the artist as the medium in the identical way Cézanne viewed paint as a material path into the noetic and the interstices through which artist and matter mingle into artwork. Similarly, as my experimentations evolved, I understood that the visual, music and poetry were an intimately connected continuum in me and that those transformations occurred through the digital medium when I made a more physical connection to it. Each strengthened the other's intra-actions. My function as medium could not separate these instruments of art, or ignore one in favour of the other, because each accessed different aspects of the interstices with varied diffractive experiences. Each was necessary for me as a feeling-carrying substance in knowledge generation. Movement and flux in each formed a critical site of expression for me, an *inframince* touching point, which meant all three had to be used as my means of expression.

While Cézanne propagated the integral role of feelings transmitted through substance to reach the interstices, Duchamp distanced himself through denial even as he ultimately recruited himself in the role of that very same feeling-carrying substance. Restructuring the *inframince* into a fluctuating fusion not a separation is supported in Duchamp's notion of artist as medium. Inside the *inframince*, Duchamp saw a contact point rather than a divergence as he outlines in the following interview:

DUCHAMP: I believe in eroticism a lot, because it's truly a rather widespread thing throughout the world, a thing that everyone understands. It replaces, if you wish, what other literary schools called Symbolism, Romanticism....

CABANNE: What personal definition of eroticism would you give?

DUCHAMP: I don't give it a personal definition, but basically, it's really a way to try to bring out in the daylight things that are constantly hidden-and that aren't necessarily erotic.... (Cabanne 2009, 88)

Eroticism as a methodology, like Cézanne's paint, revealed hidden dimensions, spacetime, and any number of scientific ideas exploding one hundred years ago by directly placing Duchamp in the interstices. He then pushed this relationship

further when he described the *inframince* as an exchange between artwork and audience to the extent that, 'Very often this exchange has the value of an infrathin separation (meaning that the more a thing is admired and looked at the less there is an infrathin separation)' (Duchamp 1980, 10). Duchamp's mantra was a belief that 'art should also have something to do with grey matter'.³⁰ Implementing an intimate, physical methodology brought this thinking into direct contact with that same space in the audience because of the pervasive commonality of this particular experience.

This is the point where music and poetry become important in my art practice. From my viewpoint, the intimacy I had with paint, its texture, its smell, the subtle and exciting colour variations, the visual tricks I could create and even the process of cleaning it off the brushes was lost when I shifted to purely digital working methods. Like Duchamp's use of eroticism, implementing these other modalities reconnected my physical being with the mental space Cézanne, Duchamp and Barlow access. In the case of Cézanne and Barlow, it occurs through feeling the materiality of paint and multiple other materials. While Duchamp talked about a separation with his materials because he used readymades, his materials still allowed him the *inframince* contact point in which to feel that space. Moreover, he transformed himself into the material substance that got him into that space. Interestingly, once I let go with the help of sound and poetry, I found that intimate, physical space in me where technology developed its materiality and sensations through me so that my intra-actions with it were not exclusively virtual.

Intimacy, Duchamp understood, is the key component of collapse and reconstruction, of reciprocally bringing object into subject to allow new substances and ideas, new materialities and realities to flourish. His works like *La mariée mise à nu par ses célibataires, même (the Large Glass)*, 1923 could be accessed by the audience and it in turn accessed the audience's interstices through such an

³⁰1956 *A Conversation with Marcel Duchamp* and James Johnson Sweeney
<https://www.youtube.com/watch?v=DzwADsrOEJk>, 22:20

inframince intra-action. The title establishes the familiarity of subject matter, while the materials, the scale, the endless scientific notes insinuate tremendous structure to an unfinished piece with a net result that some aspect of it intrigues the audience, pulling them to that hidden space.

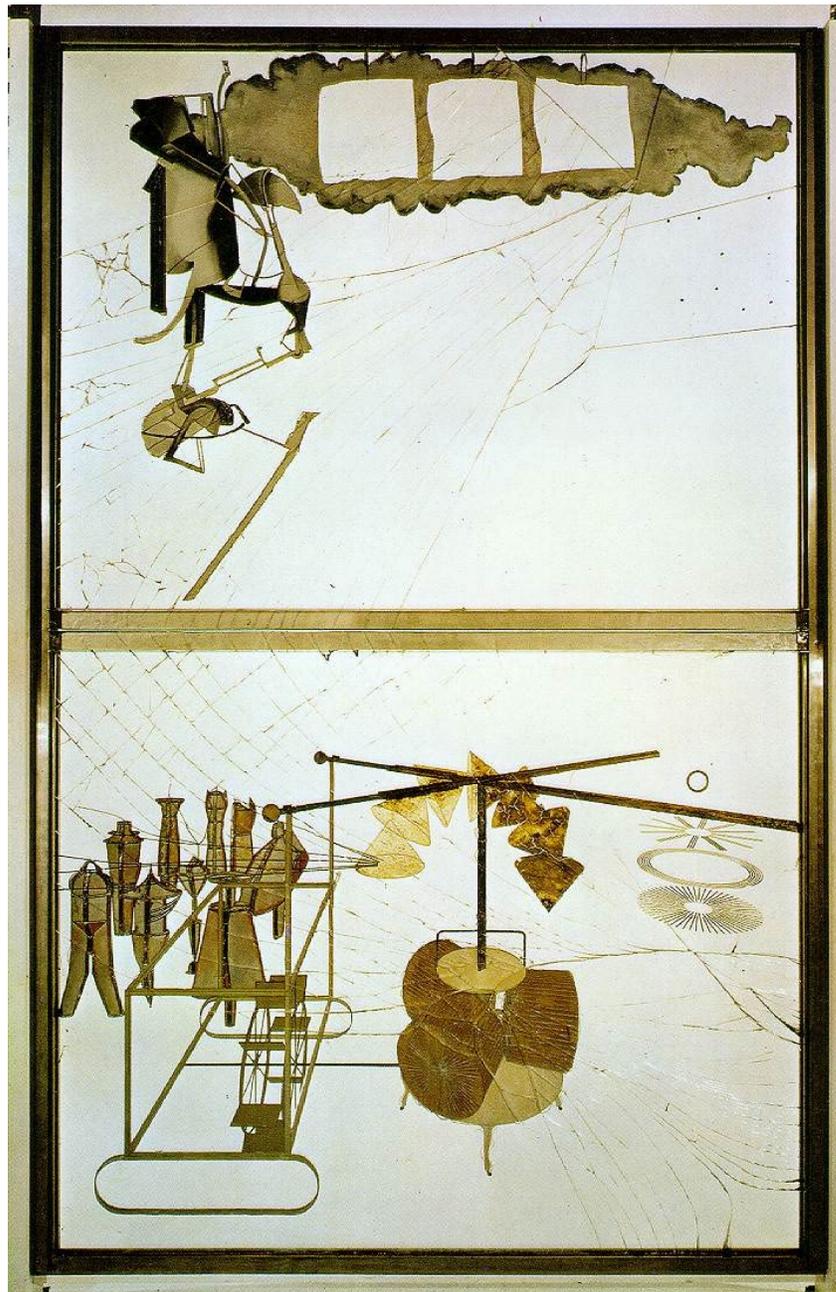


Figure 17: Marcel Duchamp, *La mariée mise à nu par ses célibataires, même* (the Large Glass) (1923)

The actual use of glass is redolent of the *inframince*, something our senses can touch and look through but perhaps never really come to know. Contact becomes virtual, a purely noetic exchange, with the materials bound between panes of glass—a consequence of being able only to run fingers over its surface and not the actual objects. Likewise, the title creates infinite, interpretive conjecture when married to the readymade objects in the work as indicated in the analyses of de Duve, Hamilton and Suquet among others.

Duchamp's panes of glass are very much like working on the Surface Studio in the sense that I can never touch the objects I create. I barely feel the pen running over its surface and any scritch scratch sounds associated with drawing are minimised. Working virtually is much like working only in the mind, like closing one's eyes and just thinking the art. Although the tricks of dimensional space can be created in a way that extends farther than paint, that physicality is missing. The purely noetic is not enough for an artist to enter the interstices, because those spaces are physically defined by the lobes of our brains and so even Duchamp needed his readymades.

Duchamp envisaged an advancement into the creative act with the artist as 'mediumistic being'³¹ through a *transference* from artist to spectator that enables artistic intention to transform into artistic realization (Duchamp 1973, 138). Gadamer referred to this phenomenon as the sublation of discontinuity into the continuity of our existence, noting that the spectator, as an essential component of the 'aesthetic play', experiences a transformative mergence when the meaning of the artwork is grasped (Gadamer 2004, 83, 124). Duchamp was concerned with embodied connections moving into psychological realities to form an overarching univocity.³² Within embodiment, consciousness and subconsciousness mingle to stop the linearity of time and enter the virtual environment where spacetime is realized and we are physically situated. In the course of the creative process, matter transubstantiates into an artwork,

³¹ Husserl describes the body as "the medium of all perception" in Book III of *On the Phenomenology of the Consciousness of Internal Time*, p. 61.

³² Deleuze articulates univocity as the oneness of all individuals/actualizations in *Difference and Repetition*, 36.

yet only when the spectator experiences transmutation do the qualia of that work enter the external world to gain significance (Duchamp 1973, 140). For Duchamp, art only acquired its importance when somebody could find meaning in it, when it succeeded in creating uncertainty through transitional spaces where meanings alter (Jeffers 2010, 32). These transitional spaces are the interstices and, in these spaces, the mental and physical merge on a miniscule, quantum level.

At this time, I propose the interstices belong in the spacetime continuum and the fourth dimension wrapped in quantum mechanics to describe a microscopic realm of multiple intra-actions. Here, we are the sounds of words in the *renga* poem. As physical beings, we get caught up in the macroscopic, ignoring the whispers of sensations and their supple connexions to the noetic. I attempt to reveal these hidden intervals with Cézanne, Barad, Whitehead, Duchamp to make others aware of this extreme internal state that functions as a processor for re/externalization. A rhythm forms in which the external is internalized through sensation and then externalized by emotion and choice to create an infinite flux and flow back and forth from macro to micro. I emphasise that this was the process that led me into the medium of technology and shifted it from its previous role just as a technical support. The doing contained rhythm, the rhythm of the animations, of matter shifting from the inside out and with that came knowing. No hierarchies. No bifurcations. No objects. No inside or out.

In reflection, my medical studies only made sense to me from the inside out when I saw the interconnectivity of all things organic down to the smallest bits of electrons and ions.³³ From this viewpoint are shaped the interstices, that physiological nitty-gritty space where everything occurs to influence us externally. The COVID-19 pandemic has made apparent exactly how interdependent each atom is on the next and how capable earth, in all of its organic and inorganic composites, remains of

³³Although, medicine suffers from the same tendency towards categorization, compartmentalization and separation as most everything else. Whitehead discusses the problem of specialization in *Science and the Modern World*, 1925 p. 196-199, where specialists learn to think in grooves without balance so that the remainder of life is 'treated superficially' and the diverse interplay of different values are ignored because abstractions substitute for concrete appreciation of nature and the facts of the thing.

responding and intra-acting with us. Actions seem to always be intra-actions regardless of our level of awareness.

In the next chapter, I delve deeper into the interstices using Duchamp's *inframince* as a springboard from which to examine what occurs when our awareness is activated. I look at music as a crucial player in the knowledge generation of my art practice. I focus now on this aspect in my methodology, paralleling Duchamp's eroticism and Cézanne's paint.

3 The Sound of the Inframince

3.1 Introduction

What resides inside the hidden spaces and places of mystery holds an irresistible attraction. Inviting the curious to understand the how and the why, my exploration of the interstices intends to get others excited about discovering these spaces, the *inframince*, the gap, the *blanc*. My hope is to instigate the curiosity needed to enter undiscovered countries within themselves, to make others feel links they may not have seen or felt before in order to collapse ideas of separate subjects and objects and understand better through a position of intimacy. The interstices are a very personal and intimate space, but this gap forms a communal, experiential opening, which I believe is the place artists tap into creativity by letting go. In today's world we have no time for gaps and no interest in the intangible. We are afraid of letting go. If we can attend to these spaces, they are where we find excitement, satisfaction, understanding and ultimately joy. The previous chapter unfolded the interstices through the physicality of the visual arts. It linked explanations of physics to our actual, physiological interstices and to our metaphysical interstices, deconstructing divisions to structure this real space of transcendence.³⁴

The structure of this thesis moves from the visual arts to sound art to poetry, in what may be considered the most material form of practice to disputably the least tangible in music to the realm of the written word somewhere in between. This chapter will explore another entry into the interstices by concentrating on music and sound. From this vantage another facet of the gap opens. For me, this triad works fluidly in a

³⁴ While Whitehead, Hegel, Derrida, Nancy, Jones and many others tackle discussions around transcendence, spirit, theology and art, it is my intention to maintain a narrower focus on that point of connexion inside the interstices where the embodied leads to a transcendent state through the creative act.

borderless dominion without subject or object. There is only the translation of the interstices and its evidence of existence in the residue that is my art practice.

Music shapes how I hear the visual. My engagement with music began in a pre-school choir to eventually encompass formal training in both classical piano and voice. From those early pre-school days to the present, music has been an integral part of my life. My formal training in voice spanned twenty years. Ostensibly, voice production requires the physical, a larynx and sinuses with the free flow of air through them. Significantly, years of my training were spent learning how to remove the physical from sound production. Muscle tension prevented air from freely passing in and out of me, bastardizing pitch and sound. Any feeling the music generated could not creep out as 'expression'. That immediately employs skeletal muscles which grab the structures surrounding my voice to flatten it. Such prolonged vocal clutching eventually creates nodes on the laryngeal cartilage, a potentially ruinous outcome for any vocal production.

Most importantly, singing and vocal fabrication require the uninterrupted flow of air in and out and the direct stream of thought to air with as little physical impedance as possible. Singing becomes nothingness, simply thought forming itself on moving air. Sound as pitch must be heard in the head first to be transmitted externally no matter if guided by notes on a page or those in one's brain. Words form from subtle lip movements and that is all. Singing is air moving. It is nothingness. It is a letting go of physical control. It is being an instrument of thought encased in a body. This perspective influences my musical approach in my art practice.

Because music occurs in many modes, from listening to humming to playing someone else's compositions or one's own, it predisposes towards the accessible and ubiquitous. An intimate sense of ownership and agency unfolds when interacting with music even if we believe we are doing nothing, because we are participants, instruments and performers the moment the sound vibrates against our tympanic membranes. Precisely because of this intimacy, music flits along the line between the savage scrutiny of rigid historical tradition and the unfettered rapture of its sounds.

However, it is music's nothingness (and in particular voice) that gives me a visual reference to touching points inside the interstices, which will now be discussed.

This chapter opens with a reflection on how music has been purposely engaged within the practice-based element of this thesis. I consider Cage's ideas on nothingness and its influence on his use of sound, silence, artistic intention and nature. This notion of openness to the complexity of experience is traced through the element of chance by which Cage and Duchamp approached music. While Cage's chance was meant to remove artistic intention, I look at how Barad's agential cut within sound expands the reciprocity involved in the evaporation of the artist during the musical process. Exploring Christian Marclay's use of the physical tropes of music which engage with ephemerality, I reflect on how music in my work affects my notion of the interstices. Such dissemination questions aspects of agency throughout the creative act. The idea of reciprocal agency is reflected back onto my art practice to examine the intensely intimate connections music establishes as inversions that take artist and audience deeper into the interstices.

3.2 Reverb off the Tympanum

Quite sometime before my awakened awareness of the immateriality of singing, a naïve initiation to the ephemeral quality of music occurred even earlier in my life with piano. My last piano teacher introduced me to nothingness through listening. She would ask me to hear the notes on the page before I played them, first when learning new pieces and as a prelude to sight-reading. I was to listen to their sounds in my head based on the cues from the page. She wanted me to hum the entire thing without touching any piano keys. As a thirteen-year-old, these first attempts left me with an incredibly disorienting and dizzying sense of immateriality and a determination to become more comfortable in that realm. Only until I got deeper into my vocal studies in the following two decades did I really understand the space this teacher was helping me to access.

By initiating this exercise, she indirectly entreated me to engage my auditory imagery, the perceptual-like experience of an auditory stimulus in the absence of that stimulus. In all the subsequent decades since that exercise, no clear theory of auditory imagery has been formulated, yet it is an important element of cognitive processing related to language and music. Additionally, we are still learning whether auditory imagery is a learned phenomenon or an innate ability (Hubbard 2010, 324). The notion of auditory imagery leads directly into the interstices. When I create my animations, I watch them over and over and sound formulates from a distance in those spaces without written notes until it resonates in my head. Those spaces are the interstices. At this point in the creative process, I play at the keyboard or start humming to externalize the sounds, which then immediately return to me in a forward and backward flow. As layers develop, the animation proposes what other sounds are added. Sharp, short, sustained or sweet, movement in the work, either from the words or the drawings, always guides the sound. How it gets inserted into the art practice depends on my ear's acceptance or rejection of the suggestion. (Listen to *Unhinged Part I* 00:55 and 01:15). Sounds penetrate to slash rhythms and melodies in synchrony with the visuals, which has a destabilising effect for the listener, the importance of which follows below.

The methodology involved in music creation (which in my research includes all sounds) is an identical venture into those interstitial spaces explored by visual artists such as Cézanne and Duchamp or poets such as Stéphane Mallarmé and is necessary for art generation. A key practitioner of this methodology in the audible realm was artist, musician and composer John Cage. Because of his plethora of writings, interviews and actual body of work in the same three art forms I use, Cage affords a unique insight into the development of a process leading into the interstices. Of the many ways in which John Cage distilled sound, nothingness became his access point into sound's interstices. Nothingness actually can refer to the place Cézanne's and Duchamp's methodology took them.

Nothingness contextualized sound, silence, artistic intention and nature for John Cage. In order to find nothingness, Cage inverted the traditional rules and

notions framing music (Dyson 1994, 374), but his definition of nothingness was shaped through personal experience. Essential to Cage's thinking was the idea that sound must be itself, that it possessed nothing so that, 'A sound doesn't *have* its being, it can't be sure of existing in the following second. What's strange is that it came to be there, this very second. And that it goes away.' (Cage and Charles 1981, 150). Sound was a process, a momentary engagement without a past or a future. Cage framed his personal approach to artistic creation when he said, 'I saw art not as something that consisted of a communication from the artist to an audience but rather as an activity of sounds in which the artist found a way to let the sounds be themselves' (Cage and Kostelanetz 2003, 42). Allowing sounds to be themselves opened the minds of artist and audience, subverting ego and removing value judgements that categorized and pigeon-holed sound. Value judgements, as discussed in the previous chapter, create a hierarchy between subject and object, which Cage desperately wanted to annihilate given that such hierarchies had dictated music over the last 300 years (Bernstein and Hatch ed. 2001, 173-174). Cage wanted to free music from its history and tradition in a similar way that Duchamp sought and succeeded in emancipating art.

Of importance to my art research is that idea of value judgement, which Cage described as 'when it is made doesn't exist outside the mind but exists within the mind that makes it. When it says this is good and that is not good, it's a decision to eliminate from experience certain things. Suzuki said Zen wants us to diminish that kind of activity of the ego and to increase the activity that accepts the rest of creation' (Cage and Kostelanetz 2003, 42). Before my brain consciously kicks in, my ear determines which sounds join the animation in my art practice. In *Unhinged Part I* (02:13), the sharp steel-like sound merges into the drawn word as both disintegrate through the frames into another phrase and another sound grouping. These sounds were added in response to watching the silent animations, but their placement relied on not the activity of ego, but the harmony of sound merging with the visuals in the sense of Pythagoras' third entity.

Immediately, this suggests that I place a value on the sound in order to judge what should be included or not. Within the interstices, I submit, that there is no value

attached to the choices I make. No better or worse. Rather inversely, within this gap the activity of ego is diminished as Cage suggested with Zen. In this space, the concept of musical syntax³⁵ perhaps guides my selections more, which means that because my music is not constrained to deliver a specific type of information and therefore not dictated by sets of rules (unlike language), I can freely move between the 'norms' of musical structure to do what my ear determines. Listening directs me to incorporate particular sounds in the animations. In this way, I draw from those early piano lessons where I learned to listen to nothingness, where I had to 'let sounds be themselves' in my brain and in my interstices to hear them.

Sound's internal aspect of duration and its external aspect of rhythm directed Cage in his music composition. Sound guided by rhythm and tempo seems foundational to music of every shape and form. These terms applied to musical notes well before Cage.³⁶ Cage expanded the application of these measures to all sounds and not just those denoted on a page for an accepted instrument. He contended that a single sound remained just a sound until placed amongst other sounds at which time it became part of a musical piece (Tomkins 2013, 69-70). This way he extended the definition of music beyond 'sacred and reserved for eighteenth- and nineteenth-century instruments, [to] substitute a more meaningful term: organization of sound' (Cage 1961, 3). Sound organization contains within it the idea of syntactic organization. Both rely on disordering sound relations in tonal music and norms found in patterns and rhythms.

³⁵ As Anniruddh Patel explains in *Music, Language and the Brain*, "musical syntax (just as in language) refers to the principles governing the combination of discrete structural elements into sequences. The vast majority of the world's music is syntactic, meaning that one can identify both perceptually discrete elements (such as tone with distinct pitches or drum sounds with distinct timbres) and norms for the combination of elements into sequences. These norms are not rules that the musician must 'obey'." On the contrary, composers and performers can purposely contravene these norms for artistic purposes. However, such departures are meaningful precisely because there are norms against which they operate. The cognitive significance of the norms is that they become internalized by listeners, who develop expectations that influence how they hear the music. Thus the study of syntax deals not only with structural principles but also with the resulting implicit knowledge a listener uses to organize musical sounds into coherent patterns." (Patel 2008, 241-242).

³⁶Duration being the relative time-based value within a half note, quarter note or eighth note and rhythm being their arrangement in time as, for example, 4/4, 3/4 or 6/8 marked in the time signature on a page of music.

Music perception relies on these relations of similarity (repetition, musical themes and motifs with variations, etc.) usually nestled within the terms tonality and harmony, but syntactic organization creates coherent patterns based on contrast (Patel 2008, 261-262). According to philosopher Imogen Parker, tonality creates relationships that structure a linear experience of music (Parker 2008, 47). Tonal music's pitches and rhythms create musical inertia because of their implication that these patterns will repeat, which, in turn, infers a continuation of these in space and time (Hubbard 2017, 17). We anticipate that music will take a linear direction in space.

A lack of linearity describes my approach to the musical aspect of my art research. (Listen to *Unhinged Part II*: 02:00-02:30). Duration and rhythm are partly responsible for sculpting the backbone of my compositions. However, the structure of the sound in my animations develops from the organization or assemblage of multiple layers of instrumental, voice, and other sounds in this contemporary evocation of the Baroque, where consonance and dissonance weave in and out, sometimes harmoniously, sometimes acrimoniously. Rhythms fluctuate and clash or disappear, depending on the overarching effect in conjunction with the visual. Image guides sound combinations in my methodology. Anticipated relations are disrupted because musical rules are completely abandoned. My methodology resembles a search under the cover of darkness where sounds exist and are detected through a kind of echolocation in the interstices. The resolution occurs in the process, locating the sound that works in the moment with the animation. I do not seek a tonal solution in musical harmony. My methodology amounts to a facilitation of process in which, as Cage stated, 'anything may happen' (Cage and Charles 1981, 25). This process echoes Whitehead's becoming as a constant flux in the present.

Resolution is suspended in favour of an ongoing process despite our drive to seek tension resolution in music and most other art. Tension resolution provides a psychological resolution fulfilling our anticipation by structuring harmony through a 'perfected identity' (Parker 2008, 52-53). Certain chords such as a dominant seventh³⁷

³⁷ Dominant seventh = four-note chord made of the major triad of a scale with a fourth note added, which is the seventh note of the scale but in the minor key

of a key prompt us to expect a return to the tonic³⁸ in order to attain musical resolution. Dissonance is associated with the *expectation* of resolution through eventual consonance and as a result generates tension. Composers, dancers, writers and visual artists use patterns of tension resolution to capture their audience's attention and evoke suspense through the uncertainty inherent in dissonance (Lehne and Koelsch 2015, 286-287). When the notes go to where they are anticipated, Parker suggests we achieve an indirect identity of perfection for 'the problem of a conceptually enduring human identity' (Parker 2008, 52). Parker states this stems from the structure of tonal music, because a defined sense of time forms that is spatially understood in linear terms through tonal relationships. As a reminder, the importance of tonal music versus atonal lies in the resolved relations of identity it forms inside temporality.

The listener partly processes tonal music as a spatial structure that creates a sense of propulsion or movement with a temporal flow based on these relationships in which,

Tonal music bridges the divide between the external and spatial, and the internal temporality: it exists, and is experienced in personal time, but creates a visualisable structure across it, divided up, not externally (as the arbitrary apportioning out of the day into seconds, 22 minutes and hours) but by musical relationships. It thus manages to neutralise the paradox of the dual experience of time by appealing to both aspects simultaneously (Parker 2008, 52).

Parker argues that tonal music structures an encounter in which our enduring human identity (our immortality) directly confronts the temporal change to which we bind our existence. With the return to the tonic note, music unifies the listener's identity in time and space, shaping for us a perfected identity in eternity through this fusion of spacetime.

The vectoral space formed in the temporal flow of music forms our embodied musical experience (Hubbard 2017, 17). Philosopher Joan Stambaugh described this corporal experience as an aesthetic time that was not objective, subjective or

³⁸Tonic note = the lead note in the specific key, also known as the 'do'

psychological time. Aesthetic time does not occur linearly, rather it is perceived, heard, and as such becomes intransient and absolved from duration and existence (Stambaugh 1964, 274). This is a subtle distinction from Bergson's *durée*, a continuous internal time duration marked into measures through the intermediary of motion. Our own duration, according to Bergson, is externalized by motion in space and divided into a linear experience. His *durée* was a conscious experience based on the perception or awareness of the motion of an object (Bergson 1965, 49-52). (This also directly contrasts with Latour's discussion of object as formed through a perception of stasis which was mentioned earlier in 2.4 p. 63-64.) Within aesthetic time or 'fusion time', as Parker termed, our identity and existence find psychological resolution inside musical tonal resolution. Time loses its transience. In the absence of perfect tonal resolutions, atonal music challenges identity relations between self and change in spacetime, shattering the perfected identity. It unsettles internal harmony by questioning ideas of an eternal existence.

On a physiological basis, tension resolution correlates with greater neural synchronization than with dissonance. Philosopher and classical musician Barbara G. Goodrich offers this 'healthy homeostasis' as an actual physical reason that provides 'a vicarious sense of fulfillment' for which we seem to be hardwired (Goodrich 2015, 504). In my animations, playing harmony against syntactic organization opens tension without the promise of a resolution for the listener. Instead, the listener discovers sounds without the linearity usually associated with music. (Listen to *Unhinged, Part II*: 03:330-03:20). By creating a contemporary Baroque or polyvalent sound³⁹, I bring the listener into a multidimensional space of indeterminacy, preventing the audience from achieving an expected resolution.

The field of neuroscience offers an explanation of how this is done. The existence of this common space in our brain forms a 'chatroom' where different inputs and outputs respond or answer each other on a neurological level not controlled through conscious thought (Cavanagh 2011). In the absence of a healthy homeostasis

³⁹ Polyvalence refers to the use of more than one harmonic function from the same key at the same time.

from tonal resolution, viewer-listeners of my art practice describe feeling distressed, discomfort or being unsettled and ascribe equal shares to all the elements of the animations causing these responses. I use the dissonance of atonality to prevent a perfected identity and remove the linearity of time in order to make the audience feel flux within themselves. An awareness of acute, personal flux is the discomfort which the audience has voiced to me when experiencing my art practice. Over the duration of the animation, the audience-listener appears to acclimatize to this space even without its outright identification. Perhaps, an acclimatization transpires through which, the audience has discovered some aspect of the interstices inside the neural chatroom. In a very precipitous way, the audience is participating in a subject-object collapse because of the sound in my art. I want them to gain access to the interstices from this collapse inside the continuum of flux and to become aware of its importance in understanding.

Adding music and sound to my animations quite profoundly affords me joy in dismantling the notions of a 'perfected identity' found in harmonized music. Furthermore, it erases traditional linear notions of subject-object construction that help me obtain freedom in the artistic process. More specifically, this approach opens unique aspects of time and space not traditionally associated with music, but which are fundamental to it. It is here that Cage and I truly converge. This is the point of understanding how my sound fits in with my entire art practice in an extended context.

Foremost, when incorporating John Cage in art sound discussions today, it is essential to remember that he was born in 1912 just after the naissance of atonal music that first surfaced with Franz Liszt's *Bagatelle sans tonalité* of 1885. In subsequent years, atonal experimentation continued.⁴⁰ These new sounds and discourses in music would have been in their heyday at the time Cage determined he wanted a musical life and pursued it to the extent that Schoenberg was one of his teachers.

Furthermore, the work of Cage and those before him belong to an ostensibly ancient avant-garde such that these sounds, this atonality as found in *Music of Changes*,

⁴⁰ Claude Debussy (1862-1918), Alexander Scriabin (1872-1915), Arnold Schoenberg (1874-1951), Charles Ives (1874-1954), Béla Bartók (1881-1945) and Igor Stravinsky (1882-1971), among others, questioned the dyad of tonality and its antonym by experimenting with atonality.

1951 by Cage, seems to now fall under an historical mainstream. Certainly, atonal music was as much a part of my early musical exposure as tonal music. Indubitably during my vocal studies, such operas as Alban Berg's *Wozzeck* or Kurt Weill's *Three Penny Opera* were watched and listened to with curiosity, but assiduously avoided as part of my repertoire. On a very personal note, they seemed to me to define the angst of the Interwar era, which held no appeal for me to sing. In stark contrast to the vocal atonal works I encountered, the instrumental atonality of Stravinsky and others signaled for me the start of modernity without any ascribed definition other than a movement of classical music into a contemporary sound.

John Cage understood that atonality offered another mode with which to structure and shape music, but he also understood that those methods still worked within the old frameworks of time and space, specifically in terms of the linearity of music. In order to explore alternatives, Cage altered his relationship with musical time. Duration became a function of the duration within a sound itself and not an external designation in a time signature. Here, Cage inserted himself directly into the concept of aesthetic time removed from linearity and absolved from duration and existence. Cage reworked the concept of time where in every 'time structure, you can divide that time and introduce into it, as material, silence' (Cage and Charles 1981, 39). Instead of using silence as a negative space (Tomkins 2013, 69) or the traditional 'rest' in a bar of music, Cage evolved silence into another sound because it was 'always filled with something' (Cage and Charles 1981, 39-40).

I return to a point my piano teacher made when she introduced me to my first Chopin Prelude, in C Minor. She explained the historicity of Chopin within contexts of innovative composition and in particular, instructed that his use of rests was completely novel and unconventional because he treated them like notes. They had to be handled with a different sensitivity than rests in Bach or Hayden or anyone else before Chopin, including many after him. Cage makes no mention of Chopin in his writings or interviews, but his thinking on silence certainly shares Chopin's treatment of rests. When considered in this context, silence becomes another material texture in sound organization. By equalizing silence and sound to the extent that Cage did, he

rethought musical structure and in essence completely deconstructed music moving it away from the limitations of linear time.

Cage understood linear time as a construct of the mind. When we submit to a particular measure of time, the structure of music is dictated by this measure in the mode of Bergson's *durée*. Parker suggests that in order for it to be liberated from this perspective of moving in set time, 'it must be composed in such a manner that the temporal experience cannot be easily divided by events' (Parker 2008, 58). With the perception of music, our corporeality perpetually intercedes, because sound produces physical vibrations of inner ear hair cells in our vestibulomotor system to which we always somehow respond (Hubbard 2017, 16-17). Barring congenital deafness, we are geared for the reception of sound and a reaction to it.

3.3 surround-sound

Music and sound very much depend on us as recipients and our embodiment as the objects that hear them. We become the object of music the instant we physiologically integrate into the music or sound by virtue of our anatomy. Music and sound take on form within us and because of us. Subject and object melt into a reciprocal being, a true dyad of immaterial materiality without beginning or end as long as there is sound, which Cage argued was continuous as I discuss below. Bergson's idea of externalized motion creating temporal distinctions through a linear measure of time therefore dissolves within the multidimensional spacetime continuum that is ensconced in our bodies.

As artists and audience, with this example of how music and sound integrate in us, we become the media of which Duchamp spoke. Our bodies morph into a third substance each time we interact with sound and here is the crux on which my thesis rests. These microscopic transformations are real and physiologically based. They occur through those physiological spaces of the interstices to change us. The idea of

space becomes crucial in this framework, which I will explain in more detail now in relation to the function of music in my research.

Rather than sound and music existing as a function of time, Cage saw it occupying space as a duration (Dyson, 375). I came to know that music occupies space first hand from my vocal studies. In order to achieve the correct placement of sound, my vocal coach directed me to form accurate pitch and production outside my body, just beyond my face. She described that it must start in my head very thinly as a laser precise thought, that opened beyond my mouth into an imaginary funnel through which sound grew as air moved away from me. Sound was shaped on the moving air. This origin for vocal production, sound making, and singing begins as a thought of a pitch in the absolute absence of interference from embodiment, while at the same time being intricately dependent on my corporeality. Sound takes on form in the space outside the body and this space exists for the duration of the sound and the air passing from my lungs out into the universe. When I sing, I have a feeling of being both at the centre of a vocal volcano and surrounded by its iridescent, gossamer lava. Interiority becomes manifest externally in the space of diaphanous surround-sound.

Vocal sound duration inverts both Cage's concept of linear time as a failed construct of the mental and Bergson's *durée*. Time is defined not from our externalized motions as per Bergson, but rather as a function of the space sound creates inside and outside of us *through* duration. When we hear sound, Barad's quantum intra-actions occur to enable transformations of substance. Just as our inner ear's hair cells move gently because of sound waves to incorporate sound in us physically, neurons continue this transmission to sound processing centres in our brains. The mental is involved by default through the physiological changes of those intra-actions in us.

However, the difference as Cage put it is that we choose which music and sounds to ignore. As Cage explained, 'One reason that modern music is not liked by some people is that it is more difficult to wonder what sort of weather there will be tomorrow when Bartok is being played than it is when we are listening to a symphony which we have heard at least twenty-five times' (Joseph, 141-142). Cage argued that

modern music because of its atonality resisted being ignored. Perhaps he came to this conclusion for the same reason I relinquished learning arias from *Wozzeck* or Kurt Weill's works. Their absence of melody lines and grand motifs were distancing and unhumable. They lacked the tonal resolution that could make them satisfying and in themselves seemed to wander without direction. Listening to Cage's *Music of Changes, 1951*, one hears itinerant sound groupings, clusters of peripatetic notes interspersed with silence, which acts as a thick padding to the dissonances playing out. Silence here allows for some internal processing of the seemingly random sound groupings that resist the patterns in music we are able to sing or hum too.

However jolting this music is initially, desensitization can occur to any sound or music heard often enough and may, as a result, fall into the oblivion of our mind wandering. Despite its apparent nonexistence as white noise, sound still creates a dimensional environment around us whether or not we acknowledge it mindfully and without necessarily reverting to the linear reception of sound. Within this space of sound, duration defines time. This is not a linear process, but a spatial one that occurs with any sound and music, tonal or atonal, in which 'the spatial aspect of music does not remove time, it generates time' (Parker, 51).

In the 1960s, Fluxus experimented with a pluralized understanding of sound 'no longer reducible to its sound-space definition' (Campbell 2017, 372). Some members of Fluxus were Cage's former pupils.⁴¹ In their work and the work of such fringe members as minimalist avant-garde composer La Monte Young, this sound-space definition meant the linearity imposed on music was challenged or in the least explored. In *Composition 1960 #10*,

⁴¹ Allan Kaprow, Dick Higgins, George Brecht, Jackson Mac Low and Al Hansen among others.

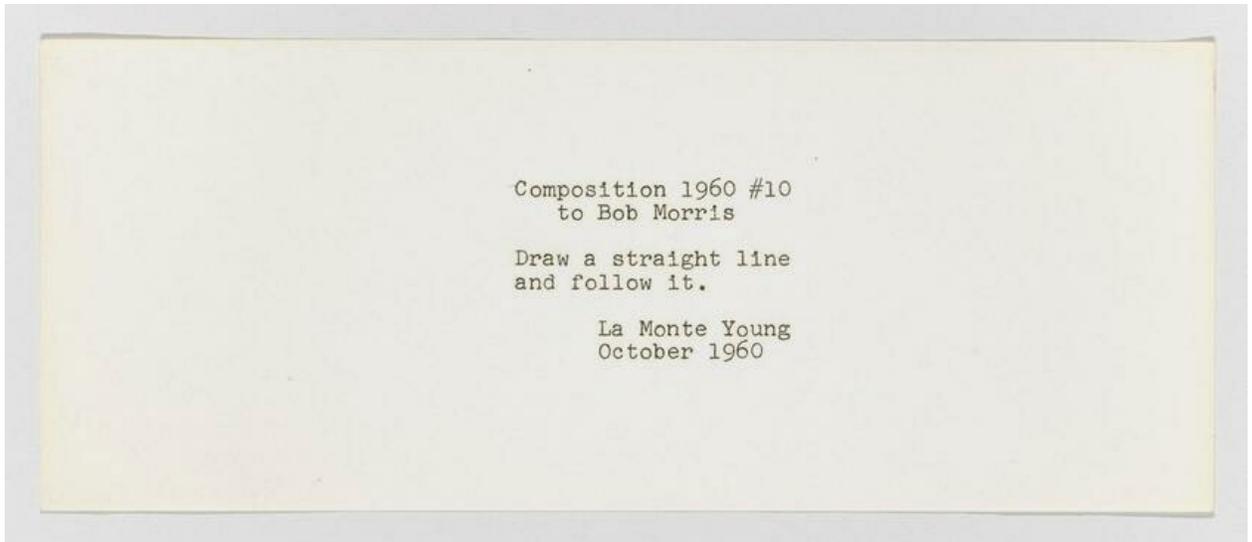


Figure 18: La Monte Young, *Composition 1960 #10*

Young created a piece of sound art based on the idea of the sound-space formed in the movement along a straight line. Sound evolves into a process of experience and doing. Young asks his performer to create sound through linear movement, but the sound produced can never be simply linear. Sound in its nature is multidimensional movement away from a linear structure. In physics, we learn that sounds are waves that diffract and it is in diffraction that I return to Barad's agential realism in which 'diffraction phenomena [are] an object of investigation and at other times [it will] serve as an apparatus of investigation' (Barad 2007, 73). Remember that for Barad, particular material engagements configure the world in such a way that practice develops a specific matter based on its dyadic entanglement.

Any instrument from which sound emanates is by definition both the object and the apparatus of diffraction. Paradoxically, corporeality must not interfere with classical voice production, yet without it there is no sound. The body takes on a pseudo-absent form through lack of interference, which produces diffractive entanglements. Our corporeality is absolutely necessary for sound production and sound reception, but its lack of interference, its pseudo-absence actually establishes our disembodied materiality. The body as this particular sound instrument perhaps best illustrates Barad's contention that 'diffraction is a quantum phenomenon that makes

the downfall of classical metaphysics explicit' (Barad 2007, 72). Within this environment, which are the interstices, the fusion of the noetic and the physical constructs sound space inside its duration.

Sound and music then contain time inside space, where 'Music can create an experience of both the temporal and the spatial' (Parker, 69). Our intellectual awareness of the spatial aspect of sound and music shapes the notion of time. This is an inside-out approach to musical or sound time rather than an outside-in external review of linear notations written on paper and ordered in a way we term notes that makes sense to us to repeat and replay. Looking from the inside-out requires a complete reversal of our perceptions, historically and psychologically, away from a simple biological model that receives the exterior world along our neurons depositing somehow into our consciousness where judgements are made on these perceptions. Instead, an opening occurs within the internal self to that point where interstitial interactions inscribe our photographic plates upon which we cogitate and translate into an expression on the outside.

Although he did not describe it as such, Cage built on this inside-out notion with his composition *Aria*, 1958. He began with a set of instructions to the singer Cathy Berberian for whom the piece was written:

THE ARIA MAY BE SUNG IN WHOLE OR IN PART TO PROVIDE A PROGRAM OF A DETERMINED TIME-LENGTH, ALONE OR WITH THE FONTANA MIX OR WITH ANY PARTS OF THE CONCERT.

THE NOTATION REPRESENTS TIME HORIZONTALLY, PITCH VERTICALLY, ROUGHLY SUGGESTED RATHER THAN ACCURATELY DESCRIBED. THE MATERIAL, WHEN COMPOSED, WAS CONSIDERED SUFFICIENT FOR A TEN MINUTE PERFORMANCE (PAGE = 30 SECONDS); HOWEVER, A PAGE MAY BE PERFORMED IN A LONGER OR SHORTER TIME-PERIOD.

THE VOCAL LINES ARE DRAWN IN BLACK, WITH OR WITHOUT PARALLEL DOTTED LINES, OR IN ONE OR MORE OF 8 COLORS. THESE DIFFERENCES REPRESENT 10 STYLES OF SINGING. ANY 10 STYLES MAY BE USED AND ANY CORRESPONDANCE BETWEEN COLOR AND STYLE MAY BE ESTABLISHED. THE ONE USED BY MISS BERBERIAN IS: DARK BLUE = JAZZ; RED = CONTRALTO (AND CONTRALTO LYRIC); BLACK WITH PARALLEL DOTTED LINE = SPRECHSTIMME; BLACK = DRAMATIC; PURPLE = MARLENE DIETRICH; YELLOW = COLORATURA (AND COLORATURA LYRIC); GREEN = FOLK; ORANGE = ORIENTAL; LIGHT BLUE = BABY; BROWN = NASAL.

THE BLACK SQUARES ARE ANY NOISES (UNMUSICAL USE OF THE VOICE, AUXILIARY PERCUSSION, MECHANICAL OR ELECTRONIC DEVICES). THE ONES CHOSEN BY MISS BERBERIAN IN THE ORDER THEY APPEAR ARE: TSK, TSK; FOOTSTOMP; BIRD ROLL; SNAP, SNAP (FINGERS); CLAP; BARK (DOG); PAINED INHALATION; PEACEFUL EXHALATION; HOOT OF DISDAIN; TONGUE CLICK; EXCLAMATION OF DISGUST; OF ANGER; SCREAM (HAVING SEEN A MOUSE); UGH (AS SUGGESTING AN AMERICAN INDIAN); HA, HA (LAUGHTER); EXPRESSION OF SEXUAL PLEASURE.

THE TEXT EMPLOYS VOWELS AND CONSONANTS AND WORDS FROM 5 LANGUAGES: ARMENIAN, RUSSIAN, ITALIAN, FRENCH, AND ENGLISH.

ALL ASPECTS OF A PERFORMANCE (DYNAMICS, ETC.) WHICH ARE NOT NOTATED MAY BE FREELY DETERMINED BY THE SINGER.

FOR CATHY BERBERIAN

MILANO 1958

Figure 19: John Cage, *Aria* (1958) – instructions

The musical score consists of coloured squiggles acting as sound cues all over the page instead of a linear, traditional musical staff with notes. The singer was left to decide how to perform the piece and what pitches to sing, which forces an internalization of those external prompts for the performer to then construct the externalized space of sound. Time is formed through this space in sound and not the other way around. Recognizing this inward to outward sequence allows for our more precise

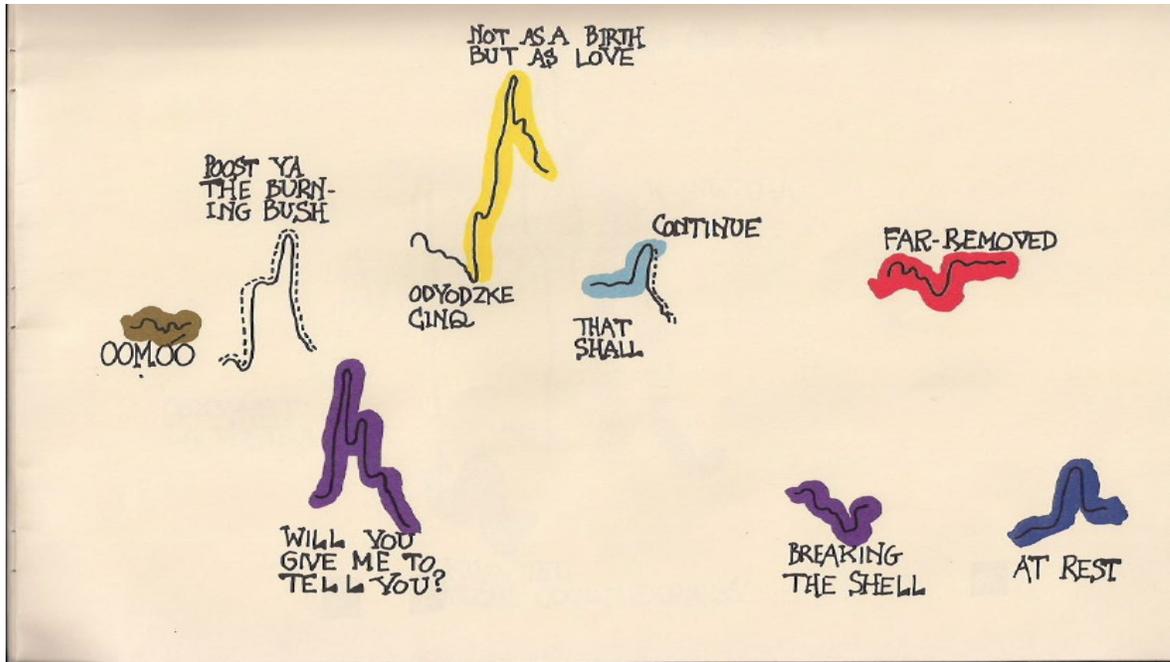


Figure 20: John Cage, *Aria* (1958) – a page from the musical score

construction of time notions. Certainly, it also opens an understanding of Cage's ideas surrounding value judgements and the removal of the composer's ego, which *Aria* wonderfully showcases. Artist's ego transfers to the singer/performer away from the creator to open an avenue for another type of creation inside what has been termed performative indeterminacy⁴², where elements of chance are introduced at the level of the performance itself (Campbell, 371). Cage's instructions simply exist on the page, but their order, how they are executed and any associated emotive aspects are the choice of the performer. To some degree, the precedence for this began again with Chopin. From 1837 until his death. Chopin exclusively used only word designations (*allegro*, *scherzo*) for tempo and not numerical metronome markings (Jackson 2012, 29), which allows interpretive leeway for the performer. It eliminates a set time length for the piece, removing any mathematical and linear rigidity that form exact calculations of duration.

⁴² Campbell underlines that Cage did not develop the notion of performative indeterminacy alone. He developed it while teaching at the New School in conjunction with his students, many of whom formed the artist collective Fluxus.

In his *Music of Changes*, Cage expanded these notions to the extent that he understood the composer to have less control than assumed (Tomkins 2013, 88). His experimentation with the classical tradition of tempo magnifies Chopin's investigations in that Cage identified the importance of the performer's interpretation for the release of the composer's authorship. Mallarmé follows this exact idea in his methodology which is discussed in the next chapter. In Cage's example with *Music of Changes*, tempo and even word cues are eliminated to instead set an overall allotted time within which the musician had the liberty to play this piece however she wished. Duration became an individual matter of the sound. Listening to the piece sounds like a random event determined on the spur of the moment—an improvisation of sorts. It meanders without leitmotif. Beginning and end are irrelevant. Notes fly in and out on an apparent whim. In this way, Cage veered away from commercial sounds filled with hummable melodies or even recognizable ones.

In *Unhinged*, sounds and music vacillate between the hummable and not (*Unhinged* Part II: 05:55-06:20). Recordings are unfailingly linear. I can only play them forwards and backwards, which I do, inserting my voice played backwards as intentionally unhumable experiences inserted between very hummable bits. Listening to the sounds changes the experience from linear-based to spatial just as when singing them. I do not transpose my music into any written form in order to underscore its materiality in us free of temporal constraints. Durations are individual matters of sound and, like Cage's *Music of Changes*, beginning and end are irrelevant. In this way, our physical beings become ethereal and enter the interstices.

3.4 by Chance improv

Although Cage contested that his method was different from improvisation, I find no other term that describes my methodology better. Improvisation in my methodology may harmonise chords and random sounds or permit moments of dissonance. This allows me to form sounds/music, freely without the constraint of any of the learned rules in musical composition or music theory. It presents to me those

gaps of uncharted experience I choose to explore in my sound assemblage. Using those tools of atonal music, sounds as musical insertions, silence as sound and bending musical syntax all avoid repetitions and musical patterns which form set musical structures along a linear path. I draw upon the lessons learned as a teen with piano and hear the notes or rather the suggestion of the notes in that interstitial space as I go along. Nothing is written down on paper or computer although there are programmes that do so. The music is recorded as I play. I use visual cues from my animations which run at the same time I am playing. Sometimes, I simply follow the sounds as the interstices open to me, depending on my feelings at that moment. Once I am done, that piece of music is done and I never return to it to alter it in any way. Improvisation is my way into Chance as exploited by both Cage and Duchamp.

To find a way into Chance, Cage began with ideas on silence ascribed to both Eastern and Western influences in the form of Hinduism, Zen Buddhism and the writings of English Baroque singer and composer Thomas Mace, which boiled down the function of music 'to sober and quiet the mind, thus rendering it susceptible to divine influences' (Pritchett 2008, 169; Patterson 2009, 179). His interpretation of the Eastern philosophies remained on the outskirts of these teachings as adopted from the New York lectures of Daisetz Suzuki, an outlying practitioner of Zen Buddhism (Patterson 2002, 54). In particular, Cage recognized that Eastern music had an 'estranging effect' for Westerners because it ignored Western conventions and rules (Joseph 2009, 142, 155). Cage interpreted Eastern music as disinterested. While he equated that with a lack of concern for money, the importance of this thought is that Cage understood Eastern music production as music for the sake of music and it therefore became 'an integrating activity' (Cage 1993, 42). Such integration into the core of one's being authenticated the artist and manifested in Cage's manifold indebtedness to Duchamp.

Cage often spoke of his admiration for Duchamp to the extent that he entreated Duchamp to teach him chess just for a veiled opportunity to learn from and interact with the inventor of the readymade (Cage and Kostelanetz, 11; Cross 1999, 27). His ideas on silence and noise seem very much embedded in Duchamp as indicated in his

exclamation that, ‘One way to write music: study Duchamp’ (Cage 2010, 72). Cage’s silence was identical to Marcel Duchamp’s approach to art, where his insistence for activation of the mental event occurred inside his readymades. Extending from Duchamp, the audience structured the music of silence to their specifications in which Cage’s *4’33”*, 1952 stands as his most blatant model. Audience becomes participant, composer, listener in a complete blurring of subject-object relations that actually illustrates the formation of the dyad I described earlier.

Specific to his music, Duchamp also used rhythm to isolate the interstices, creating conceptual music ‘not really intended to be listened to—that operates in the gaps between sounds—Duchamp opens up the ordinary world of non-musical noise to the artistic considerations of intentionality’ (Adcock 1993, 106). From this, Cage refined his understanding of silence as the necessity to release creativity from ego and mind. Life and art transformed into one ‘detached engagement’ he termed ‘listening’ (Katz 2001, 45-46). Listening as detached reception and engaged detachment allowed Cage to open internal self to the external. This led him into thinking of silence as gaps (Cage and Kostelanetz, 43; Dyson, 398). Such an opening mandated the release of traditional notions of authorship. According to Cage, rather than attempt to communicate personal verdicts, all ideas an artist hoped to convey through his/her practice had to be abandoned. For Cage, artistic intentionality had to be removed from the ‘organization of sound’ in the same way the readymade signalled Duchamp’s artistic release of control over the meaning of an artwork.

To release artistic control or intentionality from their methodology, both Duchamp and Cage turned to the idea of chance. Although they approached chance from two different vantage points, overlap existed in its functionality. Cage saw chance as a way to remove his ego and his personal expression, which Duchamp explained as Cage’s attempt to ‘avoid the control of his rational approach to things. In other words, he was not responsible for what happens externally, but internally he was’ (Tomkins 2013a, 52). For Duchamp, chance was a method that avoided mental interference where ‘the duty of chance is to express what is unique and indeterminate about us beyond the rational’ (Tomkins 2013a, 53). Duchamp did not see chance as a

replacement for artistic choices. Instead, pure chance was ‘a way of going against logical reality’, which freed him (Cabanne 2009, 46). Chance opened the gaps of the interstices so that he and others could enter those spaces in order to wander and discover without restrictions. Inside the interstices, art was no longer dependent on the retinal. It transformed into a platform for the noetic, the mysterious and the unknown. It transfigured into indeterminacy.

As Duchamp described, the ready-mades ‘had more to do with the idea of chance. In a way, it was simply a letting go by themselves.... Probably, to help your ideas come out of your head...a sort of opening of avenues on other things than material life of every day’ (Schwartz 1997, 442). For Cage, as Tomkins suggests, the function of chance and indeterminacy in everyday life was ‘to extinguish the artist’s own personality; instead of the accumulation of masterpieces, he urges a perpetual process of artistic discovery in our daily life’ (Tomkins 2013b, 53). Both Duchamp and Cage sought freedom from ego interference, but Cage saw ‘the use of chance operations, and the shirking of my responsibility from the making of choices to that of asking questions’ (Cage and Kostelanetz, 42) or as absolution from performing an agential cut. In quantum fluidity, any and every atomic entity is involved with agential cuts by virtue of their intra-actions. In Cage’s methodology, as Duchamp alludes when he says Cage was responsible internally, an agential cut still occurred even with Cage’s choice of making no choices and letting sounds be themselves. Arbitrary separations are never fully arbitrary.

Musicologist Benjamin Piekut points out that chance operations had a ‘double capacity’ for Cage, first to remove the artist’s intention and then second, to reflect how nature works. As viewed by Cage, nature operated through chance actions and dictated truth through its authority in these chance operations, placing Cage’s thinking in modernist terms. Nature contained the authentic truth beyond the disputes of human interference in Cage’s interpretation. Piekut explains that when ‘we hear a piece composed using chance operations, or a piece of indeterminate music, we are—according to Cagean aesthetics—hearing the rhythm of nature, the speed and flow of natural events that are not related to one another except by their co-occurrence in time

and space' (Piekut 2013, 141-142). Piekut constructs an argument that places Cage's ideas of nature in a power dynamic of absolute authority in which the absence of ego becomes a path into the sole transcendental truth found in nature (Piekut 2013, 145-147). By removing the artist's ability to make an agential cut, Cage continued separations of humans from nature and continued the 'illusion of modernity' to which Latour alluded which distances subjectivity and objectivity (Latour 2010, 807). Cage's views on nature as the ultimate space in which to find creative transformation required complete externalization of self, a detachment of self that Duchamp recognized as impossible.

Letting go for Cage was not the same as for Duchamp. Cage talked about nothingness and the randomness of chance, but then controlled his compositions under the rigid math and meticulous measures of the *I Ching* (The Book of Changes).⁴³ Cage used these random number combinations to guide his note formulation in a complex and time-consuming process of musical composition. In his writings for *the Large Glass* and *Green Box*, Duchamp extensively examined the science of his day to understand and enter multidimensional spacetime. This unfurled his access point into letting go through a noetic art form. Expanding on the mediumistic being described previously, Duchamp understood the *inframince* as his quantum contact for intra-actions, freeing him from his ego.

In *the Creative Act*, Duchamp discusses the difference between artistic intention and realization as the key opening the door that leads into that space of letting go. The difference between what the artist intends and actually realizes, is the **delta** or the gap, the art coefficient, which he described as 'an arithmetical relation between the unexpressed but intended and the unintentionally expressed....that is, still in a raw state that must be "refined" as pure sugar from molasses by the spectator', elaborating further, the 'creative act takes on another aspect when the spectator experiences the

⁴³ In this Chinese book of Taoist divination, random number combinations are obtained through throwing sticks and viewing their fallen pattern. These are related through hexagrams to its Confucian text that offers veiled advice (Crowley, 78).

phenomenon of transmutation; through the change from inert matter into a work of art, an actual transubstantiation has taken place' (Duchamp 1973, 139-140).

In this passage, Duchamp acknowledges exteriority as the means into an internal space intertwined not only with self, but also with others. He avoids categories in favour of a communal place of intra-actions that determines outcomes. From Duchamp's perspective, nature belonged to a physical universe artists access using their tools at which point intra-actions unlock a noetic dimension. In so much as Cage started with an intangible art in the form of music, he did the opposite. Cage explained that, 'what was needed in art when he [Duchamp] came along was not being physical about seeing, and what was needed in music when I came along was the necessity of being physical about hearing' (Cage and Kostelanetz, 176). As I mentioned earlier, music and sound join in us physically, just as the visual arts become noetic or mental through us and every neuron that fires inside our visual cortex. Sub-microscopic intra-actions intertwine experiences and a letting go of ego or self amounts to a willingness to remain open to experiences. Cage and Duchamp acknowledged this necessity in which artistic personality dissolves to become part of an immersive knowledge.

Cage's physical music and Duchamp's noetic visual art extend those ideas of dissolving divisions and fusing functions of agency to indirectly imply intra-actions that open us to novel events thereby creating infinite new substances and spaces. Whitehead explained this as 'becoming' where real-life objects were constructed through a series of events and processes. Nature was composed of such events that were structured through these evolving processes in which objects were an ingredient in the character of the event (Whitehead 1925, 151-161). Whitehead supported a continuum of experience without gaps 'in a buzzing world, amid a democracy of fellow creatures' (Whitehead 1929, 50). In this system, 'every actual entity is present in every other actual entity' (Ibid, 50) and can only complete its formation through mutual interactions in this world based on the choices or decisions of the entity (Shaviro 2011, 287). Through their process, Duchamp and Cage examined this microcosmic intertwining, not on an atomic or particulate level, but something smaller than that which Barad termed quantum intra-actions, to communicate the existence of

this infinite interstitial space. These artists suggested that art was an ongoing, ever-changing process expanding on Whitehead to include notions of openness that occur democratically as one inserts into the creative experience when ‘letting go’ of self.

3.5 Reciprocal Removal

At this point, I wish to consider more carefully what the removal of artistic ego means. As defined through Duchamp and Cage, it describes respectively the letting go of self or the release of artistic control or intentionality. These two depictions differ significantly in their framing of *how* artistic ego is released. Both Cage and Duchamp understood that once artist circulates her artwork, no matter the form, it becomes an object for public scrutiny and so artistic control evaporates in the interpretation. Whitehead considered this the rhythm of the creative process in which, ‘it swings from the publicity of many things to the individual privacy; and it swings back from the private individual to the publicity of the objectified individual’ (Whitehead 1929, 151). Once the artistic work is distributed publicly, it and its author become objects of scrutiny. Duchamp’s elegant account of transmutation only occurs if the spectator opens into the phenomenon and the line between subject and object is erased. In this sense, the performer or singer automatically intertwines with the author’s work, allowing diffractions to happen. However, this intra-action is a tail-end view of the creative process, a look at what happens after the fact.

To understand what takes place at the beginning of the creative process is to analyse the question: why is artistic release necessary in the first place and what is it? Cage was aiming to invent in the absence of his own ego in order to liberate the process of artistic creation from his emotions and desires. The two actual outcomes from his attempts were an ostensible transfer of control to the performer/audience and a carefully curated process through Chance in which Cage inadvertently maintained the highest order of influence under the *guise* of relinquishing control through chance.

Removing artistic ego is the removal of self from the process of creating. Self includes all the emotions and experiences from which we are made as Whitehead alluded. Removal of self contradicts the idea of an individual locked into a reciprocal process of diffractive intra-actions to realise a notion or an impulse through art. Barad uses such intra-actions to explode the metaphysical into the physical. In some ways, this diffractive imprint is the very essence of what we as spectators look for in the work – the footprint, the trace of the hand of the author not the hand itself. For speculative reasons of knowing, we find necessary to latch onto that one kernel belonging to the individual responsible for creation. As recipients of art, we need to understand the starting point of creation on which we then can fasten ourselves and transubstantiate with the piece.⁴⁴

Cage spoke of removing his desire from the process, yet when cellist Charlotte Moorman exerted her performative indeterminacy by executing Cage's *26' 1.1499" for a String Player* on Nam June Paik's naked back, rather than delighting in his accomplishment, Cage commented that Moorman was 'murdering' his composition (Campbell, 372). He objected to her favouring actions over sound events, yet he glossed over the liberty afforded to Moorman in this composition. More than a few such instances have been recorded in the copious writings about Cage. He retained his ego even if his works did not. As mediumistic beings, is any corresponding release of self possible the moment an individual decides to make something? As described before with Barlow during her process, artist and materials mutually transmutate with one informing the other and both change in the process. As I described during the performance of singing, material body and mental ideation meld into some new

⁴⁴ **Transubstantiation** refers to the actual change of matter in the host during Mass to the body of Christ. According to this 12th century doctrine of the Roman Catholic church, and other Christian churches, a change in substance of the bread and wine into the real presence of Christ in his body and blood occurs during the Eucharist. It upholds the literal truth of Christ's presence and emphasizes no change in the empirical appearances of the bread and wine. <https://www.britannica.com/topic/transubstantiation> I use this word with the intentionality prefaced by Duchamp on a shared heritage that understands quantum changes transubstantiate through intra-actions. Affecting change inside matter, my use of transubstantiation acknowledges a spiritual aspect to thought making a new substance inside the generative dispersion or letting go of ego, while maintaining that these changes occur through quantum intra-actions.

substance to sculpt sound. Artistic release would therefore appear to also be a process, one the journey into the interstices imposes within its democratic environment.

Perhaps relinquishing control and removal of ego could be rethought as a dispersion and, in this sense, they assume the form of letting go. It has more to do with performative indeterminacy on the part of the artist during the process of creation than afterwards with the audience/performer. Once inside, a release of resistance transpires towards any idea, mishap or other that might develop via the creative process, confronting us with our own agency. We decide whether to accept that aperture into indeterminacy and enter nothingness. This decidedly occurred in the process of making the segment called *Unhinged 6_4*, which in its early stages became a segment of separations where the written paragraph demanded to be larger and cross with image and typed words to intra-act. Or segments 7_1 or 7_2 which asserted their separations and ended up as a conversation between the poems #110 and #107. These animations directed me through their inputs as sensations in that space of indeterminacy in which I had let go during the process of creation.

Letting go of self becomes the most challenging aspect of the process, because it acknowledges that we give up the external trappings of control, foremost over the end product of our creation. Duchamp dispersed his ego in his choices of readymades, circumstance and presentation. He was completely unfazed when asked to repair *the Large Glass* after it fell off the truck and shattered on its transport to Katherine Drier's home (Tomkins 2013b., 42). Remaining was what we see today, its distinctive fractured glass spokes. Duchamp delighted in the chance occurrence and how the event altered the work (Sweeney, 1956). Throughout my readings and reviews of his interviews, not one instant arose where Duchamp voiced concern about how his work weathered. For Duchamp, process liberated the imprint of his artistic hand from his ego and the oeuvre under all circumstances. In this, I share with Duchamp a sense of liberation through process.

The difference between Cage and Duchamp's artistic release becomes a profound one of timing and intention. Cage wanted artistic release from emotions and

feelings associated with ego that would, he felt, deleteriously affect his art. He tried to remove them before the process began and yet carefully controlled the circumstances of that release. Duchamp looked to escape his logic, his conscious, ego-directed interference when producing art and chance afforded him this freedom to express the subconscious so that chance became an expression of himself (Tomkins 2013a, 52). Once his choices were made, Duchamp saw artistic release occur throughout the process, climaxing at the end with the engagement of the spectator, but perpetuating beyond any finite terminal point. Through the randomness of chance in my process, I seek to remove ego, the insertion of myself into the work. I am always aware that I leave my trace on the work, but what interests me is the response the work evokes in the receiver because it allows for indeterminacy, which ego does not. In this way, the artwork becomes infinite, existing outside time and only in space.

Two very different processes of becoming unfold between these artists. Duchamp's practice implies a personal form of artistic evolution through dispersion. Nothingness becomes a space filled with a redefining self inside a community of sorts in an extended neural chatroom. Ego is sacrificed in essentially Jungian terms through which a genuine self emerges 'far more comprehensive than ego, because the former also embraces the unconscious, while the latter is essentially the focal point of consciousness' (Jung 1953, 475). Derrida, Whitehead, and Barad have considered what the conscious and the unconscious mean, how as separate entities these interact and influence our becoming, but it is not my intention to reflect on the metaphysical historicity of their variances or to maintain such a disjunction in this thesis. It is my intention to expose and disrupt these divisions in order to consider consciousness and unconsciousness differently. Here, in this space, the unconscious streams without the artifice of boundaries into the becoming of consciousness during the intra-actions that are the process of dispersion.

When considering the absence of ego, Jung's focal point implies an absence of all the associated fragilities to address Duchamp's words that, 'We are so fond of ourselves, we think we are little gods of the earth—I have my doubts about it, that's all' (Tomkins 2013b, 27). Letting go of self for Marcel Duchamp meant that he was

willing, as Lawrence Steefel writes, ‘to become a fiction of his own ideas of himself’, which Duchamp took further still to become the “negation of his own negation,” a kind of dialectical néant, which told him, with “the blankness of dada,” that he was not as “blank” as he had thought’ (Steefel 1974, 78). Within this framework, Western ideas are identical to the Eastern concept of ‘disinterestedness’ in which an embrace of more not less transforms the ‘I’ of ego into the ‘I’ of self, but a self that expands in nothingness to enfold an entirety.

Cage’s method suggests removal of the artist into an artificial nothingness, an absence that cannot, despite his best efforts, stop being arbitrarily filled with ambient sounds like silence, which is never actually nothing. Despite his responses to the interpretation of his works, Cage did attain that freedom he was looking for in his art making, because of the responses of the performative artists beyond Cage’s selected terminal point. Despite Moorman’s ‘murdering’ of Cage’s composition, her actions were not a crime. Rather, this murder opened the aperture into indeterminacy and manifested a reincarnation.

Is this then the difference between sound art and visual art or just two individual approaches? Why did artistic nothingness matter so much to these artists? Perhaps Duchamp’s approach of letting go partly answers these questions. Essentially, in the letting go of self we define what John Keats identified as *negative capability*.⁴⁵ It is not a loss of artistic identity in the creation of art, but rather an embrace of more. English professor Li Ou contends that the term has gained traction in multiple forums, citing one example in ‘the Buddhist notion of *no mind*’ (Ou, 21). Negative capability assumes an openness to experience without judgement or attempts to control circumstance. It is observation and participation in the experience accompanied by reflection.

Cézanne framed this idea quite precisely when he said:

⁴⁵In a letter to his brother, Keats observed, “it struck me what quality went to form a Man of Achievement, especially in Literature, which Shakespeare possessed so enormously—I mean Negative Capability, that is, when a man is capable of being in uncertainties, mysteries, doubts without any irritable reaching after fact and reason” (Keats and Scudder, 277).

What would you think of idiots who would tell you, the painter is always inferior to nature! They are parallel, if the artist doesn't intentionally intervene... hear me well. His entire will must be silent. He must silence all prejudice within himself. He must forget, forget, be quiet, be a perfect echo. Then the full landscape will inscribe itself on his photographic plate... both of which must unite in order to endure, to live a life half human, half divine, the life of art... The landscape is reflected, becomes human, and becomes conscious in me. (Cézanne, 111)

Cezanne describes the silencing of ego within the interstices as a mode of becoming imprinted with the outside to reconfigure himself on the inside. Cézanne describes the space beyond the *inframince*, the nothingness that sanctions a nonexistent ego and the divine transcendence resulting from all of it to which Stéphane Mallarmé alluded. This release of control became a fundamental aspect of Cage's and Duchamp's process through which they tried to eliminate the ego of the artist by silencing 'all prejudice within himself'. Implicit is the merger of subject and object, human and nature, which places Cézanne's thinking in post-Anthropocene terms. Furthermore, Cézanne's above explanation poetically refutes the bifurcation of nature as he calls for erudition from the inside. Here, Cézanne echoes Whitehead's arguments and answers them, even though Cézanne predates him. He encapsulates Barad's agential realism well before quantum physics became anything.

3.6 Sound rips

This process of dispersion as an artist and of allowing the materials to form into new substances can be illustrated through artist Christian Marclay's work *Graffiti Composition, 1996*. Marclay began this work as a street installation. 5,000 blank pages of sheet music were plastered around Berlin as part of the Berlin Academy of Arts commissioned work for the Sonambiente Sound Art Festival. People accessed these any way they wanted, marking, ripping, plastering and writing on them. Marclay then photographed and printed them, giving this 150-page musical 'score' to a group of musicians who interpreted the marks to make music and recorded it as an album. Marclay said the process represented a total loss of control for the artist, where he

assumed the role of a gardener who planted the seeds in Berlin and sat back to ‘listen to it grow’ (Marclay 2006, 54:34). Perhaps most striking about *Graffiti Composition* is its initial use of the anonymity of the author and then the involvement of a collective to form a creative neural chatroom described earlier that produced an everchanging musical composition.

An assiduous student of Duchamp and Cage, Marclay extends the ready-made tradition into a full-blown engagement with what is best understood and described as negative capability⁴⁶ that deconstructs the physical barriers of music into visual interpretations of sound. He takes Duchamp’s convention of making the physical noetic and Cage’s practice of making sound physical to invert both by making music through the visual. Marclay does this not through traditional scores, or even graphic scores.⁴⁷ He accomplishes this using the visual signs of a musical signifier that the interpreting individual uniquely translates to produce sound as a substitute for traditional musical notes composed for a specific instrument.

In *Shuffle, 2007*, Marclay photographed musical bric-a-brac (any object referencing music like handbags with musical notes, decorative staves or decorations using instruments) and published these as 75 oversized playing cards that were

⁴⁶ Although English poet John Keats appears far removed from Marclay, I discuss him here because Cage’s and Duchamp’s letting go of ego builds on Keats’ negative capability via Cézanne, where, ‘the only means of strengthening one’s intellect is to make up one’s mind about nothing – to let the mind be a thoroughfare for all thoughts, not a select party’ (Keats and Scudder, 405). Through the course of my research, I have not found evidence that Cézanne read any translations of Keats (1795–1821) nor did Keats’ fluency in French lead him to write or translate his own poetry into that language. Likely, Cézanne might have been aware of Keats and his negative capability through Mallarmé. Mallarmé shared a fluency of both languages and lived in England for a time obtaining his certificate to teach English. Cohn describes Mallarmé’s admiration of Keats and cites thematic and syntactical commonalities in their poetry (Cohn 1970). Mallarmé’s stature was such that Cézanne most definitely would have read his poems and may have interacted with him on some occasion when they both found themselves in Paris. Reciprocally, Mallarmé would surely have known of Cézanne whom Matisse and Picasso described at various times as ‘the master of us all’. At any rate, negative capability implies that nothingness, silence, an absence of ego are crammed environments in which infinite assemblages occur because of a willing openness to this ecosystem.

⁴⁷ Graphic scores are emblematic of the intersecting visual art forms of performance, video and sound art. The first graphic scores were composed as squiggles and lines without a musical staff in 1952 by Earle Brown in the USA and Karlheinz Stockhausen in Germany. Cox describes them in his essay “Every Sound you can Imagine: On Graphic Scores” as equivalent to a Piet Mondrian painting (Cox 2017).

marketed in a distinctive part Fluxus, part Cagean chance operation packaging.⁴⁸ This amounted to a decorative cardboard filing box, from which the cards could be removed and shuffled, and musicians could then interpret and play as a musical piece.

Musicologist Christopher Cox suggests that in this work Marclay combines Duchamp's *Green Box* with Karlheinz Stockhausen's *Klavierstück XI*, 1957 to create an infinite musical score (Cox 2018, 68).

To contextualize, Stockhausen, a pioneer of electronic music and aleatoric musical techniques⁴⁹, was sixteen years Cage's junior. He began his career in Cologne in 1950, studied in Paris with Olivier Messiaen and worked using athenatic serial composition.⁵⁰ *Klavierstück XI* begins with nineteen fragments of single tones or chords spread over one large page. The performer is free to begin anywhere on the page until the same fragment has been played three times at which point the performance concludes. Marclay structures *Shuffle* to avoid conclusions and any trace of graphic scores. Other than his name on the box as author, all imprints of Marclay run transparently through the serendipitous images curated in his photographs.

In 2010, Anthony Coleman performed *Shuffle* for Marclay's 'Festival' at the Whitney Museum in New York in a large room alongside his exhibit *Chalkboard, 2010*.⁵¹ The *Shuffle* cards were placed on the music desk by an assistant while the pianist continued to play. At times, Coleman lifted both hands from the keyboard, shuffled the cards himself and played on. Meanwhile, visitors continued to either add to *Chalkboard* in the manner of *Graffiti Composition* or sit and listen to Coleman. During his performance, atonal chords mixed with those from Beethoven's Fifth, harmonious lines of Coleman's own making and sounds from the surrounding setting. The sounds

⁴⁸ As advertised on the Amazon.ca website: <https://www.amazon.ca/Christian-Marclay-Shuffle/dp/1597110388>

⁴⁹ Aleatoric musical technique refers to music composition that uses the element of chance in its production.

⁵⁰ This form of composition ignored the central musical motif characteristic of classical music, but also rejected Schonberg's twelve-tone technique, which developed such motifs without a dominant melodic idea.

⁵¹ <https://www.youtube.com/watch?v=AOgFgOF1Ac>

blended all the musical styles found over the last century, including 4'33" with environment contributing to the cacophony of noise.

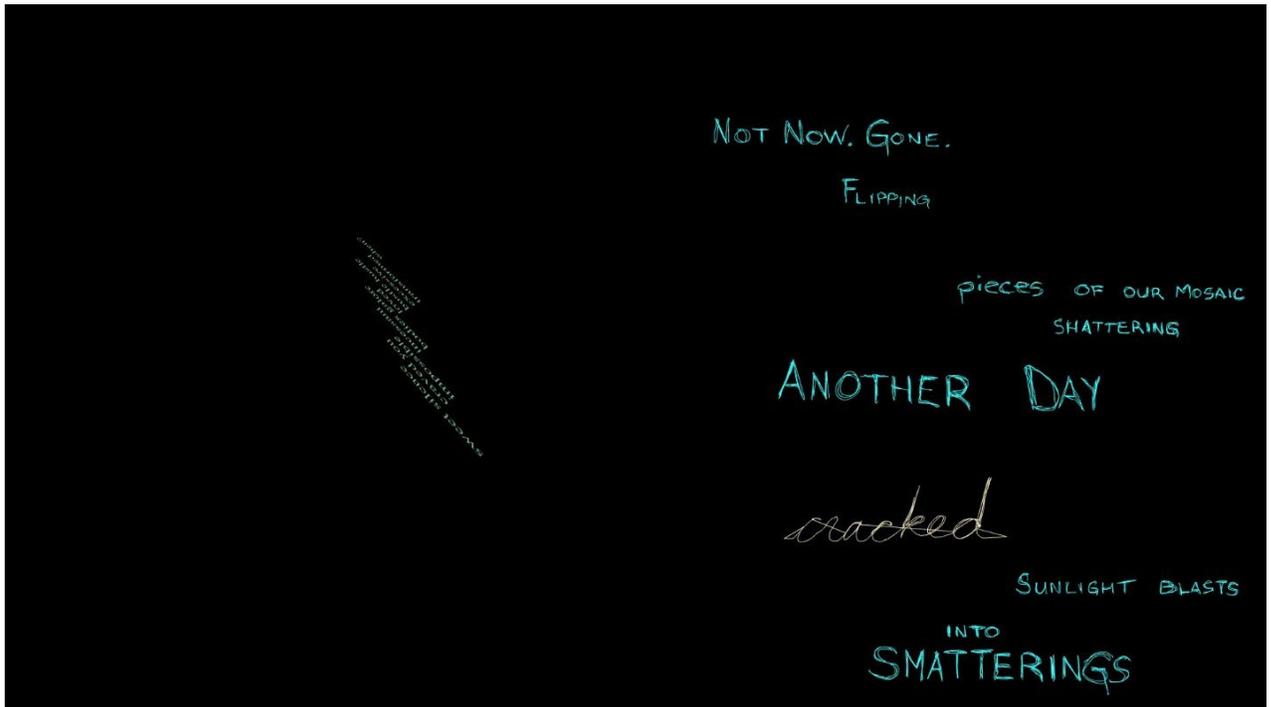
As the performance progresses, some things become familiar watching *Shuffle*. The playing cards substitute for a musical score, traditional or graphic, and become a representation of a representation for music. Music and sound are still completely reliant on the physical for their existence, forming a unique reciprocity the extent of which is perhaps not so clearly contingent in other art forms. Even in their outwardly passive reception of the sounds, the viewers always participate. By virtue of their presence and of hearing, they are absorbed into the ambient environment as their facial expressions eloquently communicate. This reciprocity between sound and perceiver or sound and performer reinforce the idea that an artwork, whatever the form, is never a terminal point or a completed product.

Christian Marclay exposes this dependent reciprocity between the physical and the mental, to the extent that they become indistinguishable. In so doing, I see Marclay as an example in which the artist places the work inside the interval of its dyad in all stages of evolution. By this I mean that he forms multiple binaries, such as the pianist and the audience or the playing cards and the pianist, where both compose the artwork through their participation, their reciprocal intra-actions or agential cuts and the art arises directly in between as a result. Marclay incorporates such fluidity to permit a throughfare of intra-actions within his works in another kind of musical improvisation classical violinist and composer Vijay Iyer describes as the 'process by which we acquire cognition—embodied action, situated in an information-rich environment—is improvisation itself. There is a fundamental identity between improvisation and what we generally call "experience". They are one and the same....a sustained improvisational interaction with the structures of the world, of the body, of culture.' (Iyer 2017)

In improvisation, the safety structures of musical organization that direct musical appreciation or judgement are missing and it is this form to which my work and Marclay's works belong. By removing ourselves and yet engaging with

audience/performers, we put everyone and everything on a level playing field that is in uncertainties, mysteries, and doubts without any old structures, categories and divisions. Although *Graffiti Composition* and *Shuffle* direct through their photographs in a mode reminiscent of musical signifiers, traditional notes and graphic scores, that is as far as their control goes. Instead, these signifiers invite the musician/performer to turn the 'composition' into an improvisational vector of musical discovery. In a similar manner, I turn the audience into this vector as the animations lure the recipient through the opening into spaces of risk.

Through the motions of the drawings receding into space in *Unhinged 6_1b* coupled with the action of the poems written and typed, one is visually drawn into the animation.



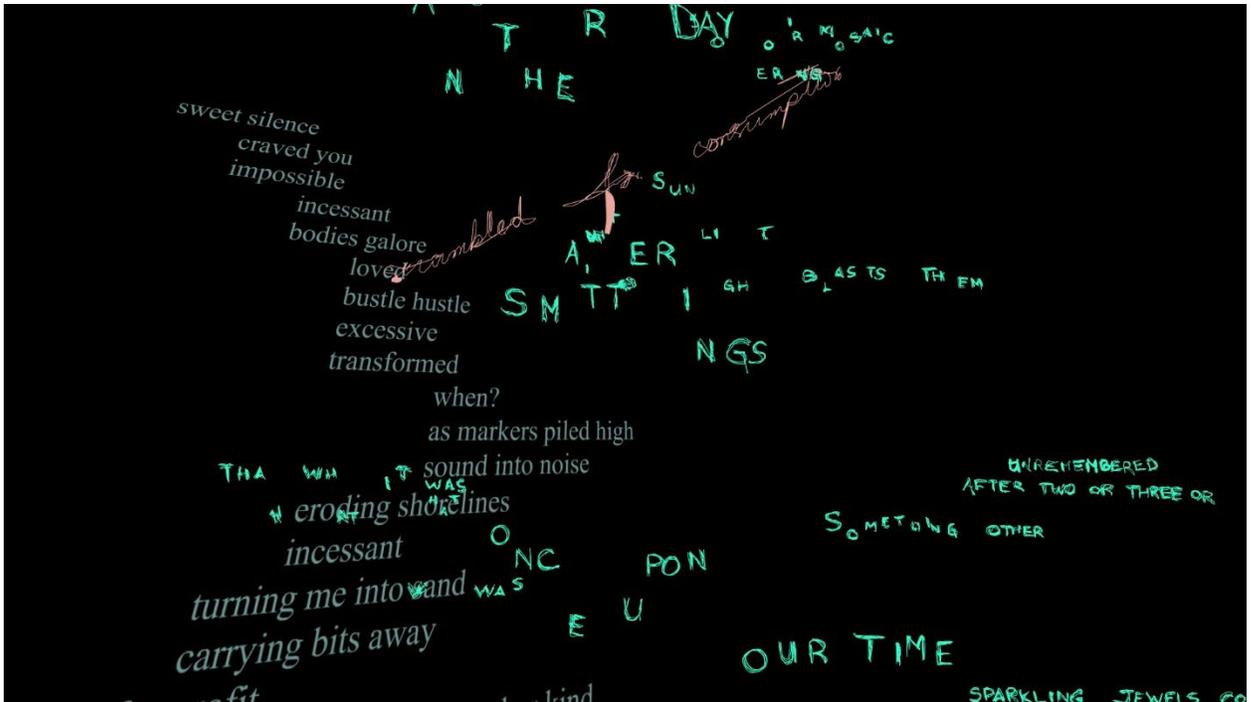


Figure 21: Yvonne Opalinski, *Unhinged 6_1b* sequential frames, Digital Animation

These four frames were chosen from an 8 second interval. The sound element ensures immediate audience involvement in this space. As I mentioned earlier, by fluctuating between tonality and atonality, familiar and unfamiliar sounds, I establish risk inside the listener involuntarily in a way that is reminiscent of *4'33"* and *Shuffle*. Once this involvement is established, the audience has become part of the animation. Then the words and visuals start penetrating past the inframince into their interstices. Curiosity perhaps rivets the viewer to watch where the metamorphoses go or to notice words changing into others and with them different meanings. Their participation turns the audience into another vector. Certain frames, images, sounds may trigger something in the participant, whether it is a feeling, a mental image, thought or memory, that precipitates responses. These responses form as the third substance, changing the viewer and completing the animation. These responses are what occur in the binary vector or transmitter between viewer and animation.

Of note, as I became more integrated with the medium of technology through these physical sensations, colour mixing in *Unhinged* became as incorporated in me as

it had been with paint. The same sort of adaptation to the qualia of this medium occurred as had previously during my learning phases with oils, watercolours and acrylics. This integration with the medium helped me access aspects of technology in the same intuitive way. Technology needed to become a physical medium in me, which I contend is necessary for art generation because as physical beings we are sensation dependent and never exclusively virtual or immaterial. This relationship between the physical and the virtual or mental is a fine and complex association of dependency and adaptation.

Inside the interval of this dyad, between the physical and the mental, this transformation occurs as an improvisation in the sense that I do not offer any safety nets for the participant, no sign-posts for direction. Because I have multiple parts to *Unhinged*, the participant experience can never be duplicated. A glance at this space offers one image and sound, a glance in another direction changes those elements. Viewings on different days may also elicit entirely divergent responses in the same participant, depending on their mood or what captures their interest –where they find themselves in the interstices in other words. Through movement, the participant is always improvising, always responding to a new situation, new stimuli and new reactions. It is during these subtle intra-actions that the audience finds the opportunity to let go of self.

On this point, improvisation becomes possible only once the artist/participant enters past the aperture of the *inframince* into the interstices where the release of ego occurs. According to experimental musician Mattin, '[t]o be open, receptive to the dangers of making improvised music, means exposing yourself to unwanted situations that could break the foundations of your own security' (Mattin 2017). Beyond the aperture lies that openness to experience which Keats labelled 'negative capability' and to which Cage alluded when he referred to experimental action as 'one the outcome of which is unforeseen' (Cage 1963, 69). Entering the interstices demands artist and audience not simply let go of ego, but that they also release the fear associated with letting go of certainty and the familiar structures of ego.

Such openness to experience is entirely contingent on the individual entities' willingness to let go of self. Without this release there is no generative dispersion, no possibility for an agential cut, because, like Cage with his decision to hold on to ego as evidenced by his anger towards those who did not execute his works as he envisioned, there is no dissolution of the *inframince* and no entry into the interstices. This disassembly of self becomes a condition for enfolding the unforeseen and improvising with it. Marclay displays such readiness to dismantle himself within negative capability, producing Duchamp's letting go and my generative dispersion.

In this context, I intentionally use sound to ensure that the audience participates and becomes part of the installation albeit without choice initially. Their agential cut may occur at any instant after the first sounds hit their inner ear hair cells at which point integration has already occurred. Like, Marclay or Duchamp, only my trace remains. Once my work is done, I let go of it. While the poems, the visuals and the sounds come from my inner spaces, no ego dictates where the participant goes, what choices they make or how they are to intra-act with my animation. I want initial contact and the rest remains random.

Like *Unhinged*, *Graffiti Composition* and *Shuffle* reflect how this internal dynamic becomes a throughfare for all thoughts and for metamorphosis into a new substance. Such a new medium folds back on itself in the artist and the audience as Duchamp's mediumistic being. Our trace is never obliterated, but remains to transmute 'the passions' which are its material. We are bound inseparably as physical and noetic entities through which the 'landscape' becomes reflected as Cézanne understood, but where artistic prejudice is also silenced through dispersion during the creative process. Personal engagement threads feeling into the artwork. Disengagement or disinterestedness, in the sense that Duchamp wanted art to be itself, as Cage wanted sounds to be themselves, occurs with this dispersion via the new medium. In other words, to be itself, the product of the artist's methodology must belong to the infinite process. It must itself be an infinite process.

In my animations, sound has this same reciprocal function of drawing the audience or collective into the physical through the mental to the extent that a blurring occurs between the two forms within the participant. For *Unhinged*, I used two sets of animations based on their development during the course of this thesis. Keeping them as they were developed and then adding to them in the style of those experimentations was important as a record, a demonstration of the evolution of my understanding of the interstices that resulted from their making.

My animations run in folds of sorts, coiled loops, so like Marclay's infinite musical scores, the participant becomes performer activating their thoughts and memories as instruments of artistic production as the coils unfold. This is not an isolated world, but rather a richly oscillating and entwined one filled with lush noise where matter and thought exquisitely amplify, where they are sensitive and attuned to every fluctuation and dynamic that designs this place. For the sake of auditory clarity and because my musical elements are already so layered, I run the sound developed for each animation individually, which contributes to the sense of fracturing and possibly reconciliation when the audience matches sound to animation (or not). Because of the animation loops and the variances of sound and images as I mentioned with the example of those four sequential frames above (p.111-113), my work offers no terminal juncture. *Unhinged* folds and unfolds indefinitely.

In such a world, Deleuze locates Mallarmé's fold, where 'The fold of the world is the fan or "l'unanime pli" (unanimous fold)' (Deleuze 2006, 34). The flipside of a loop or a fold is that both appear to be closed systems akin to a Möbius strip, seemingly contradicting the idea of infinite change. Here, I ask that one retain the image of the renga circle or the continuous shifting in my animations. One may watch the cycle of the loop several times, but in each moment a different differential presents. Neither animation nor renga is ever exactly the same in a given moment. Moreover, neither is our intra-action with my animations because we are not the same today as we are tomorrow. Our responses fluctuate. What catches my interest today may be different another day and because there is motion and an acute sense of metamorphosis in my animations, because the sound changes during their

presentations, because my eye may seize one aspect of it and ignore another, I offer the participants, through this invitation extended by sound, an entry. In this richly oscillating world between the binary of mind and matter is that dynamic interval and a subjectless-objectless state.

Sound, specifically voice, plays such a unique role. Perhaps because of obvious human connexions, the sound of a voice seems remarkably effective at boring straight into the core of our being, while transporting us. From this vantage point, I consider music-sound as the differential between my dyad of poetry and drawings, collapsing all subject-objects. In this way, music-sound implement Pythagoras' third element, Harmony, not as balance, but as coherence and integration. Music-sound certainly generates a place of letting go, where disequilibrium invites chance and choices within the viewer.

Throughout this chapter's exploration, music and sound establish a physical and a mental presence to redefine time inside space and most strikingly materiality. Through the reciprocity of media, a process of becoming authenticates intra-actions that develop new media, in turn opening an aperture through which the willing artist disperses in a generative letting go. Within this interstitial space of negative capability, the unforeseen gently opens infinite possibilities reflected in the artwork as an interminable process. In the next chapter, I delve deeper into ideas surrounding the generative dispersion of artistic ego, the reciprocity of media and art as an infinite process that includes the performer/audience. I continue to expand on the nothingness of the interstices through an examination of my poetry.

4 Speak Between the Lines

4.1 Introduction

The idea of hidden spaces and mystery is not new in the arts. Like movement, these operate as a lure that demands closer inspection, a trick to avoid disregard. This thesis is constructed on the exploration of the hidden in the interstices. Their inscrutability entices me to expose their inner workings precisely because they remain concealed to the traffic of everyday life and concerns, yet they are of fundamental importance as a place of rupture and renewal. We are deaf and numb to them through the harried din, yet this thesis shreds those ideas hiding them from plain view. Pushing past comfort zones, I find myself through the *inframince*, where thought and substance share materiality and nothingness ferries through me into its somethingness. Speaking between the lines is about making the interstices matter, because within them we become more than what we are. Speaking between the lines encompasses the fearlessness necessary to create without history, rules or ego.

The last chapter redefined nothingness through sound and music to produce a letting go in which generative dispersion opens us to the complexity of experience. I examined my relationship to music and sound as a performative discovery that erases traditional subject-object constructions. I discussed how the structures of music alter spacetime. Through my experimentations and reviewing those of Duchamp, Cézanne, Cage and Marclay, I examined how chance, improvisation and silence remove ego from the process of art creation to allow the development of knowledge within a diffusive agency of nothingness and negative capability that actually transforms into somethingness. This openness to negative capability becomes a starting point for new materialities and knowledge creation, blurring distinctions between physical-noetic, our understanding of them and their-our positions inside an infinite spacetime. Lastly, I moved from the macro-level materiality of sound into increasingly smaller interior spaces I identified as the interstices, where sound and music in their micro-dispersions

within us, unclutter the performative indeterminacy of invention and become that space of nothing/everythingness.

This chapter pushes into the deepest crevices of the interstices. I analyze the third aspect of my practice and recruit the poets James Joyce and Stéphane Mallarmé respectively into the discussion of my work because, they operated inside the musicality of words. They were verbal pioneers within the same creative spaces of intellectual indeterminacy described by Cézanne. From this outlook, I investigate the between of music and art that is poetry. Using sound as an anchor, I contemplate its initial influence with respect to the word in *Finnegans Wake*. Reflecting on James Joyce, I consider the importance of words in terms of a post-medium condition, revisiting Derrida, Whitehead, and Barad. Through the music of words, I examine the word as a substance of resistance, rupture and change in the space of the interstices contextualized through my art research. I move subatomically into the matter of the word and work outwards onto a macroscopic level to understand its reformulations. Moreover, I examine the relationship words' musical materiality establishes with me in a subjectless state emblematic of my experience with renga.

4.2 Iridescent Chaos

Whereas music merges our materiality into instruments the moment we hear sound, poetry resists such inevitable metamorphosis. Our contact with words elicits distinct internal modifications. Words dare us to make choices. This chapter explores the materiality of words at the level of our most miniscule intra-actions in order to be able to investigate what lies between them. In this section, I consider how and why I chose to work with poetry to address the research questions opened by this enquiry.

To this point, I reference my recent past replete with scientific medical writing. Scientific writing assumes a rigid format with zero tolerance of inventiveness for good reason. Such language configurations build a specific vessel for the job, scientific paper, philosophical treatise, novel or poetry. The differences between them are found in the

rules followed and the expectations promised. In my portion of the medical research world, invariably the task of writing/editing fell to me mostly because words found me and others were all too happy to abdicate the role of finding them. Despite this relationship with words, medical writing was a straightjacket, a rigid freighter transporting the commodity of words.

The idea of words as a creative component in my art practice slipped into my research at the start as I was exploring ways to enter spacetime and, in particular, multidimensional space. Specifically, Joyce's *Finnegans Wake* consistently flickered a mention in many of my readings as an influence for numerous avant-garde artists interested in exploring aspects of spacetime, which piqued my curiosity.⁵² Joyce in turn existed in the very centre of paradigmatic change that was the late 19th and early 20th centuries, choosing to live in Paris from 1902 -1915 and again from 1920 – 1939. He had the fortune of interacting with Duchamp, hearing of spacetime discussions involving Einstein's and Bohr's new theories, being exposed to the milieu of a post-Cézanne Paris galvanized by the poetry of the recently deceased Mallarmé. He credited himself with starting Dadaism in Zurich after he moved there in 1915 (Lerm-Hayes, 37), yet his relevance to me quite simply begins with accessibility.

Joyce's influence on the litany of artists and writers interested in spacetime prompted me to examine *Finnegans Wake* with fresh eyes. Researching Joyce now with the intent to find access into spacetime, I discovered writing that could enter what Duchamp in his spacetime studies termed the "*n*th dimension". *Finnegans Wake* appeared to me an actual representation of Barad's quantum mechanics. As an exemplar of poetry as prose, words into neologisms, thoughts inhabiting thoughts, *Finnegans Wake* liquifies rules so that meanings question themselves. Joyce provided me two points of access: one through the importance of play in the fluidity of his prose

⁵² Artists such as Constantin Brancusi, Hans Arp, Max Ernst, Barnett Newman, Joseph Beuys, Joseph Kosuth, Marcel Broodthaers, Christo, Sergei Eisenstein, John Cage (Lerm-Hayes 2004) and William Kentridge among many others and in addition to writers and theorists like Samuel Beckett, Jacques Lacan, Jacques Derrida, Jean-Francois Lyotard, Roland Barthes, Giles Deleuze or Marshal McLuhan, to name a few, formed a dense network whose art and thinking were affected by Joyce.

poem and the other through his musical management of words. I could not access one without the other.

Although these entrances occurred almost simultaneously, I first consider play, because musicality hinges on it. Play entails spontaneity and openness to fluctuating circumstances. I return to Cézanne to expand on play, because his ideas first articulated from an artist's perspective a centralized embodied experience as the starting point for the creative act, that shapes itself when, 'I can see rising these rainbows, these cosmic prisms, this dawn of ourselves above nothingness. I immerse myself in them I feel myself colored by all the nuances of infinity. At that moment, I am as one with my painting. We are an iridescent chaos' (Cézanne, 114). Throughout his life, Cézanne riled against the Parisienne Académie as defined by Ingres and David. For Cézanne, only in the 'iridescent chaos' could landscape mingle with thought in another physical medium that puts sensation in the critical role of conduit to translate into an artwork.

In Cézanne's case, the necessity of play over rules engendered sensual and intellectual play, freeing form and colours from the rigid rubrics of French academic art which were formulated as a substitute for thought in art creation. Art as a representation was non-existent for him. Cézanne's utmost concern, as the centralized embodied experience of the creative act, was this intelligent sensitivity and openness to fluctuating circumstances through play. Only then could an artwork become a pure interpretation of the thought activated by those sensations (Cézanne, 197). Duchamp saw this as the letting go of logic to emancipate creation and innovation within himself. Cage called it the release of ego into nothingness. I feel it as a dispersion into everythingness.

Joyce heard it in his protean writing from a place of unrestricted accessibility found through play. A passage from the third paragraph on the very first page of *Finnegans Wake* serves as an example of Joyce's mode of play:

The fall (bababadalgharaghtakamminarronkonnbronntonner-
ronntuonnthunntrovarrhounawnskawntooohooordenenthurnuk!) of a once

wallstrait oldparr is retaled early in bed and later on life down through all christian minstrelsy. The great fall of the offwall entailed at such short notice the pftjschute of Finnegan, erse solid man, that the humptyhillhead of himself promptly sends an unquiring one well to the west in quest of his tumptytumtoes: and their upturnpikepointandplace is at the knock out in the park where oranges have been laid to rust upon the green since devlinsfirst loved livvy (Joyce 1968, 3)

The way I accessed these words was from the inside, sounding them out loud and hearing them. According to literary and communications theorists Donald and Joan Theall, *Finnegans Wake* 'was designed in such a way that the reader had to both see the printed page with his eye while simultaneously listening to it with his ear to be able to understand the workings of the language and the range of puns' in what the Thealls termed an 'aural reading' (Theall, J and D 1989, 56). Sound opens access to each word's double meanings and word plays.

Apparent to me through the playfulness of sound, Joyce's words take on material substance and meaning with the same physicality as music. Play dissolves restrictions as we bestow upon ourselves permission that opens to us the egalitarian spaces of our interstices. Inside *Finnegans Wake*, a double diffraction occurs in which Joyce's playfulness gave him permission without recrimination to create a work of Babel, drawing on 'all the culture, all the history and all the languages it condenses, puts in fusion and in fission by each of its forgeries, at the heart of each lexical or syntactical unit' (Derrida 2013, 26). Hearing Joyce's words exposes their playfulness, releasing them to the reader in what Derek Attridge terms Joyce's undermining of 'the absolute separation between internal and external' (Attridge 2004, 149). Joyce as artist allowed himself to play and thus create without restrictions, which allows us as audience access to his words through their playful sounds.

Playfulness, and its unpredictability, marks Joyce's accessibility inside an ecology of sense that, as the Thealls suggest, 'integrates elements of communication with understanding and demystifying the body's relation to sociopolitical reality and existence in the biosphere' where forms of domination have no place (Theall and Theall, 62). Through sound, Joyce integrated nature, body, mind and meaning. He

gave us access into the interstices via a mind-matter reciprocity that occurred in the interplay between sensations and perceptions in the absence of hierarchies. Without sensations, we have no perceptions. We see colours, shapes, smell coffee or pastries, touch their soft stickiness and then taste them. We do not in that moment of sensation ascribe value judgements until as perceptions they are in some way centrally analysed. Perceptions form in our brains through our sensations without prejudice in the absence of hierarchies. I contend that sound is the most direct means into this complex space that I am describing and it exists between mind and matter. This is the importance of Joyce for me. While nothing about Joyce's writing seemed immediately accessible, it was only in reading *Finnegans Wake* out loud that the musicality of the words led me to see his playfulness and find understanding within words so I could write poetry from the inside.

4.3 Uncaged

During the 1950's, American poet Paul Goodman observed, 'the psychology of art is not in the dream or the critical consciousness; it is (where psychoanalysts do not look for it) in the concentrated sensation and the playful manipulation of the material medium' (Perls, Hefferline and Goodman 1951, 245). As iridescent chaos, our playful investigations of the interstices are shaped through materiality. Cézanne and Duchamp understood this masterfully and an argument exists for this as their guiding principle. Cage perhaps overlooked the very materiality of words that unites it with music in his attempt to musicalise prose beyond Joyce and open it to syntactical freedom.

To acknowledge that Joyce was overtly impactful on John Cage requires a glance of his written works in *X: Writings '79 – '82*, in which are chapters titled, 'Writing for the Forth time through *Finnegans Wake*', 'James Joyce, Marcel Duchamp, Erik Satie: an alphabet' and 'Muoyce (Writing for the Fifth time through Joyce)'. In these 'writings through', Cage takes *Finnegans Wake* and turns the prose

poem into mesostic poetry.⁵³ In all their iterations, those works explore Joyce using his name as the centrepiece for vertical-horizontal poems.⁵⁴ Their success as a translation of Joyce's work into verse poetry, I contend, misses the mark.⁵⁵ Shifting the visual form of the prose poem destroys the rhythmic flow of the most critical aspect of Joyce's work—the sound. Altering sound, in turn, disrupts access into meaning. Words become tripping points. Cage effectively removed my aperture into the work by separating visual from aural.

Two additional examples of Cage's musical experimentation using Joyce also fall short exactly for the same reason. In the first example, *Empty Words 1973/1974*, Cage voices sounds that seem to belong to words of another language because they make no sense in English. *Empty Words* was intended as an epic twelve hours performance. Containing sounds interspersed with silence, piano and a smattering of other instruments, Cage intertwines his vocalise,⁵⁶ consisting of passages from Thoreau's *Journal*. In his book of the same title, Cage describes his aim for the 'demilitarization of language. James Joyce = new words; old syntax.... What can be done with the English language? Use it as material. Material of five kinds: letters, syllables, words, phrases, sentences. A text for a song can be a vocalise: just letters' (Cage 1981, 11). Cage recognized that the structure of language, syntax, can constrain it. He implied Joyce did not go far enough in his play and removed all semblance of syntax, discarding with it any real evidence of the alphabetic language he aimed to

⁵³A **mesostic** is a poem or other text arranged so that a vertical phrase intersects lines of horizontal text. It is similar to an acrostic, but the vertical phrase intersects somewhere in the midst of the line, as opposed to the beginning of each line. The practice of using index words to select pieces from a pre-existing text was developed by the avant-garde founding member of Fluxus, Jackson Mac Low, as "diastics". <https://en.wikipedia.org/wiki/Mesostic>

⁵⁴"Like acrostics, mesostics are written in the conventional way horizontally, but at the same time they follow a vertical rule, down the middle not down the edge as in an acrostic, a string spells a word or name, not necessarily connected with what is being written, though it may be. This vertical rule is lettristic and in my practice the letters are capitalized. Between two capitals in a perfect or 100% mesostics" – John Cage
<http://mesostics.sas.upenn.edu/>

⁵⁵ McCaffery substantiates this observation (McCaffery 2006, 337-38).

⁵⁶ **vocalise - noun**

1. Music - A singing exercise using individual syllables or vowel sounds to develop flexibility and control of pitch and tone.

2. A vocal passage consisting of a melody without words.

<https://www.lexico.com/definition/vocalise>

disarm. In the end, *Empty Words* comes across as nothing more than musical vocalise and not a reworking of syntactical language nor its ‘demilitarization’.

In *Roaratorio*⁵⁷, Cage confronted *Finnegans Wake* head on. I listened to the version titled *Roaratorio, an Irish Circus on Finnegans Wake, Hörspiel (radio play) for electronic tapes, speaker and Irish folk musicians (1979)*⁵⁸. Cage’s compilation used recorded sounds he encountered at each of the locations Joyce mentioned in *Finnegans Wake* with Cage’s voice singing his subsequent mesostics. Listening to this, I realized that the work is a full spectrum away from Cage’s 4’33” and because of this oddly completes it. After a generous five minutes, the listener wants the gentle sound relief from those environmental silences of 4’33” to occur without evidence of authorship or Cage’s curation. No letting go of ego or generative dispersion emerges in *Roaratorio* to offer access into any interstitial lacunae within which the listener can expand.

In contrast to *Roaratorio*, space interposes in every aspect of my work. Without silence, lacunae, and nothingness, density of meaning and becoming cannot originate. Although variations on this state have been considered through various platforms, I focus on my exploration of the subjectless-objectless-egoless state in the interstices as an originary condition and location. Poetry, drawing and music form my art practice precisely because each modality helps me enter reciprocal reflections of meaning between the solid and the insubstantial in a foundational state as this still from *Number 67—not just Conrad* reflects:

⁵⁷ Cage travelled through Ireland recording sounds in places mentioned in Joyce’s novel, which were later assembled on tapes to form an hour-long piece. Using lines from Joyce’s book, he then wrote mesostics ... on “JAMESJOYCE,” which are read aloud during the performance, and scored parts based on Irish traditional music – jugs, reels, airs, and songs – that are played at various times at various intensities throughout the work. Cunningham, who identified with the “feeling of dance” he found in Joyce’s book, created choreography with motifs on jigs and reels, a “hopping” dance, promenades and strolls, and folk dances that suddenly expand into huge communal circles.

<https://www.mercecunningham.org/the-work/choreography/roaratorio/>
⁵⁸ www.youtube.com/watch?v=bdHe4c10smY

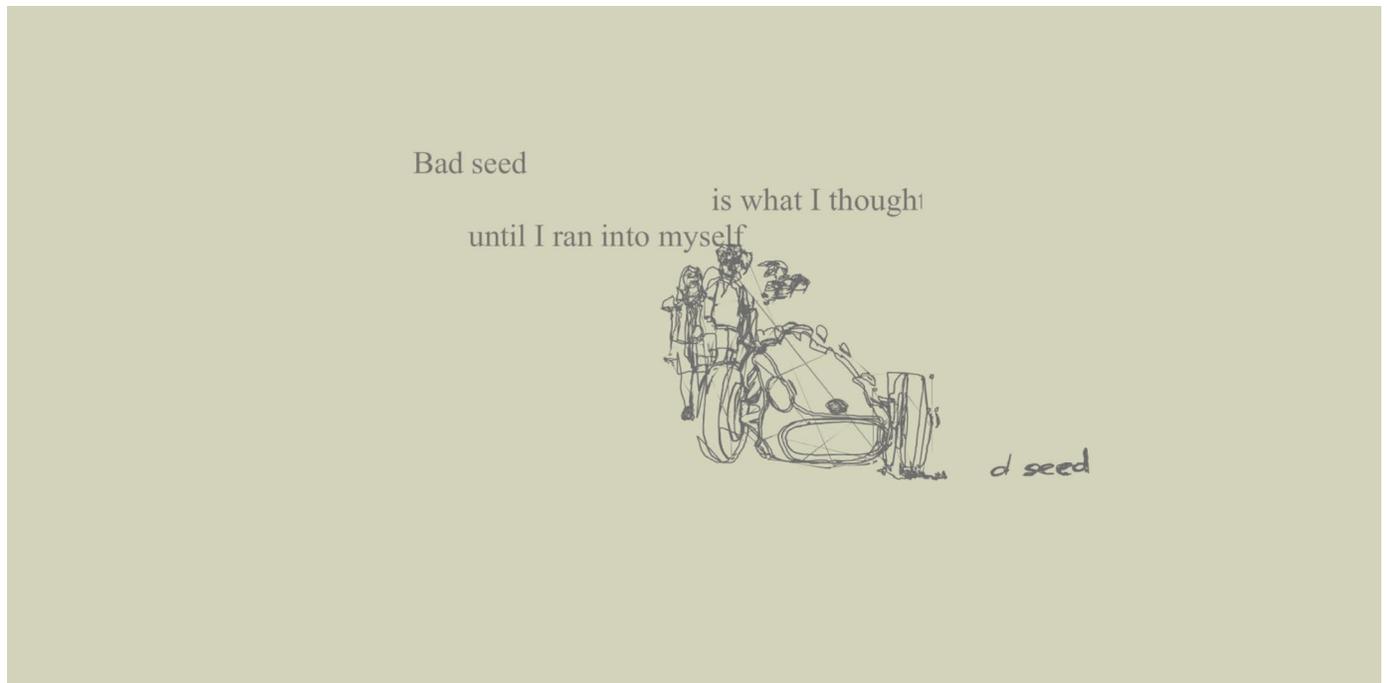


Figure 22: Yvonne Opalinski, *Unhinged* (June 2020), Digital Animation

Transitions formulate visibly and virtually and always through material intra-actions. Each animation opens the workings and movements of the society of atoms. Each animation is a moment of interface inside a post-medium condition of interdisciplinarity, a slice through space in the absence of time. Perpetual motion, sound and silence, forms that shift and seem to erase themselves and reconfigure as something else all make the participant aware of flux and transitions. The topics of my poetry focus on ruptures, conflicts and quests for resolution and reconciliation. They examine vicissitudes, variances and antagonisms in the snapshot of a life as shown below:

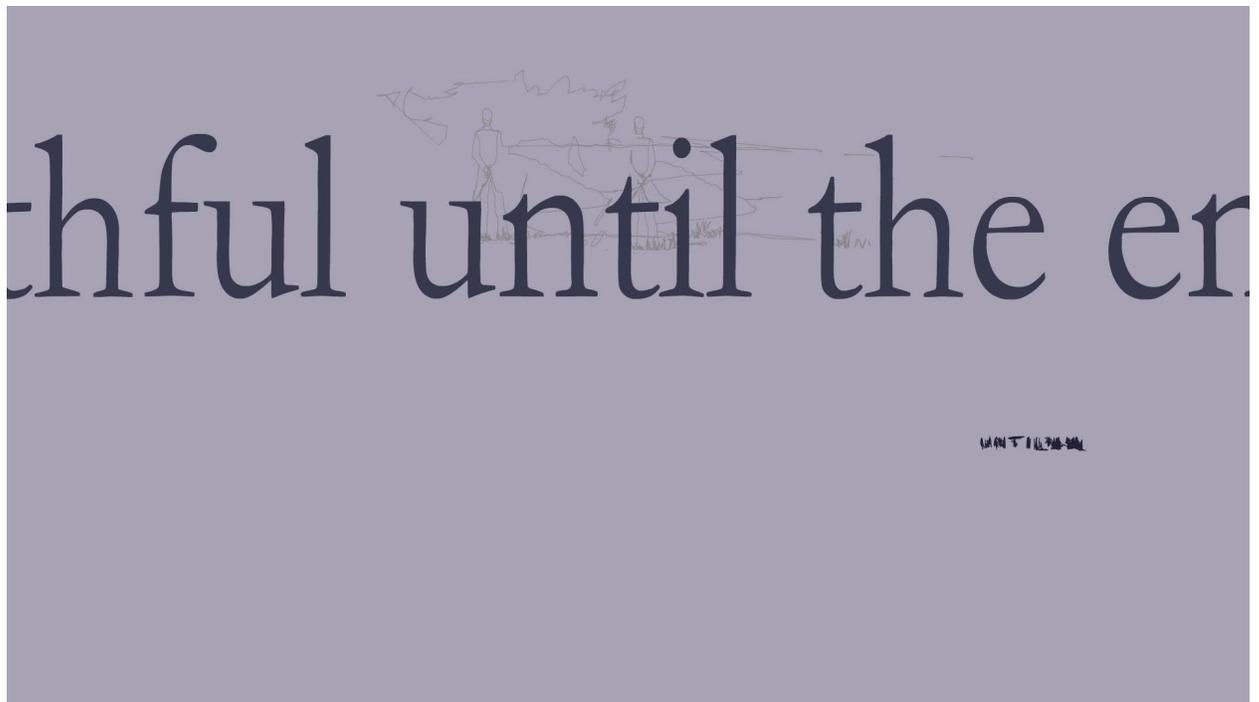


Figure 23: Yvonne Opalinski, *Unhinged Part II*, Digital Animation

These intricate relations escalate when I sing the poems, because sound bolts into us without resistance. Although I once was the vocalist, afterwards engaging with my work is different each time because of the continuous, nuanced modulations in substance I become. It is a constant interstitial flow of change often thought of as random chance, which relies on openness to flux. The choice to see how the word fits into the whole and the agential cut allow for many readings, outcomes and materialities.

Cage's intrusive presence and orchestration in *Roaratorio* prevents emergent expeditions and separates sound from word, in effect undoing Joyce's accomplishment in *Finnegans Wake*. With *Empty Words*, Cage attempted to examine the interface between music and words, but sound subsumed words. His experiments in demilitarizing language and sound beyond Joyce obstructed that very accessibility *into* Joyce's words and sounds that I believe Joyce meticulously worked to preserve. Consider words as the smallest components of language, then letters become ions, words' subatomic particles. One cannot substitute with the other. One composes the other. In order to play with language, Joyce's 'etym's' (his imaginary unit for the true

source of a word (Theall and Theall, 60)), can only be tinkered with through sound exactly as Joyce did. Words make us bask in their meanings, pause or return and repeat their sounds to intra-act with them more deeply. This respect for the qualia of the medium in their most particulate form marks the difference between one medium morphing with another into new substances and one medium consuming another.

Such joyful play with the components of words, letters as subatomic particles, illustrates the inner workings of words and their arbitrariness of function as we developed them, just as with musical notes. Sound stimulates feelings without permission as its materiality merges in us automatically without invitation, while words grant permission to feel them or play with them if we choose to inhabit them or persevere in disarming them. Because of their referential history, words dare us to make choices beyond their past within their materiality of sound. This is not writing degree zero in which the history of language or poet enslave words to find a neutrality of emptiness. Nor do 'words have a second-order memory which mysteriously persists in the midst of new meanings' as Barthes suggests (Barthes 1968, 16). Rather, in the moment of feeling intra-action, with all of its nuances, the material power of words liberates them from historicity and time. Like notes or sounds in themselves, this same material power allows words in themselves to vanish and meanings to transition. Through sound, the word escapes its historicity and exists in the present. Somehow Cage managed to remove from words this power or authority that Joyce, building on Mallarmé, revealed in them.

Joyce aimed to accomplish something different and this difference accounts for Cage's failure. I believe Joyce's intention was to originate a work from the interstices outward, which is why every text I encountered about Joyce paid homage to *Finnegans Wake* as a dream or a stream of consciousness of a dream or, therefore, a stream of unconsciousness.⁵⁹ This is how the interstices have been understood, yet this space is not a dream, nor a blunted consciousness of any sort. Rather, this is a habitat of heightened consciousness and increased awareness inside a linked micro-ecosystem

⁵⁹ Derek Attridge offers an extensive examination of this dream idea in detail in [Chapter 11: *Finnegans awake, or the dream of interpretation in*](#) Attridge, D., 2004. *Joyce effects on language, theory, and history*. Cambridge: Cambridge University Press.

of dynamic syntheses between sensations and thoughts. Most importantly, this habitat has no hierarchies, no ego. It is a subjectless and democratic state in which every particle, every etym, freely intra-acts to form new substances and new creations.

I experimented with mimicking Cage's mesostics in this example:

Number 90

unforGetable
whAt and how
depends on where aT most
wHispers never heard
useless for thE future
unless chRonicled
same enterpriSe
locaTed rarely
no onE's fault
demAnding time
Most precious
stolen at eAch moment
by trifliNg boobs
paDlocked in this form
boGged in self
at all costs avOid

Yvonne Opalinski, *Number 90* (July 2020)

His mesostics dissolved into a starting point around which I played with words in this form during the reciprocal shaping of the material poem. My Cagean mimesis went no further than that. Anything more would not have come from inside the interstices and unlike Cage, I could not and did not use the names of those historical figures with whom I share these interstices, because inside this habitat such mimicry is impossible. *Finnegans Wake* sets an entirely different bar when considered as a work arising from this other state of connectedness formed from generative dispersion and letting go—in other words, from an environment of perfect playfulness.

Within this understanding of playfulness, I saw that Joyce moved the act of reading from the numbing process of 'textual mastery' over language, as Attridge argues (Attridge 2004, 32-33), to a 'multiplicity of belief and productive differentiation,

where different or independent perspectives...inhabit the same place' in a subjectless space (Boheeman-Saaf 2004, 201-206). Joyce places his writing in this subjectless space free from the domination of a subjectivity that splits body from language and a seeing subject from a perceived object. Instead, Joyce unified the senses of ear and eye thus depriving single sense supremacy through the rational signification of words. This pivots me back to the dispersion of ego.

For me, Joyce's unity in multiplicity is a prime example of the dispersion of ego. As I outlined before, only through this letting go do subject and object become irrelevant, because material contact alters and unites the medium and the artist when allowed to be 'in themselves'. That generative dispersion then creates the breathing room necessary for new microcosmic exchanges and receiver intra-actions to generate new matter. In my analysis of Joyce, sound integrated the visual act of reading with those physical intra-actions over which I have no control, but which integrate in me and become the part of me that opened in reciprocity with words, permitting me to write poetry.

Consistent with my research, Joyce never wrote about a subjectless state, n^{th} dimensions or the letting go of ego and nothingness. Rather, coming from a place of intimacy like Duchamp, he created *Finnegans Wake*. Joyce, like Duchamp, Cézanne, Mallarmé, and, in many instances Cage, structured these intimate spaces of the interstices for us to enter. In this place, these artists converge in me. I find Joyce very interesting because that access to his work merged two senses and traditional subject-object relations in exactly the same way I work with poetry and indeed my animations. This approach reflects similarities with Duchamp and the reciprocity of their thinking dwells precisely in this democratic ecosystem of the interstices, this gap of the art coefficient which merges outsiders with the inside and subject with object.

Duchamp named his last work *Given!*, 1946-1966, which appears as the penultimate phrase found on the last page of *Finnegans Wake*. Joyce intertwined several Duchampian references in that writing and in this title of his last work Duchamp intentionally aligned himself with Joyce (Lerm-Hayes 32). Clear to me is that both

understood the necessity of sensation and relied on its intimacy to reach the noetic, which I discussed in Chapter 2 with Duchamp's *Given!*. Both echo Cézanne. I return to Cézanne, because of his position that art creation should move beyond the retinal to the intellect, laying the path on which Duchamp not only ventured, but painstakingly developed as his own.

Duchamp's rebellion towards retinal art has been extensively analyzed in critical theory. I find the art of representation important only in the gaps of its absence. My criticism of Cage's *Roaratorio* is about that lack of absence and extends to much of the Joyce inspired art over the last century in which these end up being representational attempts rather than material experimentations in new directions from within the lacunae of the interstices out. My art practice is all about working in between in the gaps of image, sound and words, through those lacunae, opening artist, artwork and audience to breath, respond and mutate. My installations work as an external macrocosm that leads the participant into their internal microcosms. In keeping with the impartiality of the interstices and our material intra-actions in which physiology plays no favourites—this is the space from which my work along with Cézanne's, Duchamp's, Cage's, Joyce's and Mallarmé's resonate most. It is a place that reaches beyond conceptual art into our quantum realities.

4.4 Renga Jenga

Inside the first pages of James Joyce's *Finnegans Wake*, I found words that shredded their representational and grammatical strictures and were freed to be words 'in themselves'. In these gaps that are the absence of representation shimmers the movement of Cézanne's iridescent chaos, that mutable aspect of art I now describe in the music of poetry. In those gaps of the interstices, between cells around which our intracellular and extracellular fluids flux to exchange ions, electromagnetic energy and information, lies interstitial understanding that involves artist, medium and recipient alike.

According to cultural historian Daniel Belgrad, various post-war poets, such as Allan Ginsberg, Paul Goodman, and Charles Olson, cultivated their habitat of heightened consciousness through field theory, stemming from Whitehead's discussion of the cosmos as a vast pool of energy passing through spacetime, in which '[o]ur bodily experience is the basis of existence' (Whitehead 1968, 114). That touches on my arguments earlier (p. 118-119, 129). In *Modes of Thought*, Whitehead details the fusion of physical and mental within this sea of collective energy, clearly foreshadowing Barad's agential realism. Belgrad points out that in this scheme, 'the emotional matter that an artist or poet engaged was as "real" in every sense as the "matter" of a physicist' (Belgrad 1998, 127). As a contemporary quantum physicist, Barad redefines matter. I return to materiality through Barad because in Barad's theory of agential realism words link their substance to not a thing but a doing 'inseparable from the apparatuses of bodily function' (Barad 2007, 153). The importance of the medium lies in its physical qualities and the accessories upon which it draws to release those qualities. These determine our material engagements within their physicalness, the senses stimulated, what responses those stimulations elicit and how artist and artwork endure afterwards.

Beginning with the Cubists, Dadaists and specifically Duchamp with his play on artwork titles and Rose Sélavy, word art punctuates the last century through the Surrealists, René Magritte, Fluxus to Barbara Kruger, John Baldessari and Martin Creed to mention a few. Words have been approached through their meaning, their visuals and their sound. To my mind, words have always contained dimensionality and therefore substance, made literal in works such as Creed's *No. 975 Everything is going to be All Right, 2009*. Extending Barad's **thinking = matter**, words in themselves are material thoughts externalized and carry an associated dimensionality and spatiality. I was not convinced previous artists approached words through *their substance in themselves* from the inside, particularly in relation to quantum theory, which led me to consider that aspect in my art practice.

Early in the research project, poetry edged into my practice through my investigations with very short animations. I first focused on movement in forms and

lines, developing dimensionality through brief glimpses into static worlds of my making as below:



Figure 24: Yvonne Opalinski, *Waterwind* (December 2017), Digital Animation

I intended to experiment with spacetime in a way similar to Duchamp's rotating discs. As a result, these static worlds morphed into tiny animations. The more I watched them, the more their dimensionality surfaced. They resembled miniature visual poems, but remember that at this point of the research project, I struggled to form an interior connection through the substance of the computer and its programmes. Silence in these animations compelled from me more. I was on the exterior of the visuals, yet in those short, short animations, the visuals made what was missing clear. Adding sound was an immediate reflex, but then I returned to words. I was now faced with finding a way in from the outside of two media. Quite unlike music which is inseparable from me, poetry as a tool for the exploration of spacetime seemed inaccessible, because I had been unable to break into poetry's interior before. While I knew how to read between the lines of poetry to understand the composition, I never inhabited it from the inside like Joyce, leading me to ask: How could words explore multidimensional spacetime? How could they integrate with my art practice to increase the sense of dimensionality in my animations?

Music-sound experimentation directly informed my entry into poems. During these investigations, I allowed myself to feel the music and play with its materiality. Formalized musical composition kept converting into complete keyboard improvisation, and emphatically so from the beginning with respect to my vocals. Searching for this freedom regarding poetry, the most significant choice I then made was to not observe any prescribed literary rules learned either in high school or university. Not adhering to familiar forms of musical traditions unsealed the aperture for poetry in which playing without the yoke of literary rules liberated my ability to engage with the substance called poetry. I gave myself permission to let words be themselves and to listen to what each had to say through their effects first on my senses, which then led to their meanings. Just as released muscle tension frees and shapes the singing voice, emancipation from rules freed me to explore poetry's interstices and feel its materiality, so I began to improvise with words.

The more I intra-acted with words, the more their sound playfully warranted reciprocal repetition and their substance opened as with music. Such intra-action hinges on the dependent exchange of which I have spoken in the last chapter between the physical and the noetic in our interiority. Furthermore, I do not refer to their interiority as considered by Derrida in *Speech and Phenomena*, where speech, language in its exteriority depends on temporal movement so that temporalization still defines the 'irreducible openness of the inside' in non-physical terms. For Derrida, words temporalized through speech are transformed into a 'spiritual flesh' dependent in time and space itself is defined as self-relation in time (Derrida 1973, 81, 86). Rather, I emphasize the inversion I demonstrated with music, where sounds intertwine in us anatomically as the material substance of one continuity. Interior spaces then form our material basis shaped through our corporeal perceptions *independent of time*.

I invert Derrida's temporalization of sense in which openness from the outside eliminates any absolute inside. I insist openness from the inside eliminates an absolute outside in the absence of time. Aligning myself more with Cézanne through sensation, internal intra-actions externalize the iridescent chaos undisturbed by time. Through my art research, words in themselves opened to me separate from time. Like music, their

volume, their internal spatiality liberates them to the outside, offering us access. Again, such movement is from the inside out, which I now examine in further detail and which carries forward Derrida's efforts to dismantle the separations of interior from exterior outlined in Rosalind Krauss' discussion of the post-medium condition (Krauss 2000, 32).

The reciprocity I am describing emphasizes substance's independence from time, returning to Whitehead's thoughts where, 'this fact that the material is indifferent to the division of time leads to the conclusion that the lapse of time is an accident, rather than of the essence, of the material. The material is fully itself, in any sub-period however short. Thus, the transition of time has nothing to do with the character of the material' (Whitehead 1925, 51). Indeed, Whitehead inverts materiality from a concrete entity to a society of atoms that dissolve into vibrations of light where matter is defined by a moment and never the same depending on its interactions (Whitehead 1929, 79).

Despite diminishing their direct dependence on Whitehead, Barad embellish his thoughts, forming through quantum field theory an indeterminacy that 'is not a form of unknowingness, nor even a kind of formlessness; rather, it is a dynamism that entails its own undoings from within. That is, the dynamism of quantum in/determinacy can be found within physics, and not only within Derridean deconstruction' (Barad 2017b, 62). Barad formulated explanation after explanation to establish quantum indeterminacy as a union of disjunctions constructed from agential cuts or intra-actions that 'do not mark some separation but a cutting together/apart—a "holding together" of the disparate itself' (Barad 2010, 265). From this contrapuntal perspective, I am not undoing from within, but rather constructing and creating from inside intra-actions and intervals of dyads to locate words in themselves and rupture notions of separation in the same manner as Cézanne's iridescent chaos or Joyce's *Finnegans Wake*.

It was first through listening that I understood this materiality of the word and noticed how my increased sensitivity to the sound of words transposed to their meanings. Words resonated as brilliant sound sparkles of meaning, playing not just off

one another, but within themselves. I played with this, using segments of poems mixed into drawings to reinforce dimensionality by making these layers revolve around landscapes as shown:

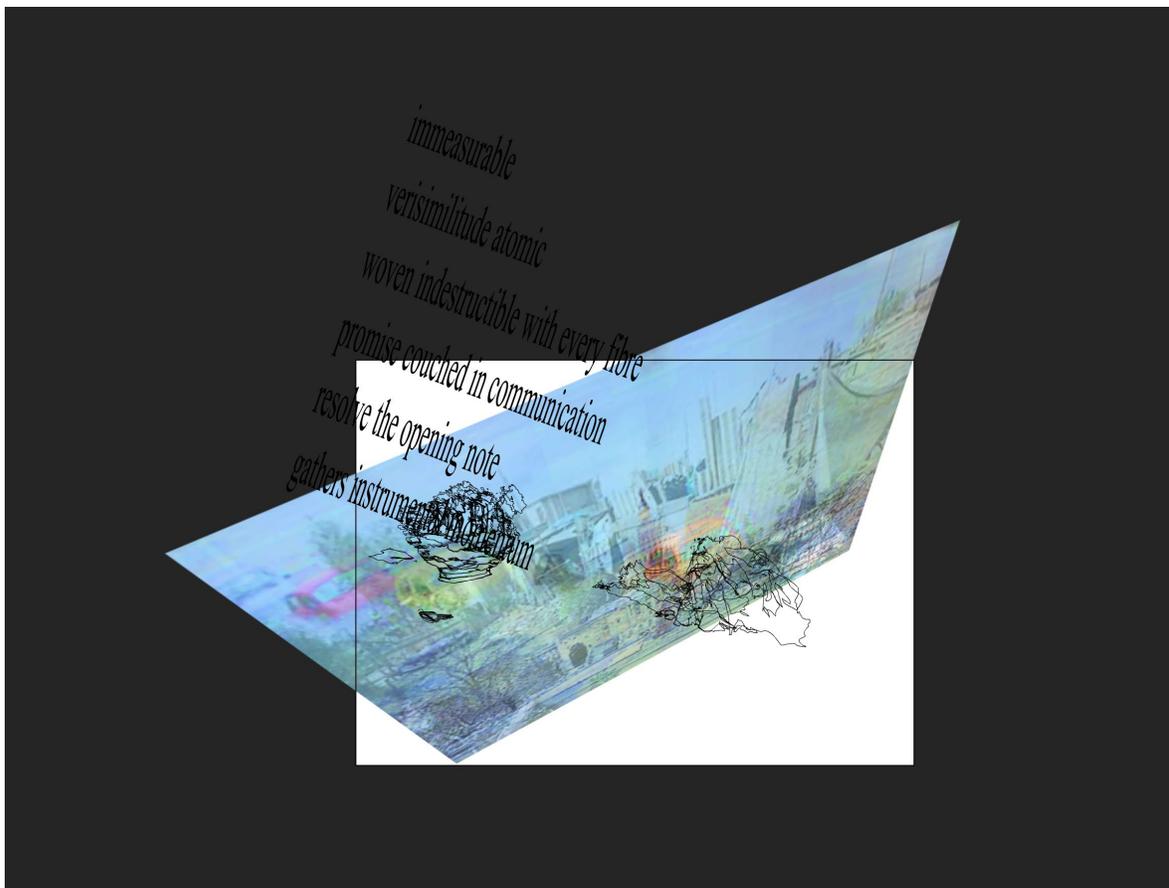


Figure 25: Yvonne Opalinski, *Number 11—requiem* (February 2018), Digital Animation

Through my intra-actions with the drawing stilet, the fickle and unpredictable computer programme and its system of layers, the visual aspect of words manifested materiality across physical rhythms, and their interior opened. At moments, both poems and lines carved through the planes of the layered landscapes, rotating beyond the computer programme's three-dimensional planes to shatter space.

During the making and the doing, I observed digitally typeset words seize physical authority over the mutable qualia of the drawn figures or landscaped worlds. Because I wanted to explore what might happen with that authority, words were hand-

drawn rather than machine typed. This led to an interplay between the typeset word and the drawn word presented below:

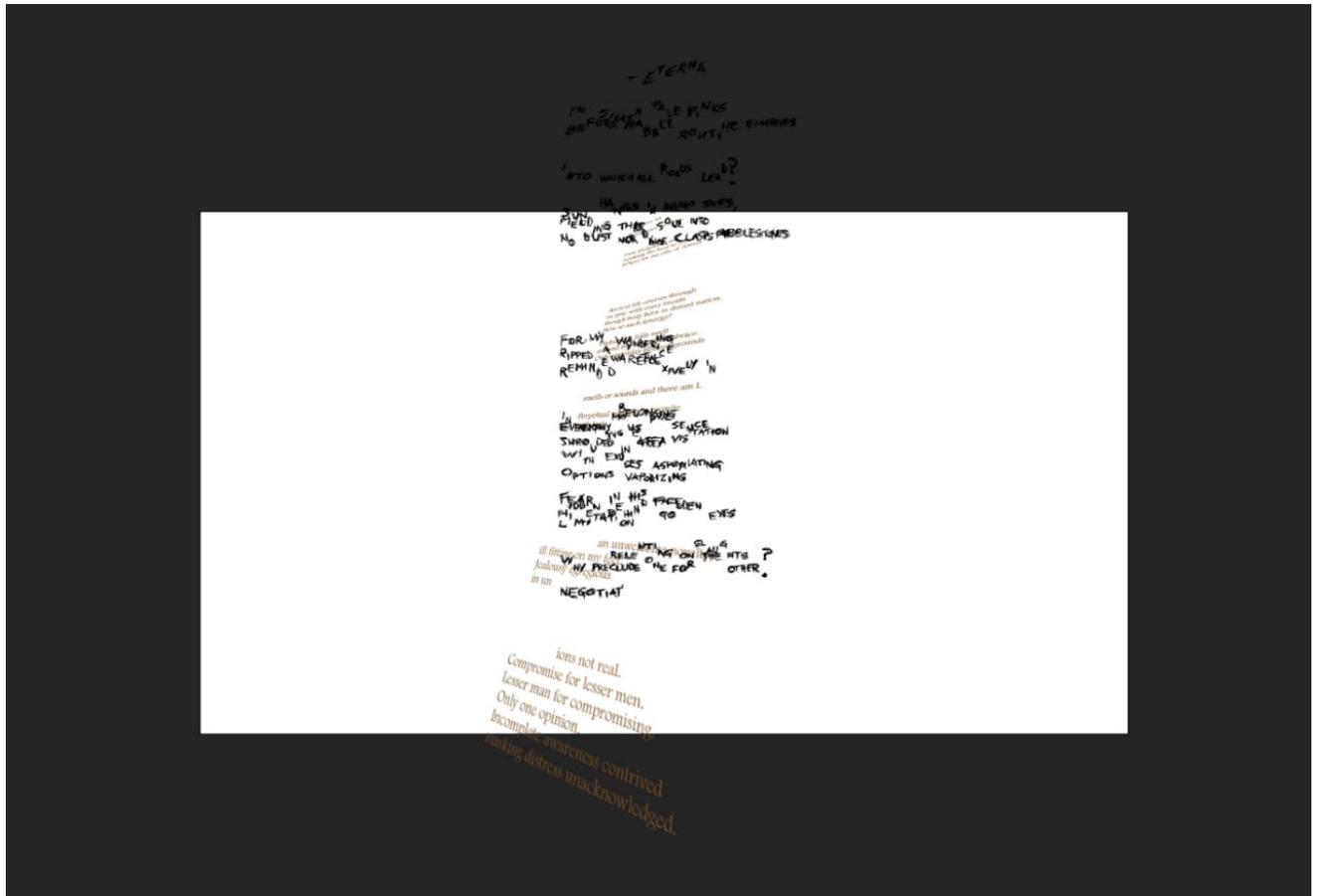


Figure 26: Yvonne Opalinski, *Mind Wandering 8* (November 2018), Digital Animation

The typeset words struck me as solid, heavy and yielding only so much as they allowed me to rotate them, flip them or have them sway as an irreducible block. In contrast, the handwritten words had a different weight to them and density, aligning themselves with the drawings, appearing more fluid, lighter and more malleable as demonstrated here:



Figure 27: Yvonne Opalinski, *MST 3* (March 2019), Digital Animation

In various animations, I played with splitting lines of poems between the two media and found their interplay magnetic. An example is poem *Number 16, March 2018* (See Appendix A) parts of which are found below:

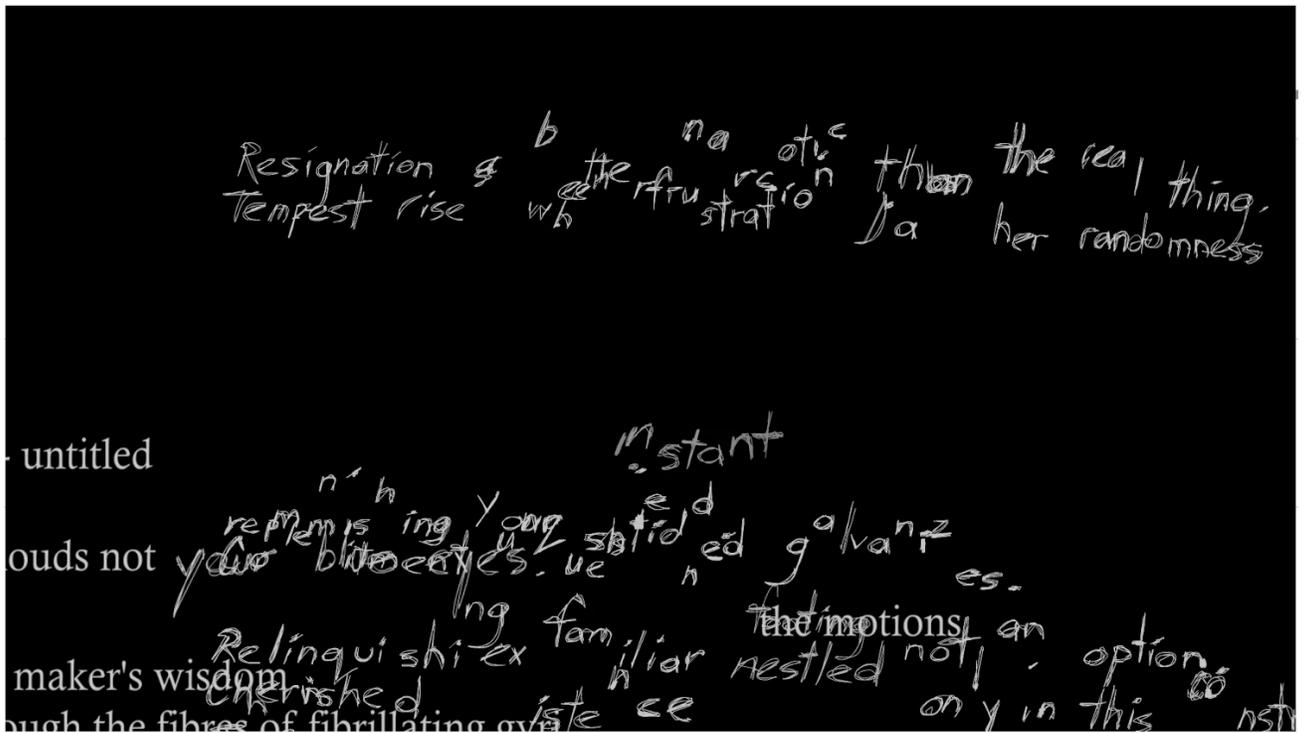
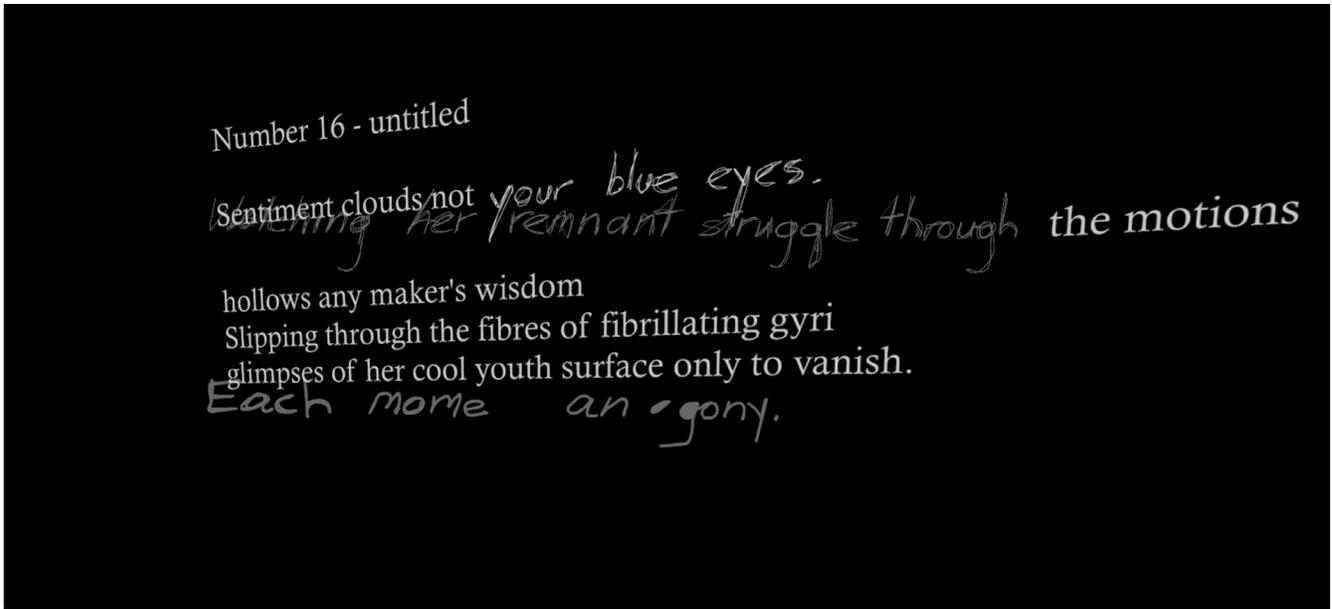


Figure 28: Yvonne Opalinski, Excerpts from animation *MST_7* (May 2019), Digital Animation

Letters fall away a hundred-fold in curtains of lava sparks, rupturing into new words. In other animation experiments, I made entire poems tumble into and away from themselves, shown below in poem *Number 6, January 2018*:

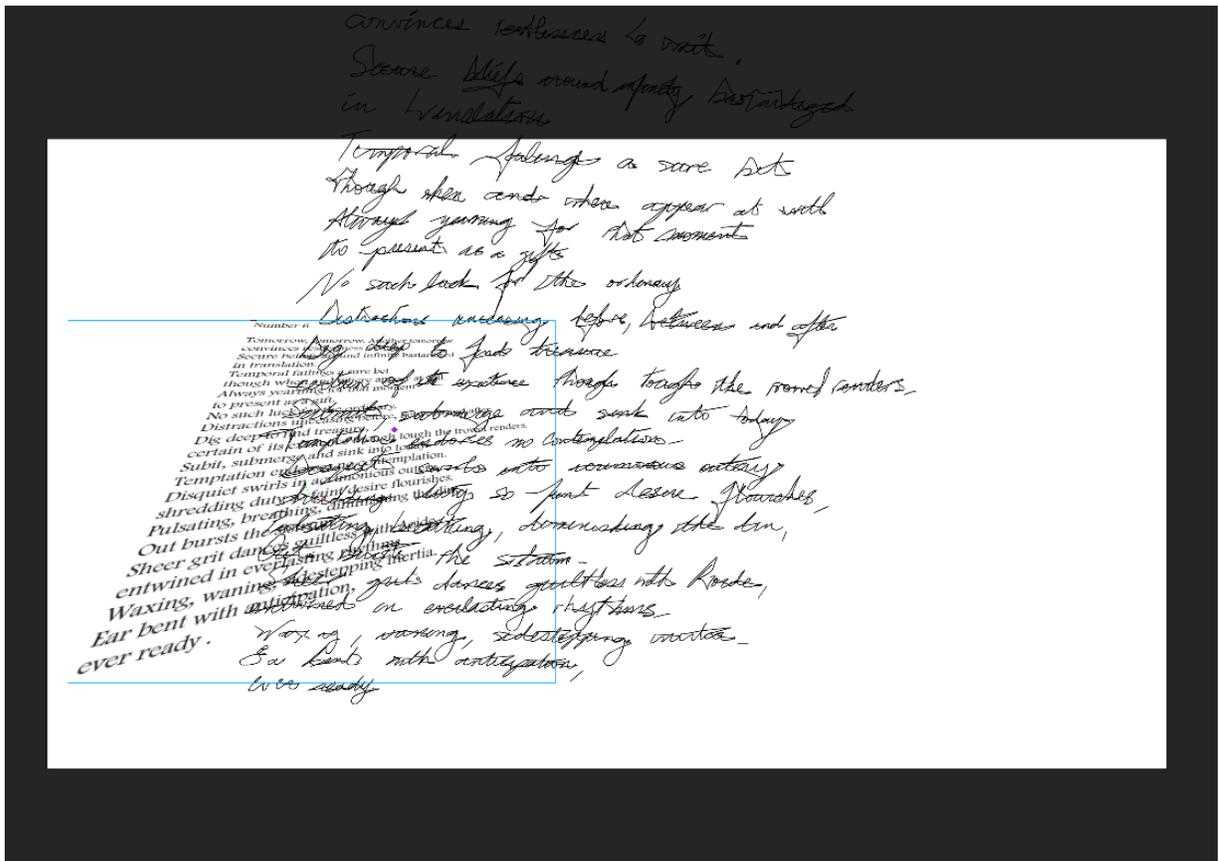


Figure 29: Yvonne Opalinski, *Mind Wandering 5* (May 2019), Digital Animation

Folding and twisting, splitting and fissuring into images of something else, poems completely engaged and immersed me in their gyrations and oscillations. Words as sculptural materials could be carved from the inside outward. Their subatomic particles could be manipulated like oil paint, clay and any other material. Depending on what I do, they offer material resistance and push back, completely altering the word from a representation into a substance of rupture.

In the last section, I demonstrated how Joyce began Derridean deconstruction in *Finnegans Wake* by shredding words' representational and grammatical strictures. Literature theorist Lydia Liu directly places the material condition of Derrida's writing in the machine of 'Joyceware' –the semantic indeterminacy of Joyce –to explain the intensity of Joyce's influence on Derridean deconstruction and thought (Liu 2010, 102-115). Jean-Michel Rabaté joins a list of many underscoring the extensive influence of

Joyce's 'destructive philosophical machine' on all aspects of Derrida's writing (Rabaté 2013, 282). I emphasize that Joyce in his destruction of the philosophical machine and language created an interdisciplinary space in which words as music could reinvent language. I offer the reinvention of word as a physical tool inside language.

4.5 Inside Inframince

I ask the reader to recollect the image of the *renga* circle where words are particles filling space. To feel material shift, different particles touch us to form different matter as they swirl around from here to there, but time is irrelevant. Recall also that William Kentridge expresses a similar spatial process in the absence of time, despite his animations forming a record of point interventions in drawing. *Stereoscope, 1998-1999* exemplifies his process, where the artist explains, 'The films started off initially as a way of examining the drawings, but then the narrative element came in, and the drawings were at the service of the film' (Kentridge 1999). In describing this work, Kentridge experiences 'material shifts in making that drawing, [where] one can point to the way in which we ignore the trajectories of time, through things we experience.... An object becoming another object, a





Figure 30: William Kentridge, *Stereoscope*, (1998-1999) multiple stills

state of mind becoming a different state of mind, an exterior view of the body becoming an interior X-ray. They allude at the most to the fact that things change and that they are contradictory' (Cameron 2001). Kentridge expands by saying that, 'To put it blandly, my work is about a process of drawing that tries to find a way through the space between what we know and what we see' (Christov-Bakargiev and Kentridge 2017). Like Kentridge's use of material shifts through drawing, I consider words in terms of their materiality of substance within the animations and in their individual materiality of meaning within the poems in/dependent of the animations. The poems inform my drawings and the outcomes of my animations often inform new poetry, so that these materials are at the service of each other to construct a space into 'what we know and what we see' which allows us entry into what we did not know or see before.

This thesis is in shared reciprocity with my art practice. When writing poetry, words refrain from being technical supports. This poem resulted from my research in spacetime:

Number 61—

here it begins
from the inside
silence
straining for a sound
softly
into my head notes form
shapes swirl
coming together
bolts of aftershocks
continuity or not
connection tenuous
exclusive
depends on alignments
every spark
reshuffled randomly
something new
each time
certain bonds
stronger
felt
origins educed eternal
loss for most

run through nerves
to finger tips
to skin
tingling
triggering
calling
only visiting
past, present, future
meaningless meaning
tools tapped
because
retained twinkles
shutdown never ensued
always listening
song heard
released at terminus
repeat ready

Yvonne Opalinski, *Number 61*, July 2019

The importance of words sequenced in terms of themselves and their qualia, permitted me greater play with them. Abandoning rules generated that space inside the interstices through their substance. I did not intend to represent anything specific. I did intend to bring the inside out through feeling each word's iridescent chaos.

I have spent the last few pages structuring words as substance through sound and describing my entry into them as a medium, yet I am actually discarding traditional notions surrounding the medium of language. Insofar as its rules and regulations had to be abandoned in order for me to write poetry, words' materiality and meanings solidify and disperse through this process. Rosalind Krauss suggests, 'Duchamp's preoccupation with *n*-dimensional geometry must itself be seen, I think, as a way of thematizing the problem of invisibility raised by the unconscious, just as his speculations on the *infra-mince*' (Krauss 1993, 459). I propose Cézanne's iridescent chaos and Joyce's musical prose materialise a post-medium condition through the *inframince* into a visibility within sensations that enter the mental substance of artist. This centralized embodied experience of the creative act ruptures the *inframince* membrane, opening that liminal interval of the dyad between. In other words, our initial contact is the point of the *inframince* and this is followed by sensations that

become perceptions through our intellectual awareness. As artists, we assess what this awareness means, how we intra-act and what the outcome of this intra-action will be in the manifested artwork. That is the interstices between sensations, thought and cells. It is the gap filled with nothingness/everythingness.

Duchamp wanted to rupture the *inframince* and thereby understand the constituents of that interface. Words as substance in my art practice materialize this rupture. As my work and works such as *Finnegans Wake* manifest, feeling and sensation reconstruct words through thought from the interstices to the outside. As such, my art practice, Joyce's disintegration of language, and by extension Derrida's interdisciplinarity, establish societies of atoms and etyms that form new substances and new languages through unions of disjunctions and the cutting together/apart of the disparate itself. As members in this society, words flip from a support to a medium just as animations do in Kentridge's process.

Delicately unfurling through their sound relations and emerging textures, words as multi-faceted shimmers of meaning transcend grammatical structures. On one hand, they are very much like notes or the right sound fitting in with my animations, evocative, independent and entirely capable of being 'themselves' particularly in the rhythms that form in their relationships between each other and us. Conversely, unlike music, their materiality offers resistance and depends on our doing. The extent we let go and allow words to intra-act with us determines the density of their material substance, which separates their mattering from that of music. I emphasize that these were intuitive conclusions words made apparent to me very quickly in my flirtations with them once I silenced myself and opened to their possibilities. During the course of my research, I determined that words become matter in us first through their sounds and then with our thoughts. Only in the subsequent research of my thesis, have I discovered that this is the essence in which Stéphane Mallarmé also believed. I examine the implications of these discoveries now.

Mallarmé saw that language acted like a prism not a window. According to literary critic Barbara Johnson, language as a prismatic substance defined its linguistic

materiality for him such that sound, semantics, space and syntax transcended a ‘one-to-one correspondence with a meaning’ (Johnson 2001, 800). She argues that the revolution in his writing, both prose and poetry, stems from altering accepted syntactic structure, which I suggest parallels what Schoenberg began and Cage continued with music. These composers strove to dismantle the linearity of music, both spatially and in time, recognizing its multidimensional nature through each note, which reflected in their music experimentation freed from musical syntax. Mallarmé did the same with *Un Coup de Dés* foremost in the words written, but also in their spatial placement across two pages as these selections from *Un Coup de Dés (A Throw of the Dice)* illustrate:

SUPPOSING

the Abyss
whitened
glassy
furious
beneath a declivity
compacted desperately
on a wing
its own
in

advance fallen back from a failure to take flight
and stifling the torrents
cutting short the swell

deep within recapitulates

the shadow buried in the deep with this alternative sail

IT WAS
progeny of the stars

IT WOULD BE

Worse *not* *more nor less*
Indifferently but just as much

THE NUMBER

WERE IT TO EXIST
otherwise than as the sparse hallucination of agony

WERE IT TO BEGIN AND END
unheard but negated and closed when it appears
finally
through some profusion of dispersed rarity

WERE IT TO BE CIPHERED

evidence of the total sum in so far as there is one

WERE IT TO BE ILLUMINATED

CHANCE

Down falls
the plume
rhythmic suspension of disaster
buries itself
in the original foam
whence its delirium formerly leapt to a summit
blighted
by the identical neutrality of the gulf

[IX]

Stéphane Mallarmé, *Un Coup de Dés*, (1896 - translated by Quentin Meillasoux in *The Number and the Siren*).

His spacing of words form the *blanc* or blank, the whiteness of the page. The *blanc* page for Mallarmé amounted to a creative page or power before which he could sit down and something would write itself (Valéry 1972, 382). I suggest the whiteness gave the words room to breath allowing them ‘to scintillate as if decontextualized’ (Meillasoux 2011, 46), so that, ‘Words, all by themselves, light each other up on the sides that are known as the rarest or meaningful only for the spirit, the center of

vibratory suspense' (Mallarmé 2009, 235). The *blanc* acts as the white wall of the gallery that sets off words' colourful interplays, just as Rauschenberg's *White paintings, 1951* gave Cage's 4'33" room for environmental sounds. In this vein, the *blanc* functions as 'a reservoir of meaning' in which the text folds in a constantly evolving space of indeterminate connotations (Derrida and Attridge, 115). For me, the spaces around words burst with morphing meaning.

In the *blanc* of silence, the dyad of the word experiences the multidimensionality found between Kentridge's drawings and animations, which philosopher Alain Badiou expressed as the 'silence to say that which is impossible to say in the shared language.... This is why the poem demands in its own words the operation of silence' (Badiou 2014, 25). The *blanc* fulfills that role of the negative space, an indeterminacy in which I can wander and access the interstices. In silence, I intra-actively diffuse into something else and locate meaning in those transformations I then translate outward for your consideration.

I contend that this space is essential in art making. In *On Not Knowing: how artists think* by Fisher and Fortnum, artists' notions of materiality, reciprocity, space and silence are threaded through the text. This thesis pulls together some of those ideas that book introduced. Of importance, my art *Unhinged* works to push and expose them further. My thesis structures these ideas firmly within a borderless physical/metaphysical ecosystem found inside of all of us. Specifically, I explicate and build on Whitehead, Derrida and Barad in relation to art practice and material processes bringing the space of the betweens, the hidden interstitial spaces, into the spotlight as the essence to knowing and not knowing.

In the interstices, artists lose their ego and let go. The difference between Cage translating Joyce and the *blanc* is such that if this room is missing via artist omission, the work has no air in which to breath. Receivers of this art cannot explore those lacunae around the work, causing a failure to intra-act. Nothing new is generated, no new interface or *inframince* forms to rupture into something fresh and the art effort dies. Returning for a moment to *Roaratorio*, Cage controlled every aspect of what we heard from which I wanted to escape. In contradistinction, Joyce's mass of fragmentary detail was not controlled to produce meaning, rather meaning was allowed 'to arise out

of that mass by the operations of chance' (Attridge 2004, 120). It is the difference between annihilation and regeneration.

In the process of deconstruction and reformation, I discovered through my animations that variation of font and font size produces physical and sonic change in our reading similar to the crescendo and decrescendo in music, which enhances the sensation of space and movement. Mallarmé used this in *Un Coup de Dés*, which I magnify in my animations. Spatially structured like this, words become interior movement exteriorized. In *Number 87—in memoriam, de*, I play with words across the page as this excerpt shows below:

Number 88 – in memoriam, de

Never knew you

only came to know

myself

slowly

Blancs not the same for me

Ever.

can't recall you before

translations not applicable

were there you yet

old goddesses spent

Started finding words

DEEP

your language
inconcrete
found another
more accessible
musical

Language of song.

still not my own.
Someone else's words.
someone else's music
though owned it

DIVING

in play
privately
no reverb
just me in my head
renouncing
ignoring rules
formality

RELEASED

finding me
loosing me
on the streets of Paris
in Rome
everywhere
then.....**HERE**

where it always was

knew it

New not enough

until enough made itself known
slowly

insidiously

continuously

reconnected

never disconnected

my words

owning me

intertwined

finding

me

impenetrable

open

Selection from **Yvonne Opalinski**, *Number 88—in memoriam, de*, (May 2020)

To some extent, because animation makes up part of my medium, movement of words across the page is not the same for me as perhaps it was for Mallarmé in *Un Coup de Dés*. I flip words, alter their size and trigger external motions to move words inside out. Mallarmé did not have this medium of computer. Interestingly, the above example is possibly the closest a work on the whiteness of the page interfaces with my animations or how I feel words. Our commonality is in the rhythm of words Mallarmé felt

spatially in their movement and multidimensionality of meanings as do I when they rise and crumble in their dance of rectification throughout my animations.

In *Number 88—in memoriam, de*, the play of sound oscillated syntax and word as a springboard from which words liberated themselves. Such movement beyond activates that static *blanc* of Mallarmé. In *Divagations*, Mallarmé describes letters as musical notes across pages, which he materialized in *Un Coup de Dés*. On the page, words seem to me somewhat trapped in the materiality of paper as are musical notes, but like music are liberated through me. In *Number 88—in memoriam, de*, the *blanc* of the page provides visual evidence of play and spatial movement, not so much of letters, but words dancing in the splendour of language. *Unhinged* develops this motion further through the literal somersaults and contortions through which I animate my poems in them.

Both *Un Coup de Dés* and *Number 88—in memoriam, de* invite material engagements much in the same manner the note is heard in my head using auditory imagery before it is externalized in song. Today this use of the *blanc* hardly appears revolutionary. What must be remembered is that Mallarmé was the first poet to break these conventions in the European languages. Mallarmé did so in *Un Coup de Dés* because he heard words as music. Mallarmé's radical play with syntax has been characterised as, 'the Symbolist concept of music as pure grammar' (Sieburth 2001, 796), in which Mallarmé understood that 'Music and Letters are two sides of the same coin; here extending into obscurity; there dazzling with clarity; alternative sides to the one and only phenomenon I have called the Idea' (Mallarmé 2009, 189). Mallarmé's intellectualization of music as pure grammar moves the word from a mimetic reflection into a direct expression of thought, in which the word becomes music, what Walter Pater termed pure abstraction, where form is also its content.

Interestingly, Pater is credited with shaping the modernist movement at the turn of the 19th century (Donohue 1995). The art critic saw music as the artistic ideal, 'in which the constituent elements of the composition are so welded together, that the material or subject no longer strikes the intellect only, nor the form, the eye or the ear only; but form and matter, in their union or identity, present one single effect to the "imaginative reason"' (Pater 1901, 138-139). In effect, Pater stopped short of

describing the subjectless state of music in which we become instrument, music and new substance inside the art coefficient and words in their multivocity become music.

Nonetheless, Pater and Mallarmé saw ‘their paradigm in the idea of music rather than in music itself’ (Donohue 1995, 321). I submit that ‘the idea’ of music manifests in our instrumentation. This is the same point words transubstantiate in us so that the idea becomes the word. Music, word and visual art are one in the same at these exact points of contact in the inframince during their process of becoming matter. I contradict Pater and Mallarmé in that neither words nor music are ever pure abstraction, never solely *just* an idea, because of their materiality in us. Within this paradigm, nothing can actually ever be an abstraction. My art practice hinges on that material power of words, which, according to Blanchot, Mallarmé wanted to restore precisely to de-solidify objects, so that transitions of meaning make them vanish (Blanchot 1995, 32-33). Joyce employed this principal in *Finnegans Wake* to achieve the subjectless state and perhaps explains why some refer to him as an alchemist.

Such alchemy melts subject and object and may be thought of as ‘the unity of the word’ Derrida used to describe Mallarmé, in which a disintegration ensues so that the word releases its energy and no longer functions as the primary element of language (Derrida and Attridge 2015, 116). Derrida suggested that the constant folding of the *blanc* and of words creates dissemination of meaning into infinity (Derrida 1981, 265). I suggest that such infinite dispersion showcases how the word is meant to operate – that this is exactly how sound helps to disperse in us these layers of play that access new meanings. Joyce demonstrated it in *Finnegans Wake*. Pushing farther into this beyond on the words that sound in our heads, I submit a refutation of Derrida’s belief in which the spoken word has privilege over the written *because* they sound. Hearing words triggers all the subsequent relations that shape new realities in us. Such disintegration may be easily understood with music in its syntactic unfolding or in the metamorphoses of line and shape within the drawings of my animations, yet the same transpires through words’ porousness and density, which determine what lacunae open on that whiteness of Mallarmé’s page. The embodiment of word in us through the function of sound destroys the hierarchies of spoken over written language. When we

see written words, we still hear and feel the sounds as Joyce proves in *Finnegans Wake*.

I extend Blanchot's suggestion that, 'Mallarmé gives language the mission of referring by absence to what it signifies' because only by qualifying 'the defined void the object creates by disappearing, will we begin to glide toward the image' (Blanchot 1995, 32). Only through the dispersion of the word's first material presence in us can its next materiality form. Only when material substance becomes subjectless can we move into the void, an absence where internal understanding is freed from the distance of object. It is in this second material formation that implied meaning structures gaps for audiences to engage with their thoughts. This other aspect of Mallarmé's *blanc* then opens negative space or a space of absence as a richly saturated space of indeterminacy. Here, inside a nature that abhors vacuums, the *blanc* transitions into Cage's silence, Duchamp's gap and Cézanne's iridescent chaos.

Our avoidance and diminished awareness of the subject-object contraction means we are not accustomed to describing it. Whitehead and Deleuze, among others, conveyed transubstantiation inside the transcendental field of potential energies or the plane of immanence.^{60, 61} To a large degree, because they worked in the metaphysical realm, their discussions maintained that distance of the abstraction, although both were adamant that any transubstantiated becoming was only possible through feeling without separation from intellect (Whitehead 1929; Deleuze 1990). I maintain that creative transubstantiation occurs through our material feeling and its intellectual response manifested in our doing and making within the interstices. Going one step further, I advocate that their field of potential energies actually is the fluxing fluids of the interstices where matter and energy meet and so the dyad between transcendental and physical is actually grounded within us. I expand my explanation now.

⁶⁰ See "Chapter XI: Objects and Subjects" in Whitehead, A.N., 1939. *Adventures of Ideas*. Cambridge: the University Press.

⁶¹ For further reading on the transcendental field see Deleuze, G., 1997. *Immanence: a Life.... Theory, Culture & Society*, 14(2), 3–7 and also Deleuze, G., Boudas, C.V., Lester, M. and Stivale, C.J., 1990. *The Logic of sense*. London: The Athlone Press, pp.99-111.

The de-solidification of object marks the subjectless state and is the key to the egoless interstices. In this interstitial pool of atoms, etyms, notes and particles, in this iridescent chaos, subject and object vanish. What emerges is another entity, a new material feeling Mallarmé famously described as ‘now impersonal and no longer the Stéphane that you knew, — but a capacity possessed by the spiritual Universe to see itself and develop itself, through what was once me’ (Mallarmé 1988, 74). Mallarmé expressed the subjectless state, the state of nothingness and everythingness, in which words found him inside that realm field theory and the plane of immanence endeavour to describe. This is the negative capability of which Keats spoke more than half a century earlier.

While both Whitehead and Derrida mistrusted words, Whitehead because everyday language was a superficial variable of experience (Belgrad, 124) and Derrida because the Mallarmean fold folded into a dissemination that ‘affirms the always already divided generation of meaning’ (Derrida 1981, 268), I submit that words in themselves provide an understanding of the creative state through their dissemination. I expand on this by pointing out that Derrida’s divided generation of meaning inside a fold cannot actually be divided. The fold is a highly connected and diffractive origination of meaning.

Because words are sounded in our heads, spoken words are sounds that accordingly find materiality in us like every other sound. By turning them into musical notes, Mallarmé altered the role of words away from a representative communicative tool which separates subjects, objects and actions. Music as pure grammar describes how I treat words. Words as pure music dismantle syntax, which I illustrate in poem *Number 98* –:

Number 99 –

strange comfort
in you
all
entwined roots

rhizomatic
said he
mystic
feathers
crashing
high seas
sweet sounds
guide
the blind
inhale
into the core
out
write rhythms
themselves
heartbeat
tellurian
intragalactic
zero decay
below
above
through

Yvonne Opalinski, *Number 99*, January 2021

Within the potential of the material word exists the absolute magic of its dematerialization and emergence into something else. The potential of all materiality lies in its evanescence, in the visible alchemy concerning substance. As a mechanism of transitions, the animation *Unhinged* becomes a de-solidification and reconstitution, a kind of transubstantiation, where each constituent lights up the others 'like a virtual swooping of fire across precious stones' (Mallarmé 2009, 208).

For Mallarmé, when words expressed the intellect, they fulfilled their primary function 'to demand that the reader should be intellectually alert; to forbid him the privilege of completely possessing a text except at the cost of a somewhat painful effort' (Valéry, 274). I assert that these multi-layered mergings characterise complex relationships between sensations, intellect and perceptions and are established because the materiality of words pushes back against both author and reader. Resistance to

words' substance stems from their double conception within us and may be more fully understood when viewed through sensations. Sensations here are key.

Meaning in music develops through the feelings it instigates during their physical mattering in us, when our internal ear's hair cells are made to vibrate because of the sound waves of music passing over them. Words become substance in us the moment we hear them voiced externally or sounded in our heads through auditory imagery. Mentioned previously, auditory imagery is the perceptual experience of a sound in the absence of external sound perception.⁶² Reading requires this sounding out of a word in our heads and triggers the same material intra-actions via our sensorimotor systems as externally sounded words. Through our thinking intra-actions with words, a reciprocal transubstantiation occurs. How deeply we want to think about them forms our agential cut that determines the intra-action. In a reciprocal agential cut, words offer the resistance of which Valéry spoke.

This resistance occurs in music, but the push-back is stronger with words perhaps due to their history as a communicative tool, more likely because music and sound integrate in a dispersion through us and we become their instrument *without choice*. They cannot offer the same resistance as with thought-word matter formation. Most certainly, in this second mattering, words develop variable densities contingent on those reciprocal agential cuts, which assemble the word, so that the same word has varying densities of meaning depending on the moment of intra-action in the agential cut.

In Maurice Blanchot's book, *The Work of Fire*, Blanchot described language as destroying the material reality of things through its abstract power, where words work in contradictions, having the somewhat circular ability to create reality and obliterate it

⁶² MRI studies have shown an intimate link between sensorimotor and imagery processes. Auditory imagery recruits the same brain networks that respond to heard sounds. **This includes words that are read silently.** Interestingly, the sensorimotor systems in our brains respond to complex auditory information without any associated movements. Imagery processing, both visual and auditory, share sensorimotor networks that are activated in the absence of external stimulation. (Lima CF, Lavan N et al. 2015, 4639). This implicates a direct connexion between the physical and the noetic, which are connected in the interstices.

(Blanchot 1995, 31). In my work, every engagement with words creates a material reality and acutely relies on their somatic density in a society of atoms. Their meanings shift material realities beyond grammatical functions through linkages into diffractive nexuses. Such complex metamorphosis is a continuation through the material substance of reality rather than an obliteration or an abstraction. Moreover, this understanding of reality shapes the subjectless state found in Duchamp, Cage, Derrida and Mallarmé and is the actuality of Joyce. Such knowledge locates the interstices as amorphous dyad between what is and isn't.

Over the course of this chapter, I aligned words with sounds and discussed how the musicality of words opened for me the aperture into their interstices. Positioning words with music materializes their substance and disintegrates grammatical structures of subject-object, allowing for openings and transitions of meaning. Perhaps, dissolution and generative dispersion set the only rules for art creation. If as Blanchot described Mallarmé's poetry, the void created and defined by the object's disappearance draws us toward the image, then art only fully exists in the interstices. Mallarmé recognized each word carries in it the capacity to morph into multiple versions of itself. The apparent concreteness of words that establishes not only meaning, but subjects and objects, in fact belongs to that lush oscillating world where words and indeed art are neither inert nor concrete, but also certainly not abstract.

I conclude this chapter with a final thought on my experience with *renga* as an illustration of my generative dispersion into everythingness. Although we did not follow the strict structure of Japanese *renga*, *renga* the artform dictated I let go of ego and look towards self in relation to the collective 'cells' within. Lines from the preceding poet would sometimes fuse with the next person and sometimes remain tangential despite the topic of environmental sustainability. Clearly unplanned, unexpected meanings and double meanings arose from the juxtaposition of separately authored lines of poetry. Authorship became an instant *non sequitur* the moment each poet joined the circle.

Although as an individual I controlled the words I voiced, their meaning dispersed between the poet preceding me and that coming after. Nothing that came after me mattered to the same extent for I was already dispersed and by the time the circle returned to me, thoughts and words altered along paths too far to reign back to where I might have wanted them to progress. The present relentlessly evolved from one to the next poet, whereas the past was fleeting and the future quicker still. Time stopped being linear and started resembling the revolutions of Duchamp's *nth*-dimensional wheel in the circle we formed. Nothing was transcribed so that once the collaborative poem was finished, it was indelibly gone. This experience with *renga* vividly demonstrates generative dispersion, a subjectless state of released authorship and the powerful performative aspect of poetry.

Here, Mallarmé's proclamation in which an impersonal self becomes realized through a 'spiritual Universe', may be translated as a very tangible process of openness. This impersonification, according to art historian Thierry Davila, manifests a 'reflexivity of thought detaching itself from the person, mind without a subject, [which] was very much the repeated sign of the coefficient of art' (Davila 2020, 8). Yet, I find this to be a reverse understanding of the intimacy within self-dispersion in a spiritual universe where mind without a subject cannot be an impersonification. In the case of *renga*, this amounts to the gap or differential between each poet in the circle, which becomes Duchamp's art coefficient that unlocks the intellectual dimension. Each participant experienced a physical-noetic reciprocity to fabricate a product that was part of an infinite process. We became instruments, performers and creation all at the same time inside a diminishing sense of subject-object separations. *Renga* blows up these small, internal spaces so we can see that they are one in the same. In a parallel process, this has been our exploration, mine with you, through my thesis and its art practice. Each of Cézanne, Mallarmé, Joyce, Duchamp, Cage, Chopin, Keats along with others join me in *renga* to form a circle of artists, moving between and through one another to connect and disperse as new material art.

5 Conclusion

This last chapter draws together the ideas that shaped and continue to shape my research. I evaluate my findings and summarise these discoveries. I start with a synopsis of the concepts prompting this thesis and then discuss the methodology developed as an experimental response to them. After that, I consider the outcomes emerging from my animations and the wider observations and meanings I drew from these findings.

This thesis is as much a merger between art and science as it is a working example of interdisciplinarity. My start was the intersection between three elements: spacetime, Cézanne's collapsed subject and object, and Duchamp's gap. In the Introduction, I began with Jane Prophet's account of process-based art, which does not fix the object of study or subject in advance and permits emergence in the research process (Pritchard, Prophet 2015). She placed this in the context of a diffractive art practice which led to my investigations of Karen Barad's ideas on matter creation inside quantum mechanics.

These inquiries along with my foundation in physiology enabled me to contextualise space and what occurred inside it as the cohesive matter between those three points. I identified this space as the interstices. Through its identification, I located a critical place of change and knowledge generation. My sensitivity to its importance increased when Whitehead, Stengers, Barad and Keller among others mentioned the interstices, the betweens, with only enough pause to insinuate their significance. This is not a well-known space, not even in the realm of medicine where it is given little thought unless it creates problems for the body. Beyond the medical and dictionary meanings, what it is, how it functions and why it is important remained hidden, but I have come to define these points here and open these spaces for further examination.

My thesis redefines space, both macroscopic and microscopic, and does not apply the conventional definitions in which space is a vacuum or a measure of

separation. Rather, like Cage's silence, I see that space functions as a contradictory site that is never empty and always materially changing. Because of this, inexorably linked to space is movement and, with it, the metamorphosis that brings change. Space takes many forms as I illustrate with the examples of *renga* that run through this thesis or the morphing images shifting throughout *Unhinged*.

Macroscopic structures of space become necessary to illuminate *how* nothingness generates the metamorphosis of matter. Yet as a biological space in the absence of our consent, the interstices also microscopically ground us with absolute precision to our physicality. These interstices are the same space that the evolving field of quantum biology is only beginning to understand. In this space materialise Barbara Bolt's material thinking and Karen Barad's agential realism. For these reasons, the interstices are a space of importance.

I am expanding on those ideas from 20th and early 21st century thinking to generate an understanding of this space that breaks down separations and intensifies the comprehension of our interconnectedness as presented through *Unhinged*. It is through interconnectedness that I enter the 'Bogey-land' and find it constituted by an ecology of sense that manifests as an 'inter-relatedness between the biological and social ecosystems and the mental life of nature and man' (Theall, D. and Theall, J. 1989, 51). In this sense, my research accomplished my two aims: to expose outward connections and relations with art, biology, physics and metaphysics; and to establish how the interstices formulate understanding from inside that space. Both aims are immanently transferrable because they dissolve the Cartesian disconnect.

Ultimately, the attraction of spacetime and, by extension space, is one of indeterminacies. In this concept of indeterminacy, the three elements of art, medicine and physics meet. As a result, I could approach the following questions: how are spacetime, Cézanne's subject-object collapse and Duchamp's gap related? How does space explain these three ideas? Why is this important? What function do the interstices fulfil as these spaces? How do they manifest? That analytical approach

increased an awareness of the tools available to me that suggested a fresh means of exploration.

Such a consideration also enabled me to focus on broader phenomena linked to space culturally and scientifically. What then became obvious to me about the interstices were the commonalities between basic principles of physiology and quantum physics in relation to critical art process. In order to explore what physics and metaphysics considered a 'Bogey-land' of indeterminacy, my own practice concentrated on the problem of space, endeavouring a critical refinement of what space is, how it is thought of, accessed and used. Accordingly, in my studio practice, my selection of materials was determined by space.

My method incorporated ideas in physics and philosophy that comprised the grey-zone inside biology, which I applied and extended in the studio to juxtapose digital animation, sound and poetry as materials demonstrative of space. From the outset, this choice of materials helped shape my understanding of space in a relationship that Kentridge's reciprocity and Barlow's material journey fall short of adequately describing. In my intra-actions with these materials, my practice developed an active, organic conversation between its elements inserting and asserting themselves that went beyond my control. I noticed that it was a very active positioning of materials in their own right that allowed those elements such as poetry to come alive and create their own spaces for nuances.

Foremost, the digital manifested virtual space inside a physical state. This reminds me of Jean-Francois Lyotard's notion that the body is 'the hardware for the complex technical device that is human thought' (Lyotard 1991, 13). He blamed Whitehead and Russell for imposing on us bodiless thought operating on mathematical binaries, arguing instead that we work intuitively. I remodelled the Cartesian idea of binary into an inclusive, organic and connected dyad to account for the embodied intuitiveness of sensation, which leads to a reworking of sensation through intellect.

Dyad was always the central feature in my visual practice, leading to the realisation that its interval was the space of importance and another macroscopic

example of the interstices. This aspect of the animations resolves the duality of space as emptiness and matter on multiple levels as evidenced from the qualia inherent in the technology I use to the spaces moving in tandem with the images in the animations. Multiple dyads form continuously between artwork and participant, sounds and images, images and words, words and sounds and between words and images themselves. As such, my project remains grounded in materiality and the metamorphosis that emerges from it.

The second feature evolving from a reflective analysis of this enduringly mutating dyad in my art practice was a reconsideration of the specific descriptive term, animations. In the context of an exploration of space, the term 'animations' was always about externalizing and conveying the space of these dyads. I saw that the poetry contained a foundational internal volume between letters and words that I could use to expand visual space external to the animations. Because of this intense visual property, a more precise way of thinking about these animations may be to describe them as expanded spatial poems. In this respect, they share attributes with *renga*, where words inform drawings which inform sound in expanded, endless coils or n^{th} dimensional discs. To this end, I now refer to my animations as expanded spatial poems.

As a third point regarding materials, this experiment demonstrates how vital is the elevation of our mental awareness to physical sensations in phenomena. By this I do not include our base processing responses to stimulation. Those varied materials of the digital, sound and word ultimately engage our embodiment without choice using neurons and central grey matter as part of our physiological composition. In particular, I am talking about our sensations not being ignored, not being simply responses of biological functions or stimulants for emotion. We have used those material engagements that occur without choice as an excuse to ignore and remove our agency from those materials and to distance them as objects, claiming supremacy of understanding over them as a result. Rather than removal or separation being a condition of agency and understanding, I have demonstrated that our agency is

dependent on those intimate intra-actions determining the agential cut with respect to each material individually and from this our understanding develops.

This is the randomness Cage sought, the liberation from logic Duchamp chased and it depends on our macroscopic awareness of these subtle, microscopic events, changes and movements. To this point, sound and the sounded word integrate instantaneously in us. They place us without permission, I contend, in the interstices through our composition as sensory material beings. Uniquely, the materiality of sound and the sounded word relies entirely on us as instruments. Arising from that comes the recognition that visual art operates exactly in the same mode despite our capacity, as neuroscientist Alva Noë noted, to not 'see' detailed pictures of the whole because our vision deploys virtual representations (Noë 2001, 44-45).

Yet, the difference of hair cells versus rods and cones or sound versus light waves becomes a problem of medium and not matter, where the visual offers cortical modes of obfuscation that sound, in particular, does not. *Unhinged* works past the contradiction of virtual and physical because its images, sounds and words expose our occupancy in the interstices as a real space where we are not necessarily in control. Not that control matters either, except that a lack of control makes most people uncomfortable because it seems to assault ego, which makes us maintain the separation of subject from object to perpetuate Whitehead's bifurcation. Our awareness of being inside the interstices does matter and this requires an egoless state open to nothingness and its subsequent knowledge.

How useful is this information that reaffirms and relies on interconnectedness and a continuum? Why is a subjectless-objectless state important when everything in knowledge acquisition has to date been meticulously built on separations? Science drives a reductive understanding of understanding based on separation and distillation. To some degree, I have done this with the interstices, yet I have also demonstrated that through science we can embrace complexity and broaden out again as Whitehead suggested when he decried the grooves of thinking produced by specialisation. I have used art and multiple media within it to show how we are linked, physical beings who

should not separate intellect from emotion or physical from virtual. We need porous interfaces and gaps, invitations for contact in order to think beyond the representation. This thesis is an invitation into a real space identified as the interstices, which merits investigation. It has opened this space so others can enter to do precisely that.

The dissolution of the gap between subject and object is not easy. It removes our safety zone and the prescribed certainty of object information. It demands a dispersion of ego. There can be no perfected identity in this subjectless-objectless state because, to paraphrase Imogen Parker's observation on atonal music, it offers no resolutions. What instead opens is that negative capability described by Keats as a willingness to be an integrated participant who seeks no control and is 'capable of being in uncertainties, mysteries, doubts' (Keats 277). This is the iridescent chaos of Cézanne. This demands that we stop observing the world externally from a position of ego and its hierarchies. In its place, we must listen. We must be open to hear the sounds of our internal intra-actions that crumple old orders of understanding. This requires a paradigmatic change in thinking so people will make new links and fresh connexions from the inside.

In this sense, I would like to consider my approach to doing and making through expanded spatial poems as an example of the curative potential Bernard Stiegler saw in the pharmakon of the digital (Stiegler 2016, 159), moving it away from a toxic technology of separations. Within the spaces that collapse subject-object, the digital assumes a material character in the manner purported by Barad through intra-actions in quantum mechanics. This goes beyond a destructive erosion of interdisciplinary boundaries. What I am proposing is an integrative approach to being and understanding that instigates metamorphosis, in the same vein that medicine is only now in some limited ways beginning to incorporate archaic separations of bodily functions, emotions and intellectual systems to consider the body as a unified intra-action. My original contribution rests entirely on the collapse of such separations.

Such an environment offers rupture and renewal or flux as logical consequences in an organic process. It acknowledges a dependency on movement and change that

we have thus far been unwilling to recognize and reverses this wrongful idea that object may be understood only from a distance by external measurements and parameters. Instead, this is a method of bringing things together to affirm that old scientific ways of seeing are mistaken and that knowledge cannot be limited to a set information point in a moment of time. These antiquated grooves no longer function except to show us that their disintegration is a mandatory condition for physical-intellectual knowing within quantum reconfigurations.

Thinking from the inside out may be superficially dismissed as the way we always learn and do things, how information is processed and spat out by our brains, yet such a dismissal precisely verifies those boundaries and barriers this thesis seeks to fragment and reconfigure. The way we have always done things endorses a separation of subject and object illustrated in the struggles I first encountered in my art research, where the computer and its accessories were simply the technological supports to which Rosalind Krauss refers. Not until I learned to let go of my authority over them did their solidity loosen and barriers dissolved. Their qualia became porous and accessible in a manner similar to paint as evidenced in the freedom I found with colour-mixing in *Unhinged*.

This thesis demonstrates how I feel and think these qualities and try to write about the space of the interstices in the most accurate way possible, yet the resistance of words, as Mallarmé alluded and Derrida expounded, always creates a compromise. I am never entirely in control of words or the messages they send others. This is their strength as poetry and their limitation in this thesis. Because I write about the between, I can describe the poles of their dyads, their right and their left, yet I ask you to enter that interval between, to experience it and thereby live inside it through *Unhinged* because your intra-actions, agential cuts and metamorphoses are different than mine. Fixed conclusions and outcomes, the consequences of my thinking, are tricky to communicate here because this is not a tweak in understanding. It is a fundamentally different way of looking at things. There is still work to do. In practical terms, there is still the necessity to let this knowledge settle to allow the body of art practitioners and others figure out where it fits in. Its implications cannot be

prescribed, because its nature depends on every individual's cuts. Rather than being a short-coming, this indeterminacy inside the interstices is the importance of my contribution.

Appendix A – Poetry Journal: Excerpts

The following poems are arranged in the order of their appearance in this thesis.

3.7 February 2018

Number 9 – No Rest for the wicked

Noise outside, noise inside no hope for sweet silence.
4'33" an illusion of participation,
failed experiment makes not a musician.
Notes whirl in the eddies and dissolve before their birth.
No mourning for the unwritten.
Draw your coat close about your face
as blustery winds roll off the sea.

Clamour fading, clamour rising over the din of who knows what.
White paintings floating into oblivion,
only as good as the final cut.
Strokes furrow the smooth surface and nothing grows.
No remembrance except if someone deems it green.
Swim faster towards the silvery horizon
before your heart goes numb.

Screech inaudible, screech discernable in the last ditch.
Invisible sculptures evaporate faster than the inkling,
those fifteen minutes sheer invention.
Not clay nor marble, not Plexiglas nor metal
last beyond novelty into permanence.
Reach the hushed vessel gliding in golden rays
as water swaps air and you drift upwards.

Exclamation influential, interjection a footnote.
Voice discerned in reservoirs of frames.
Just a connected glance or glimmer from desirable conditions,
next best thing established over night.
Tired of the hustle and the fabricated platform.
A skeleton yacht shimmering faintly
and no harbour for your soul.

3.8 April 2018

Number 19 ~ Ode

Never was this the plan.
Nothing that halts
the attack.
Old soul in an infant.
Storm clouds not
of your making.
Misunderstood in the push back.

Death sentence unfolding in time,
Premature by any standard.
Knowledge carries relief,
not in the physical,
only in knowing.
Information imperfect.
Skepticism greets your complaints.

Never in the design.
Talk of potential impossible,
choking on every word before uttered.
Perfection the minute our eyes met.
Thought you would be spared.
All indications normal until not.
Compassion missing inside.

Alien landscape.
Ambiguity the only certainty.
Negotiating strange territory
every step with you.
Cautionary furrows on your face
as you release my hand.
Garrotting atmosphere.

Never my intention.
Solitary excursion intolerable to imagine.
Injustice irrelevant.
Scorched domain of exclusion
Watching you negotiate
reassures if even possible.

Redemption not in the cards.

Futures melt into pasts of present.
Navigation minute to minute
on jagged oceans.
Bizarre thievery.
Wishing organs never fail
in the siege redefining interiors.
Inconceivable morphs into normal.

Never was the objective.
Imaginings another story entirely.
Rest while your armour holds.
My strength useless against this onslaught.
Drifting from the harbour long ago,
phantoms battle unrecognised.
Nostalgia a terminal crock.

3.9 April 2021

Number 106 –

Believe me
that feather was a herring
toy for an era
like cellphones

Watch it
passes instantaneously
this weak form
loved but never cherished

Hear yourself
criticize
not analytical enough
to enact change

Feel nothing
not an answer
for numbed souls
that forget

3.10 July 2021

Number 111 –

Through this window

restricted

or is it

PLACE?

How to feel free?

Why does it matter

No story this

no legend needed

every tale

HERE

or there

ambivalence a feature

of our subspecies

contradiction really

stimulation the thing

that drives

the idea

nothing less matters

THROUGH THIS

WINDOW

where

I

search for

HOME

3.11 August 2018

Number 29

Hence the answer lies
from the poet's notes
if ever were they written.
Instances flow
without division
and shape the vessel
as it goes
from one form to another
into an arc
of continuity
which needs not a subscription
to linear intervals in a cosmos
described in detail
for how it was
will be again
without distractions
as some truths dusted
here and there
grow obfuscated
through each touch
until silence
transforms into ignorance
of the eternal heritage
but for a hum
that recollects those threads
and locates an essence
essential to
invention

3.12 June 2021

Number 109 –

sweet silence
 craved you
 impossible
 incessant
 bodies galore
 loved

bustle hustle
excessive
transformed
 when?
 as markers piled high
 sound into noise
eroding shorelines
incessant
turning me into sand
carrying bits away
not for profit
 dispersions of another kind
THEN
 hush
 without plugs
 commotion evaporated
 stillness freaky
 what I wanted
 not what I want
 isolating
 adaptation unnoticed
 just different sounds
 pestering me
 absent

NOW

Number 110 –

NOT FAIR
 life in a nutshell
 cracked
scrambled for consumption
 into passages
 neverending
 missed the cues

uninspired

driven by green
not jealous
dependency distress
transitions protracted

NEVER ENOUGH

forever famished
veins run cold
only hope in emptiness
yearning for immaterial
INDEPENDENCE

3.13 August 2019

Number 67 – not just Conrad

Heart of darkness

No denial
all around
Never expected to find it
in me.

Bad seed

is what I thought
until I ran into myself
kind limits
helpful until too much

Self-preservation

conservation
perpetuation
Kongo not necessary

Grating demands

make my cells separate
find joy in it
satisfaction
gratification

compensation

yet the onslaught continues

scent of compassion
and they descend on the bones
blitzkrieg
when I crave solitude

selfishness
time to make
making in time
down the river

hardship
other lives easier
coveted
on the surface
and so I seem

nothing as it appears
but blackness settling in
cruelty jades
jagged edges
where none before
only hints that could go
either way

Preservation
fabrication

3.14 November 2019

Number 73—

After darkness seeps into dusk
Hear haunting in the air
Stumbling behind cadences of delight
Moon blazing covers me
In shrouded silver
Free
Running with werewolves
Heart pounding in the breakaway
Miss you all in the dawn
Never my territory though tried
Faithful until the end
Grabbed me for her swathed self
A muse

Not responsible irresponsible
Reckless in word only
Heart shimmering from joy
Maybe another word for freshness
Maybe this pack
A novelty until
Alternate haunting raises its voice beckoning
As if there is choice

3.15 May 2020

Number 91 –

unfor**G**ettable
wh**A**t and how
depends on where a**T** most
w**H**ispers never heard
useless for th**E** future
unless ch**R**onicle**d**
same enterpri**S**e
loca**T**ed rarely
no on**E**'s fault
dem**A**nding time
Most precious
stolen at e**A**ch moment
by trifli**N**g bo**o**bs
pa**D**locked in this form
bo**G**ged in self
at all costs av**O**id

3.16 February 2018

Number 11 – requiem

decades
over the edge in a flat world
when the fire died without a hiss
only the blue in my fingers a warning
wild eyed in the desert
sands all seem the same
landmarks swallowed
scorched skin and withered aspirations
adventures lost before begun
intentions never declared
discovered in the trial
lost
first music faded
though the clamour grew
derailed in the process
discovery more a reawakening
flawed in being human
expectations above and beyond
when comfort lives in stasis and
stasis smothers life
twisting like a falling cat
to land on my feet
blinking
at the stranger known
familiarity strong on the inside
etched in stone for both
somewhere in the clash a crack
the calling fiercer than commitment
across the chasm stretching
then tumbling through ice
another realm misunderstood
existence wrestles while the other snuffed
emptiness gaping in an instant
impotence
in clashes with clay soldiers
crumbling as the phoenix rises

realities shift into memories
common ground mislaid
vocation inadvertently relinquished for a hand
released once the price is embossed
complications a penalty for insight
joy in decisive creation and pain
with the everlasting restlessness
unafraid except for oblivion
immeasurable
verisimilitude atomic
woven indestructible with every fibre
promise couched in communication
resolve the opening note
gathers instrumental momentum
one action shoots infinite possibilities
better than synthetic fabrication
tingling with energy as apertures widen
interminable adaptation builds bonds
easy to let go of seduction
achievement

3.17 December 2018

Number 43 ~ Eterna

Softly rises the dawn
in silken pale pinks
before rabble routine emerges.
Dew invigorates air,
masking the heat to come.
Where for my city of domes
into which all roads lead?

Sun hangs in indigo skies,
melding this soul into cobblestones.
No dust nor dinge clasps me.
Ancient life courses through
in sync with every breath
though body born in distant nation.
How so such synergy?

Undulating hills swell
around me in tender embrace.
Only yesterday beloved grounds
for my wandering.
Ripped away twice.
Reminded reflexively in
smells or sounds and there am I.

Perpetual waiting to reunite
with lost belonging
in anonymous presence.
Everything else a visitation
shrouded in grey
with excuses asphyxiating.
Options vaporising.

Fear in his face
hidden behind golden eyes.
Limitation an unwelcome novelty,
ill fitting on my feet.
Jealousy egregious
in unrelenting onslaughts.
Why preclude one for the other?

Negotiations not real.
Compromise for lesser men.
Lesser man for compromising.
Only one opinion.
Incomplete awareness contrived,
masking distress unacknowledged.
Strength not physical.

Light whisper lances blue haze.
Forgotten sensations ripple electric.
Connexion beckons instantaneous,
not pilfered nor smothered.
Emerging from eternal possibility.
Mutual yearning.
Conjoined for all tenses.

3.18 July 2019

Number 61

here it begins
from the inside
silence
straining for a sound
softly
into my head notes form
shapes swirl
coming together
bolts of aftershocks
continuity or not
connection tenuous
exclusive
depends on alignments
every spark
reshuffled randomly
something new
each time
certain bonds
stronger
felt
origins educed eternal
loss for most
run through nerves
to finger tips
to skin
tingling
triggering
calling
only visiting
past, present, future
meaningless meaning
tools tapped
because
twinkles retained
shutdown never ensued
always listening
song heard
released at terminus
repeat ready

3.19 March 2018

Number 16 –untitled

Sentiment clouds not your blue eyes.
Watching her remnant struggle through the motions
hollows any maker's wisdom.
Slipping through the fibres of fibrillating gyri
glimpses of her cool youth surface only to vanish.
Each moment an agony.

Sharp psyche both witness and affliction
worse than the wretched body collapsing.
Resignation a better narcotic than the real thing.
Tempest rises when frustration jabs her randomness
And fatigue cracks your drained shell.
Anguish assails in vain.

Stillness twinkles as present glides into yesterday.
She surfaces again in an ocean of devotion
once fundamentals fade forgotten.
Normality ripples into this instant
replenishing your shield.
Commitment unquestioned galvanises.

Relinquishing familiar footing not an option.
Cherished existence nestled only in this construct.
Then the dried bark of vitality crumbles and nothing,
not even silver glimmers of her,
foils this incarceration outside your design.
Stretchers replace swords.

Warrior stance a way not to fall,
so far from the man inside your mind.
Blocking your path, her residue unaware yet
angered when incapacity exposed.
Delight in precious seconds sparkles
along the passage of your narrative.

3.20 January 2018

Number 6

Tomorrow, tomorrow. Another tomorrow
convinces restlessness to wait.
Secure beliefs around infinity bastardized
in translation.
Temporal failings a sure bet
though when and where appear at will.
Always yearning for that moment
to present as a gift.
No such luck for the ordinary.
Distractions unceasing before, between and after.
Dig deep to find treasure,
certain of its existence though tough the trowel renders.
Submit, submerge and sink into today.
Temptation endorses no contemplation.
Disquiet swirls in acrimonious outcry,
shredding duty so faint desire flourishes.
Pulsating, breathing, diminishing the din,
Out bursts the sistrum.
Sheer grit dances guiltless with Aoide,
entwined in everlasting rhythms.
Waxing, waning, sidestepping inertia.
Ear bent with anticipation,
Ever ready for the guest.
Afraid of sandstorms
in my ears and
in my eyes.

3.21 May 2020

Number 88 – in memoriam, de

Never knew you

slowly

only came to know myself

Blancs not the same for me

Ever.

can't recall you before

translations not applicable

were there you yet

old goddesses spent

Started finding
words

DEEP

your language
inconcrete

found another
more accessible
musical

Language of song.

still not my own.

though owned it

Someone else's words.

someone else's music

DIVING

in play
privately

no reverb

just me in my head
renouncing formality

ignoring rules

RELEASED

finding me

loosing me

on the streets of Paris

in Rome

everywhere

then.....**HERE**

where it always was

knew it

New not enough

until enough made itself known
slowly

insidiously

continuously

reconnected

never disconnected

my words

owning me

intertwined

finding me

impenetrable

open

to that place

where I began

will end

remember

though distant

LINK

UNBROKEN

where I find you

meet you

now

see me

not

US ALL

until

someone drew

this line

for me

entry back

to home

to words

spaces in between

MINE

writing itself

Rhythm.

unstoppable

playing

no rubrics.

Just you

locating me

again.

forming in me

past thought

Never

new

know you now

3.22 January 2021

Number 99 –

strange comfort
in you
all
entwined roots
rhizomatic
said he
mystic
feathers
crashing
high seas
sweet sounds
guide
the blind
inhale
into the core
out
write rhythms
themselves
heartbeat
tellurian
intragalactic
zero decay
below

above
through

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Appendix C – Visual Archive and Mapping

A. PhD Volume 2 – MP4 Files –final art and explanation of practice process for archive
– contains: **2:47:35** viewing time

1. 2022OpalinskiPhD_MP4_1a = Final Work – *Unhinged*: LiveCopy 11:00
2. 2022OpalinskiPhD_MP4_1b = Final Work – *Unhinged*: InstallationCopy 9:59
3. 2022OpalinskiPhD_MP4_2 = Stills – Intro + 26 stills 2:34
4. 2022OpalinskiPhD_MP4_3 = 10secPoems – Intro + 15 miniPoems 10:41
5. 2022OpalinskiPhD_MP4_4 = Animate Cuts – 3 Examples 31:35
6. 2022OpalinskiPhD_MP4_5 = Video Trials +3 Screenshots – 22:20
7. 2022OpalinskiPhD_MP4_6 = Sound Tracks – 5 Examples 23:09
8. 2022OpalinskiPhD_MP4_7a = The Process –Examples 1-9 29:15
9. 2022OpalinskiPhD_MP4_7b = The Process –Examples 10-14 26:48

B. Mind Mapping

This is the mind map I created half-way into the research as a way of organising all the connexions:

