TU Dublin, Blanchardstown Campus

MA Through Research

Thinking With Material and Cybernetic Reformulations of The Subject/Space Dualism Towards Agential Interdependencies

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Declaration

I hereby certify that the material, which I now submit for assessment on the programmes of study leading to the award of Master of Art, is entirely my own work and has not been taken from the work of others except to the extent that such work has been cited and acknowledged within the text of my own work. No portion of the work contained in this thesis has been submitted in support of an application for another degree or qualification to this or any other institution.

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Adam Gibney
November 2022

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Acknowledgements

List of Figures

List of QR Codes

Table of Contents

Abstract

Through the research, development and creation of the solo-exhibition *Can_you_breathe_for_me?*, I have investigated whether the creation of algorithmic installation based artworks can lead to a dissolution of the humanist boundaries of the categories of space and subject. I will analyse three key artworks from this exhibition and position them as being productive of nondual conceptualisation of reality. The exhibition *Can_you_breathe_for_me?* and this accompanying exegesis, draws on contemporary philosopher Yuk Hui's argument that cybernetic systems, and so algorithmic artworks, offer new modes of thinking that can bring thought beyond humanist metaphysical systems. To do this, I have created a system of thinking that combines approaches in new media art practice, William James'(1842 –1910) metaphysical system of radical empiricism, poet Charles Olson's (1910 – 1970) 1950's essay and manifesto, *Projective Verse*, with the visual language and apparatus of the scientific method that scaffolds the humanist paradigm. The artworks draw on multiple epistemologies outside of humanism, such as Buddhism and posthumanism. Framed in the exegesis as organismic modes of thinking, the artworks will be analysed through Karen Barad's posthumanist performative conception of reality, in which space and self are understood not as separate categories but as intra-acting agencies of matter. The artworks are mobilised in the exegesis as a mode of thinking with material and cybernetic reformulations of the subject/space dualism towards agential interdependencies. The dynamic exchanges between viewer, technology and space that occur in the artworks in *Can_you_breathe_for_me?* speak to wider ongoing debates about the relationship between subjectivity, artificial intelligence and what it means to be human.

0. Exegesis Introduction

0.1 Aims and Objectives

This practice-based research project, *Thinking With Material and Cybernetic Reformulations of The Subject/Space Dualism Towards Agential Interdependencies* seeks to examine contemporary concepts of space and self through new media art practice. Humanist constructions of these terms which can be seen to scaffold societies' common-sense understandings of them will be examined (Burge, 2010). These prevalent concepts, underpin the dominant Western conceptualisations of science and everyday reality, and have influenced society's anthropocentric and detached relationship to space and our experience of it (Gumbrecht, 2020). Polymath Isaac Newton (1642 –1727), who is considered as a principal and dominant proponent of the classical scientific view of the world (Blackburn, 1996a), produced the foundational humanist concept of Absolute Space. In the Newtonian view, space is thought of as a frame of reference that 'exists as a background to events and processes and is not affected by objects or other entities in the universe' (Rennie and Law, 2019). Dominant western concepts of self can be traced to 'the father of modern philosophy' (Lex, 2019), Rene Descartes' (1596–1650) 'Cogito Ergo Sum', translated as 'I think therefore I am'. The Cartesian 'Thinking I', that is produced through this statement, performs a commonly accepted humanist subject that exists independently and absolutely externally to the space, environment, and body that it inhabits (Badiou, 1996). The humanist construction of these terms produces a dominant dualist metaphysical worldview, in which a separated central human subject scientifically verifies the objects of their environment (Barad, 2007). Throughout this exegesis I will introduce, dissect, and re-configure, multiple epistemologies and metaphysical systems that spatiotemporally extend thinking beyond the

dominant western dualist view of reality, re-imagining what it might mean to 'be' in, and of, the world.

0.2 Context of Research

This exegesis will theoretically outline, inform, and expand upon my practice-based research project which commenced in September 2019 in the Technological University of Dublin. The numerous studio developments and artworks that were produced through this research culminated in a solo exhibition in The Oonagh Young Gallery in Dublin in September 2021 (Figure 1). This exhibition, titled *Can_you_breathe_for_me?,* was the main output of knowledge from this time of critical making and reflection. This exegesis tracks the progress that occurred in the studio during this time of practice-based research, however I have predominately aimed to create a document that positions the underlying aesthetic and algorithmic decisions within a space of enquiry and discussion, as opposed to that of documentative or descriptive.

Since graduating from my BA in 2010, my art practice has predominately provided me with the space and time to investigate, experiment with, and try to understand what it means to describe 'reality'. This document critically reflects on what is at stake when reality is 'described'. Throughout the making of *Can_you_breathe_for_me?* I was focused on creating an exhibition that challenged not only my own methods and approaches of creating, but also challenged my conceptual understandings of what an artwork can achieve as a mode of thinking. Alongside this time of making, my own critical understanding of knowledge production and the systems that are produced of and by it has radically evolved.

As both the practical and the theoretical implications of attempting to

describe a reality evolved during this intense time of making and analysis, specific areas of enquiry began to emerge. The work that occurred in the studio has led my philosophical enquiries, creating numerous fertile grounds to theoretically and critically explore. Throughout this exegesis I aim to frame and contextualise the starting motivations, ongoing developments, and the exhibited artworks in *Can_you_breathe_for_me?*, textually mapping out the systems of thinking that were produced and re-configured in ways that challenge humanist metaphysical constructions and dualist epistemological assumptions. This exegesis will therefore be another method of *thinking with material and cybernetic reformulations of the subject/space dualism towards agential interdependencies.*

Figure 1. Can_you_breathe_for_me?, press image

0.3 Thesis Structure

In Chapter 1, I will introduce the reader to the methodology of this practice-

based research project, outlining the relationship between this document and the work produced in the studio. I will argue that the artworks created for the exhibition *Can_you_breathe_for_me?* act as cybernetic modes of thinking that have an ability to performatively produce knowledge in such a way that moves thinking beyond the dominant and language—based humanist framework. I will discuss how framing artworks in this way shares sensibilities with what Yuk Hui describes in his 2021 publication, *Art and Cosmotechnics.* This framework provides productive and performative potentialities for the ways in which thinking can be materially supported through cybernetic systems (Hui, 2021). I will briefly introduce the reader to the posthumanist concept of diffraction, a concept constructed through Karen Barad's theory of Agential Realism, an approach that this exegeses uses to diffuse the systems of thought produced in the studio.

In Chapter 2, I contextualise this practice—based research project in relation to my ongoing professional art practice. I will briefly outline my previous project *Projective Verse 9: Deep Breadths* as a way to introduce the reader to the underlying concerns and approaches to making in my art practice. This introduction will provide an understanding of how the theoretical aims of this exegesis emerged through my perceived inability to sculpturally and algorithmically comprehend the systems of thinking I was engaging with at that time. During the making of this earlier exhibition, I was predominately concerned with developing algorithmic and poetic techniques that implicated the gallery space, moving it beyond solely a container for artworks or a site of display. The perceived failures of this exhibition led to my own reflections on, and research into, the historical and dominant western methods of defining and conceptualising space. Discovering and understanding the symmetrical relationship between everyday concepts of self and space and the systems that performatively produce this relationship became a primary

aim of this exegesis. The critical and conceptual analysis of *Projective Verse 9: Deep Breadths* develops into the starting motivations and approaches to making for *Can_you_breathe_for_me?*. I introduce my studio methodology, which proposes to synthesise algorithmic art processes, Western metaphysics and a 1950's literary manifesto as a means to dissolve the humanist dualism of a self in space. I investigate whether these sculptural and cybernetic approaches to art-practice move my own understanding of what it means to exist, here and now, beyond the humanist constructions of an autonomous agent in an absolute external and separate world.

Chapter 3, the main body of this exegesis, will begin by visually and textually introducing the reader to the exhibition *Can_you_breathe_for_me?*. This chapter is separated into three sub-sections, each section will focus on one artwork. These sub-sections provide spaces for critical and philosophical discussion, working between and towards new understandings or ways of thinking about, or refuting, the self/space dualism as performed by humanist thinking.

In section 3.1, *Instruction 01: Breathe For Me: A Radical Poetic Apparatus,* notions of 'interactivity' implied by the use of sensors in the seminal artwork of the exhibition *Can_you_breathe_for_me?* are critically explored. I will discuss how the use of the word interaction assumes a reality reflective of humanist metaphysics (Barad, 2007). The unconventional use of sensors, and the repurposing of the empirical scientific method, in *Instruction 01: Breathe For Me,* challenges these humanist assumptions, presenting a need to introduce new terminologies that reflect a philosophical departure from humanist thinking. I will introduce Karen Barad's concept of 'intra-action', a term that I argue describes, more closely, the kinds of thinking that are produced through my 'radical poetic' approach to making that failed in my

previous exhibition.

In Section 3.2, *Instruction 07: Now, exhale…: Knowing and Being,* the ways in which my art-making in *Can_you_breathe_for_me?* appropriates technology outside of the western scientific method is introduced to the reader. The distributed performance of a breath, that is produced through *Instruction 07: Now, exhale…,* is philosophically positioned between western, eastern and posthumanist epistemologies. The breath, understood as denying the validity of agential independence, conjoining a self to space, implicating knowing with being, is extrapolated through concepts of Buddhist and posthumanist interdependence.

In Section 3.3, *Instruction 05: Nirvana Focus Test: Knowing, Cutting, Awakening,* the ways in which the terms 'knowing' and 'intelligence' are commonly interpreted, re-enforces dualist readings of reality is introduced through the use of artificially intelligent algorithms. *Instruction 05: Nirvana Focus Test* plays with the mechanistic assumptions underlying western concepts of intelligence by imagining what it would mean for an artificially intelligent algorithm to spiritually awaken, to liberate its 'self' from a dualist universe.

In the conclusion of this exegesis, the new readings of reality that were produced through the exhibition *Can_you_breathe_for_me?* and this exegesis will be analysed. The results of *Thinking with Material and Cybernetic Reformulations of The Subject/Space Dualism Towards Agential Interdependencies* will allow me to put forward an argument that my radical poetic methodology to art-practice can produce nondual conceptions of reality. I will attempt to philosophically ground the multiple worlding of realities that *Can_you_breathe_for_me?* speaks to, and what that means for a

self in space.

1. Methodology

'Art is closely related to technology, and looking at technology from the perspective of art may be able to reveal something extraordinary.' (Yuk Hui, 2021, p28)

This research project is driven by the concept that artworks, specifically artworks that employ algorithms, offer themselves as modes of thinking. This framing of the methodology that I have utilised to create and develop work for this practice–based research project is supported by the position that philosopher Yuk Hui outlines in his book, *Art and Cosmotechnics* (2021).

*Thinking here means to provide a new reading that has transformative power. It allows us to reflect on our actual situation and go beyond it to imagine radical openings. This is the task of thinking after the end of philosophy. This task of thinking is primarily a re–appropriation of modern technology, without which we would only follow one trajectory, which is metaphysics. (*Hui, 2021, p57)

Here Hui is making reference to philosopher Martin Heidegger's concept of the 'end of philosophy', in which he positions cybernetics as a new age of thinking (Heidegger, 2002). Cybernetics was first coined as a term and created as a field of study by Nobert Weiner in his 1949 text, *Cybernetics; or Control and Communication in the Animal and the Machine* (Finn, 2017). It can be described as 'the scientific study of information processing, communication, and control in both living and mechanical or electronic entities' (Butterfield and Szymanski, 2018). This study can also be applied to mapping the ways in which different branches of metaphysics and the epistemologies they are constructed through can be thought of, as recursive, self–

referential, and self-evaluating modes of thinking (Hui, 2019). The exhibition, *Can_you_breathe_for_me?,* performs cybernetic concepts not only in its employment of electronic information processing systems but also in the ways it creates a circuitry of both opposing and overlapping systems of thinking. In this exegesis, I use terminology that *resonates* with Hui's theory of how artworks can act as *material support*, to *reposition*, *re-orientate*, *reformulate, re-evaluate, rearticulate, and re-open* systems or modes of thinking (Hui, 2021). Throughout this project, I have re-appropriated the algorithmic and the scientific; the tools and technological foundations of empiricism and artificial intelligence, and *re-compose* them in ways that can be compared to the *techno-diverse* and *organic* forms of thinking that are outlined in Hui's theories of cosmotechnics. Hui describes this key term, cosmotechnics, as being suggestive that there is 'not one universal and homogenous technology', but, that 'there are multiple cosmotechnics historically and philosophically' created through 'cosmologies' (referring to localities as opposed to outer space), that 'imply ways of knowing and being that cannot be simply rejected because they don't comply with modern scientific theories' (ibid.., p.41).

As will be outlined in the proceeding chapters, this research project predominately seeks, through the use of cybernetic systems, to 'dissolve' the metaphysical and epistemological systems that produce humanism, not toward a total 'disappearance or negation' but rather a dissolution in terms of 'becoming insignificant' (ibid., p.46). This aim, or mission, of dissolution is reflective of a drive to come to an understanding of reality that does not rely on the dualist assumptions of humanism. Throughout this exegesis I produce a site of cross-pollination, where practice and theory collide, inform, and accelerate one another but do not simply illustrate, or scaffold each other.

The questions that this practice-based research project has generated throughout its development will be, in part, answered and viewed through the posthumanist performative concepts of Karen Barad's theory of agential realism. Throughout Chapter 3, the main body of the discussion, I will draw out a system of thinking in which Barad's metaphysics can be understood in relation to the kinds of materially supported thinking that is produced through the exhibition *Can_you_breathe_for_me?.* The ways in which I approach this method of mapping the systems of thinking that emerge through the work, can also be seen to coincide with Barad's concept of diffraction. They state:

> Diffraction is not a set pattern, but rather an iterative (re)configuring of patterns of differentiating-entangling. As such, there is no moving beyond, no leaving the 'old' behind. There is no absolute boundary between here-now and there-then. There is nothing that is new; there is nothing that is not new. (Barad, 2014, p.168)

The exhibition *Can_you_breathe_for_me?,* and this accompanying exegesis, is primarily a site of action, it is an entangling of multiple cosmologies, it is a reconfiguring; there is no absolute boundary between the differing ways of knowing and no moving beyond the technologies produced through these multiple cosmologies.

Through this methodological introduction, I aimed to provide a framework of how to read the artworks of *Can_you_breathe_for_me?* as sites of knowledge production. In the chapter that follows, I will introduce the dominant western world-building project, that of humanism, and further map out how I created a studio methodology that could interrogate it.

2. A Subject in Space

2.0 Introduction

To begin thinking with material and cybernetic reformulations of the subject/space dualism towards agential interdependencies through my art practice, several of the underpinning metaphysical systems and the definitions that they produce first need to be mapped out. To work toward the posthumanist versions of the world implied by agential interdependencies, is to question the humanist dualisms of self and space, and by extension, to interrogate the Cartesian-dualism of subject and object. Throughout the making and analysis of *Can_you_breathe_for_me?,* the ways in which self and space are commonly understood as separate agencies in westernised contemporary culture is materially and theoretically investigated.

In this Chapter, I introduce my previous exhibition *Projective Verse 9: Deep Breadths.* The studio methodology for the exhibition *Can_you_breathe_for_me?* can be seen as emerging from both the effective and the ineffective installation developments that were contained in this solo-exhibition. In the making of *Projective Verse 9: Deep Breadths,* which took place in The Daegu Foundation of Art, Daegu, South Korea in 2017 (Figure 2), I conceptualised the gallery as being mutated into a holding place for a spatiotemporal text. Within the gallery as this 'field of action', an algorithmic disembodied voice searched 'for a space to point meaning' (Gibney, 2017, p1). Through the use of sound, electronics, coding and sculpture, this exhibition aimed to 'unravel the relationship between space and self'(ibid.). The main installation that featured in the exhibition consisted of multiple concrete FM radios positioned in grid-like groupings throughout the gallery. A poem was broadcast, travelling through several

radio frequencies throughout its duration, and received at alternating positions and moments through the differing groupings of radio sets. I attempted to use both the sculptural and the electronic methods to embody Charles Olson's *Projective Verse,* an essay written in 1950. The play on words in the title, *'Deep Breadths',* reflects my ongoing interrogation of the relationship between a subject and the space the subject inhabits.

Figure 2. Projective Verse 9: Deep Breadths, exhibition poster

2.1 Fruitful Failures: Projective Verse 9: Deep Breadths

Outlining the perceived failure of some of the key installation approaches within *Projective Verse 9: Deep Breadths* illuminates what my practice aspires to achieve within both academic and exhibition contexts. Through his essay, Olson proposes a form of poetry that writes the experience and physiology of a speaking subject in the structure of the poem itself. Within the manifesto, importance is placed on the inclusion of the subject's breath within the written structure of the poem, represented by gaps and pauses. Olson argued that a kind of subjectivity is performed through the written word in a 'projective verse' that is anchored to a breathing body, performed by the exaggerated spatial distance between words in the poem as object (Olson, 1950). This highlights one of the primary assertations within Olson's manifesto that 'form is never more than an extension of content' (ibid.). He further asserts that the poet should avoid unnecessary visual or linguistic motifs:

> Objectivism is the getting rid of the lyrical interference of the individual as ego, of the 'subject' and his soul, that peculiar presumption by which western man has interposed himself between what he is as a creature of nature (with certain instructions to carry out) and those other creations of nature which we may, with no derogation, call objects. (Ibid.)

Olson believed that the representation of the physicality of the subject's breath within a projective verse anchored the subjectivity performed through the poem to a breathing body, an approach that does not assume the existence, but points to a dissolution, of the humanist dualist 'soul'. During the making of the exhibition *Projective Verse 9: Deep Breadths,* I also drew on

Olson's notion of a 'composition by field' which positions a poem as a site of action (ibid.) Influenced by this, I devised algorithmic and installation artworks (Figure 3) as active spatial compositions, seeking to reimagine and reconfigure the gallery-space in such a way that is not a container for content, but was *actively* interconnected to any kind of subjectivity represented or implied through the artwork. For me, this earlier exhibition failed to perform a representation of subjectivity physically anchored to the artwork or gallery-space. The interdependent relationships between self, space and breath that are performed in Olson's 'composition by field', had not been effectively produced. Future artwork would need to engage with 'space' in more meaningful material ways to represent or reperform Olson's interdependent poetics.
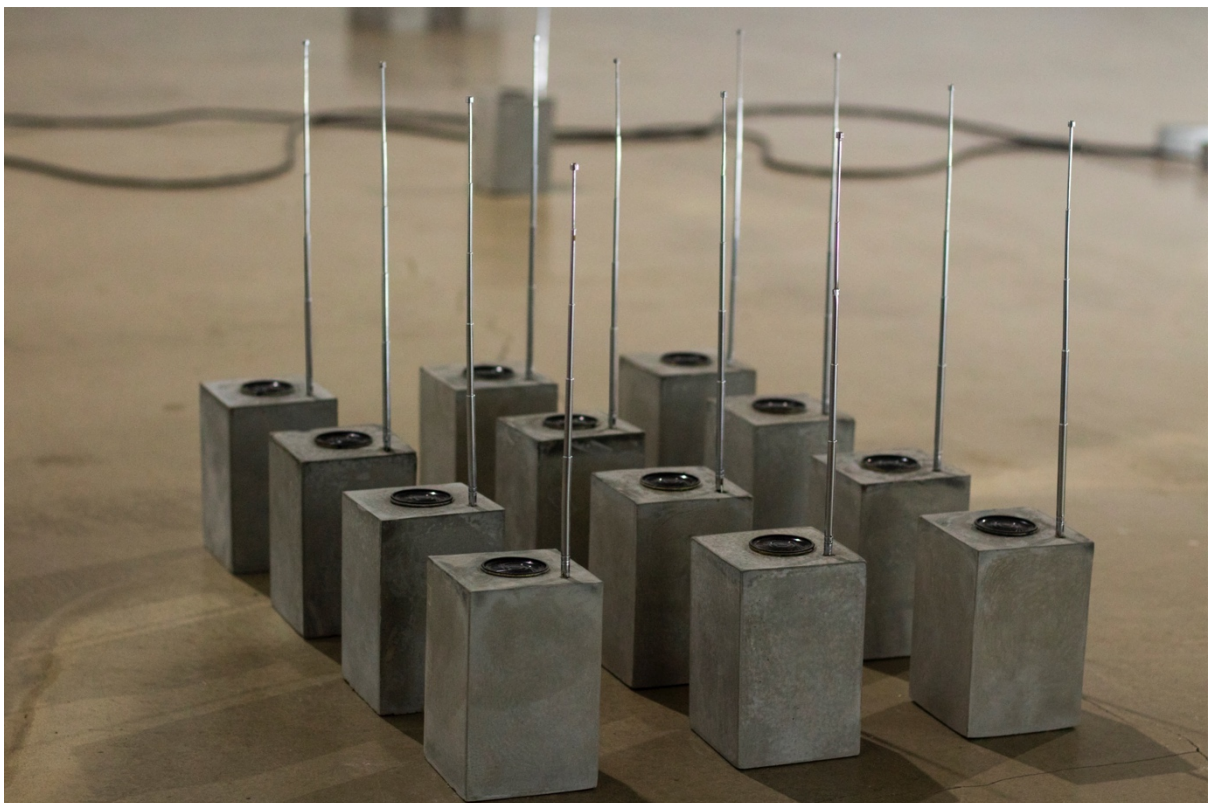
Figure 3. Projective Verse 9: Deep Breadths, installation view

2.2 Void: Starting Definitions of Space

The Collins English Dictionary has a total of 9 definitions for 'space', one of which being 'an area or a place that is empty' ('Space', 2022). This definition relies on the absence of something to produce its meaning. Throughout my professional art practice, I have been captivated by the challenge of conclusively determining the substance of space. When one moves beyond defining the boundaries of space, or seeks something more tangible than the absence of matter, a space of metaphysical enquiry and epistemic uncertainty is made manifest.

The seeming impossibility of neatly defining space is theoretically and historically mapped by French philosopher, Henri Lefebvre's 1974 *The Production of Space.* Written from a Marxist viewpoint, Lefebvre asserts that historians of Western thought, agree that the thinking of Rene Descartes radically reconfigured quotidian understandings of space. Prior to the enlightenment, the predominate western notion of space was based on Aristotelian category of thought (Lefebvre, 1974). Aristotle's concept of space refers to space as being a product of the mind; it does not exist 'outside' of the mind (ibid.).

Through his radical form of philosophical doubt, or methodological scepticism, Descartes' proclaimed cogito ergo sum. This oft quoted phrase, translated as 'I think therefore I am', created a metaphysical system that produced the binary of an 'I', and, a separated space of existence for that 'I'(ibid.). This system of thought produced what is known as mind-body dualism. Within this view, human, beings are seen as a combination of two distinct substances: a non-corporeal mind and a corporeal body, which nevertheless interact causally (Chandler and Munday, 2020). The self or

subject that is produced through Cartesian dualism exists independently of the mechanical body or 'object' that it controls. In this prototypical humanist viewpoint, thinking becomes the foundation of a self's actuality; any 'thing' processed by this thinking becomes external and separate; space becomes the object in direct opposition to the subject, as a place for all thinking things (res cogitans) (Lefebvre, 1974). This Cartesian, rationalist concept of space would later be philosophically bolstered by Newton's empirically verifiable and 'absolute' space.

This history, as described by Lefebvre, makes evident that to critically interrogate everyday concepts of space requires an understanding of the epistemologies that produce them. Rationalism, the branch of philosophy that is supportive of the kinds of metaphysical 'truths' performed by Descartes' cogito ergo sum, can be seen as a philosophy that magnifies the role played by 'unaided reason' in the acquisition and justification of knowledge (Blackburn, 2016b). Whereas empiricism, which can be seen to at times challenge, but can also support the varying 'a priori' knowledge produced through rationalism, produces 'truths' or knowledge about the world from experience aided by the five human senses (Blackburn, 2016c). Although empiricism, with its scientific methodology of providing the humanist subject the tools to verify the objectivity of an outside world, is only one of all existing epistemologies, it is one that has become dominant and apparently neutral through the project of European world building. This western epistemology can be seen to scaffold the structure of 'common-sensical', quotidian knowledge of an objective separate world (Burges, 2010), including the dominant conceptualisation of an absolute objective space.

There is another kind of space that is conceptually produced through the Cartesian mind-body dualism performed by cogito ergo sum. Transcendental

space is produced for the Cartesian thinking 'I' to do its thinking in (Badiou, 1996). It is an empirically unverifiable space, an important theoretical ingredient in humanism's positioning of the 'human being as being a substantial union of two distinct substances, a perishable, mechanical body and an immortal, rational soul' (Baker and Morris, 1996, p.5). The unquestionable existence of the soul was the dogmatic western viewpoint of not only Descartes' time but of the first two millenniums (Swinburne, 1986). It is this transcendental state of existence, an assumption strengthened by Cartesian logic, of a human soul, that Olson would seemingly be seeking to dismantle through his spatially significant breaths.

Reflecting on the exhibition *Projective Verse 9: Deep Breadths*, I found connections between the failures of the original aims of the work with rationalist accounts of reality. The main installation within this exhibition performed subjectivity is at a physical or ontological remove from the gallery space. A disembodied voice is broadcast throughout the gallery, as if existent on another plane to the concrete groupings of speakers receiving it. It illustrates 'two distinct substances', sound and concrete, engaged in a one way causal interaction, a ghost in the machine (Baker and Morris, 1996). Through these artworks I had begun to mine the latent histories of the subject in space. By positioning my art-making in relation to Olson's *Projective Verse*, I was seeking a philosophical position that challenged the dominant western production of a rationalist, transcendental subject, existing in parallel, or separate to, empirical external objects and material spaces.

2.3 Method: Radical Empiricism — A Matter of Experience

While critically reflecting on *Projective Verse 9: Deep Breadths*, at the beginning of this research project, I engaged with William James' *Essays in*

Radical Empiricism (1912). James, who lived from 1842 to 1910, wrote extensively between the fields of psychology, physiology, and philosophy (Goodman, 2022). James is widely known as being one of the founding figures of Pragmatism, a philosophy of meaning and truth that controversially implies that statements 'are true if the belief works satisfactorily in the widest sense of the word' (Blackburn, 2016d). In James' large corpus of writing, I was specifically interested in how his later approach to metaphysics, radical empiricism, challenged not only Rationalist but also Empirical accounts of reality. James states:

> To be radical, an empiricism must neither admit into its constructions any element that is not directly experienced, nor exclude from them any element that is directly experienced. For such a philosophy, the relations that connect experiences must themselves be experienced relations, and any kind of relation experienced must be accounted as 'real' as anything else in the system. (James, 1912, p67)

The quotation from James' essay, '*A World of Pure Experience'* was originally published in 1904, a time when humanisms' empiricism and rationalism were the dominant viewpoints within critical philosophy. I will argue that James's radical empirical metaphysics can be seen as a form of prototypical posthumanist thinking. James' focus on the relations that connect both empirically verifiable matter and rationalist ideas, offered philosophical methods of interrupting the humanist conceptualisation of an independent subject in a separated space. James' world of pure experience does not assume separate ontological conditions for subjects and objects. It points to a non-dual conception of reality; there are not two distinct substances, a world of matter and separate world for the mind, there is one world of pure experience. James' conceptualisation of the relations between subject and

object, as ontologically continuous, resonates with posthumanist accounts of reality, such as Karen Barad's posthumanist agential realism. Understanding the metaphysical ramifications of Barad's intra-acting agencies in tandem with, and through, my own systems of thinking (influenced by both James' radical empiricism and Olson's *Projective Verse*) is how I intend to frame the exhibition *Can_you_breathe_for_me?.* The relationality that drew me to the work of James and Olson, is what also attracted me to the posthumanist theories of Karen Barad and Yuk Hui. The metaphysics that the work of both Barad and Hui offers, when applied to conceptualising art-practice, can position making as being productive of, and implicated within, nondual versions of reality that focus on agential interdependencies.

2.4 Poetics: Towards a Studio Methodology

The studio methodology for this research project combines the metaphysics of William James and the poetic approaches of Charles Olson, with my own sculptural and electronic approaches to making. The underlying algorithms that are central to the artworks of *Can_you_breathe_for_me?*, can be analysed as cybernetic systems, revealing themselves as what Yuk Hui describes as an organismic mode of thinking:

> As epistemology, its organismic nature (in the sense of auto-regulation based on feedback and information) distinguishes it from the mechanical paradigm of early modernity, and goes beyond Newtonian classical mechanics and ancient hylomorphism. As logic, cybernetics no longer rests on a dualist logic like subject/object, but a unifying logic of recursivity. (Hui, 2021, p98)

Hui's organicism does not produce an ontological discontinuity between

object and subject, but recursively unifies them into continuous being. It is in direct opposition to a mechanical logic or worldview, in which a Cartesian soul exists independently of a mechanical body. The cybernetic organicism that underpins the artworks in *Can_you_breathe_for_me?* attempts to recursively include all relations that can be thought of as existing between the artwork, the gallery-space and the viewer. On recursivity, Hui states:

> Recursivity is not mere mechanical repetition; it is characterized by the looping movement of returning to itself in order to determine itself, while every movement is open to contingency, which in turn determines its singularity. (Hui, 2019, p27)

This concept of recursivity, the looping movement of returning to itself, echoes the looping of, and the continuous returning to, the subject's breath involved in the creation and the performance of a projective verse. Olson's poetic technique aimed at dismantling 'the subject and his soul', re-positioning the poet in relation to, and relying on, harnessing the immediacy of experience, that is both regulated and produced through the body (Olson, 1950). The rigidness of typical poetic form and structure was dismantled within his Projective Verse manifesto by freeing poetry from classical textual style in favour of capturing a kind of recursivity that constantly grounds any representation of subjectivity produced by the poet's writing, to their breath, to the space and the body that they 'inhabit'.

Olson's energetic and recursive poetry, shares sensibilities with James' world of pure experience, in that they both refer to the unfolding immediacy and relations of experience. Attempting to materially support this principle alongside my new found radical empiricist approach to understanding a

reality, a reality that does not assume the dualisms of humanism, manoeuvred my making toward the construction of live processing as opposed to the creation of rigid or unmoveable forms as seen in *Projective Verse 9: Deep Breadths*. Further reflecting the immediacy of James' pure experience, the artworks that feature in *Can_you_breathe_for_me?* employ modular forms of frame making. The inclusion of lab stands, clamps, beakers and other scientific instruments reflect Olson's emphasis of utility whilst also making reference to empirical methods of scientific knowledge production. The continual reconfiguration of lab equipment and electronic components in Can_you_breathe_for_me? form a kind of poetic apparatus. Throughout the next chapter my kind of radical poetics or studio methodology, which is a re-configuring of the epistemological and the poetic, will be used to create a posthumanist reading of reality through the work. This framing of the artworks in *Can_you_breathe_for_me?,* as poetic metaphysical systems of thinking within a larger composition by field, sets the stage for the first artwork, *Instruction 01: Breathe for me.*

3.0 Can_you_breathe_for_me?

3.0 Introduction

Chapter 3 is divided into three sub-sections, each section discusses and analyses a key artwork from the solo-exhibition *Can_you_breathe_for_me? (figure 4)*. Each of the artworks, and their textual parallels, present and produce different approaches, and results, of *Thinking With Material and Cybernetic Reformulations of The Subject/Space Dualism Towards Agential Interdependencies.*

Figure 4. Can_you_breathe_for_me?, exhibition view

Section 3.1 analyses the artwork *Instruction 1: Breathe For Me.* The research and development of this particular artwork, the continuous process of interrogation and iteration that spanned a duration of 2 years, provided

22

my practice with a multitude of new material approaches, that generated, and supported, multiple systems of thinking. Throughout this section, 'Instruction 1: Breathe For Me: A Space for Knowing', I will introduce the reader to the modes of thinking, and the means by which they are, produced by, and through, this seminal artwork in the exhibition *Can_you_breathe_for_me?.*

In Section 3.2, *Instruction 07: Now, exhale…: Knowing and Being,* the conceptualisation and the performance of 'the breath' that began to emerge in the previous artwork, *Instruction 1: Breathe For Me*, is further developed and analysed through the artwork *Instruction 07: Now, exhale….* This section discusses the multiple epistemologies, and the technologies that support and produce them, that are included in the organismic mode of thinking performed by and through this artwork.

Section 3.3, *Instruction 05: Nirvana Focus Test:* Knowing and Sensing, introduces the reader to an artwork that presents an artificially intelligent algorithm, that would appear to be, in the process of attempting to attain enlightenment. *Instruction 05: Nirvana Focus Test,* reperforms, rearticulates, and reorientates humanist, posthumanist, and Buddhist ways of thinking about a self in space through its cybernetic performance of intelligence.

Through their fabrication, presentation, and ongoing critical interrogation, each of these artworks present new ways of producing, conceptualising, and refuting the existence of a subject in space.

3.1 Instruction 1: Breathe For Me: Holding Space
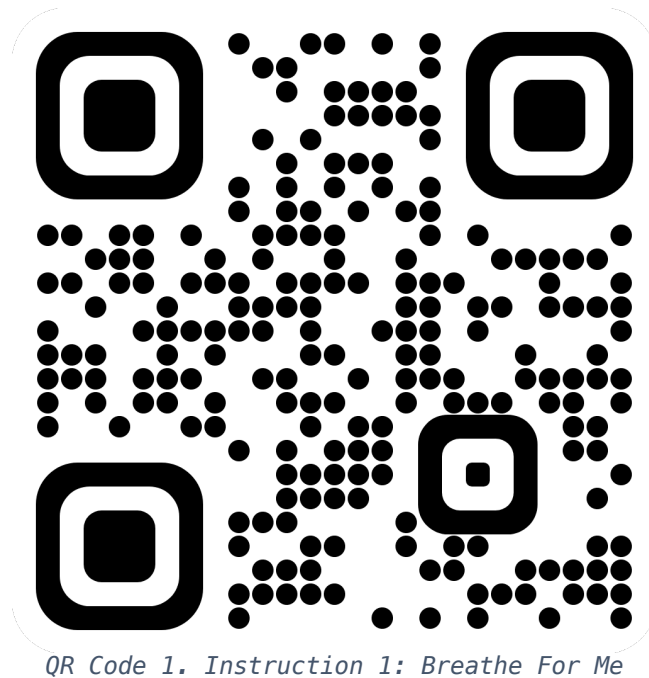
QR Code 1. Instruction 1: Breathe For Me

3.1.0 Description 1: A Poetic Description

There is a rumbling. Deep. Perspex sheets shake, throwing reflections of light and sound. A fluorescent bulb is held on a Perspex trolley. The light is low. Wavering. Rumbling. Wavering. Simultaneously.

Lab stands, clamps, fixtures, fittings, electronics, sensors, a beaker, cables, LEDs, blinking, blinking, blinking.

It is an apparatus, or assemblage of apparatuses. Disparate in parts. Uniform in design.

A cloud of vapor rests inside a conical beaker, undulating over the water contained inside.

Rumble.

Waver.

Whirr.

Two grey sensors point. Out. In. Reading. Blinking.

The fan, fitting perfectly inside and on top of the beaker whirls.

A cloud moves. A light pulses. A rumble follows.

~~A space~~

~~An Apparatus~~   breathes.

3.1.1 Description 2: A Literal Description

Instruction 01: Breathe For Me (Figure 5), exists as an assemblage of laboratory equipment, electronics, bespoke Perspex speakers, fittings, and electronic housing units, and 3D printed fixtures and fittings, appearing as a kind of apparatus. It animates the brightness of the gallery space with two fluorescent light bulbs of different lengths. The longer fluorescent light bulb goes from bright to dark in an organic kind of tempo. This tempo changes in irregular bursts. These bursts appear to be temporarily somehow connected to expulsions of steam from a conical beaker, fitted with a 3D printed fan. These expulsions exist within another loose, but more protracted kind of rhythm. This rhythm is felt, strangely looping, sonically, in the space, the space that simultaneously holds and is held by *Instruction 01: Breathe For Me.*

Figure 5. Instruction 01: Breathe For Me

3.1.2 Introduction: Inter, Intra, Action

In Chapter Two I described an approach to art practice that aims to utilise both a radical empiricist and poetic method of making. In this section of Chapter 3, I will contextualise the metaphysical and epistemological systems of thinking that this 'radical poetic' approach reconfigured in the artwork *Instruction 01: Breathe For Me.* Electronic tools and processes that are traditionally aligned with the production of interaction design, or 'interactive artworks', are central to how this artwork operates in the gallery space. In an attempt to circumnavigate the humanist metaphysics that is performed by words such as interaction, I will introduce the reader to Karen Barad's concept of intra-acting agencies. I propose that this concept and the ontoepistemeology that it produces, has conceptual links with what William James outlined his early 20th century radical empirical approach to

describing reality. Both systems of thinking provide new ways of understanding what artworks such as *Instruction 01: Breathe For Me* can offer in terms of reformulating how we think through the prevalent Cartesian mind/body and subject/object dualisms as described in Section 2.2.

To further develop the argument of how an artwork can reformulate these dualisms requires a further understanding of how they have been historically produced and how they continue to be performed. Empiricism, a dominant humanist approach of world-building, and the objective, 'mind-independent' states it performatively produces, is scrutinised through the poetic re-appropriation of electronic sensors. Re-positioning these sensors from a Cartesian mechanistic worldview into a 'world of pure experience' (James, 1904), and non-rational worldview (Hui, 2021), re-orientates the constituent parts of *Instruction 01: Breathe for Me* from mechanistic and empirical uses toward poetic and indeterminate ways of describing the world.

By further engaging with and discussing the kinds of poetics that *Instruction 01: Breathe for Me* presents as an artwork, the reader will be further introduced to Charles Olson's Projective Verse manifesto as outlined in section 2.1. The literary approaches that Olson devised to dissolve the Cartesian mind/body dualism, offers ways of re-thinking how *Instruction 01: Breathe for Me* might be thought of as performing a kind of subjectivity that does not re-produce humanist ways of viewing the world, but, is productive of, and performs, an agential interdependent versioning of reality.

To conclude I will discuss how the ways in which *Instruction 01: Breathe for Me* re-formulates how we think about a subject in space in ways that metaphysics fail.

3.1.3 Transducing: *Something's Doing*

Instruction 01: Breathe For Me presents itself as cyclical in both its presentation and operation. The light and sound waves that can be seen to perform a kind of breath in the gallery space peak and trough, the space is illuminated, and sound is felt. The breath that cycles throughout *Instruction 01: Breathe For Me*, the dispersed temporal pattern that emerges, offers several potential points of conceptual entry. A key point of activity and exchange occurs with, and through, the expulsions of humidified air that quickly evaporate into and around a grey sensor (figure 6). I will use this grey sensor as a point of entry, into the artwork, out of the space, and back again.

A transducer can be defined as, 'any device that converts energy in the form of sound, light, pressure, etc., into an equivalent electrical signal, or vice versa (Butterfield, Ngondi and Kerr, 2016). The more common term, sensor, metaphorically relates to a transducer's likability to sensory organs that can be found in most organic living systems (Weiner, 1950). In an anthropocentric reading, 'sense' is 'one of the faculties by which the qualities of the external environment are appreciated.' (Law and Martin, 2020). Sensors could therefore be said to perform an extension to our own perceptual and cognitive abilities.

Figure 6. Instruction 01: Breathe for me, detail

Within new media art practice, the use of sensors would normally entail or lead the viewer to believe that the artwork was 'interactive' in some sense. Interactive art is traditionally understood as when 'the artwork comes into being through a process of exchange or dialogue between an active audience and a dynamic art-system.' (Costello, Muller and Edmonds, 2005, p.1). An early and seminal example of interactive artwork that employs digital processes and sensors to create a 'process of exchange' between an artwork and its viewer, is Myron Krueger's 1971 *Videoplace* (Kwastek, 2013). *Instruction 01: Breathe For Me* presents itself as a dynamic art system engaged in a process of exchange or dialogue, however its use of interactivity would seem to point to an activity that is not directly associated with the audience. In his 2011 'Semblance and Event', Brian Massumi notes that interactive art 'needs behaviour on both sides of the classical dichotomy of object and viewer' (p.39). Likewise, the use of transducers, such as the

29

humidity sensor, in *Instruction 01: Breathe For Me,* would seem to dictate a need for behaviour, exchange or dialogue on both sides of a dichotomy, but instead a dichotomy of object and space. The visual language and scientific signifiers of laboratory equipment with which *Instruction 01: Breathe For Me* is constructed would seem to position the artwork as being active in some sense; it is doing something with and in the gallery-space.

Massumi's system of thinking references William James' radical empiricism, Alfred North Whitehead's process philosophy and Gilles Deleuze's concept of the virtual. The event-based metaphysics produced by these philosophers can be said to be organic, their modes of thinking resist mechanical assumptions or methods of describing reality (Hui, 2021). Highlighting the importance of activity, Massumi opens his argument for an event-based philosophy in 'Semblance and Event' with:

> Something's doing (James 1996a, 161). That much we already know.
> Something's happening. Try as we might to gain an observer's remove,
> that's where we find ourselves: in the midst of it. There's happening
> doing. This is where philosophical thinking must begin: immediately
> in the middle (Deleuze and Guattari 1987, 21 – 23, 293). (Massumi,
> 2011, p1)

Instruction 01: Breathe For Me exists in 'the midst of it', trying 'to gain an observer's remove' but seen to be as entangled in a 'something's doing'.

Massumi's approach to describing reality shares a philosophical viewpoint with that of my own approach as outlined in section 2.4; by building upon William James' radical empiricism, Massumi constructs a metaphysics of an event-based reality, a reality based on the idea of a 'lived abstraction'.

By re-articulating objects as events (objects as abstractions of experience), Massumi re-positions the Cartesian object/subject dualism not as being autonomously separate but actively conjoined through lived experience (ibid.).

Can the use of sensors in *Instruction 01: Breathe For Me* be read as re-articulating the 'object'-ness of the gallery space as existing as 'experience'? The grey humidity sensor contained in *Instruction 01: Breathe For Me*, converts and translates the energy, scientifically categorised as humidity, into the brightness of a fluorescent tube (figure 7), performing a cybernetic experience of the humidity of the gallery-space. Whether humidity exists as a formation of energy or of matter, its categorisation and verification as 'humidity' implies an empirical and therefore humanist reading of reality; someone or some-thing being 'immediately in the middle' interacting with the categorised objects of the environment. Although employing the tools of empirical world-building, *Instruction 01: Breathe For Me* does not categorise elements of space as being 'this' or 'that', separate agencies, but presents itself as performing a looping 'happening' of the gallery-space. Can the kinds of cybernetic abstractions of the gallery-space that *Instruction 01: Breathe For Me* performs through its use of sensors, reconfigure how we think about the potentiality or impossibility of an 'observer's remove', i.e. of a separate self in absolute space?

Figure 7. Instruction 01: Breathe For Me

3.1.4 Weaving: Co-constitutive Observations

Presenting the observer as entangled in their observations, in their 2007 In *Meeting the universe halfway quantum physics and the entanglement of matter and meaning*, Karen Barad introduces the notion of intra-acting agencies. Their concept of 'intra-action' can re-articulate how this artwork reformulates the taken for granted humanist and dualist notions of a separate self in absolute space (Barad, 2007). Barad employs her doctoral knowledge of particle physics to construct a posthumanist performative view of the world. Their approach to metaphysics re-evaluates the central position that language holds in the building of the world and how we 'know' it, producing a new kind of *onto-epistem-ology (*ibid.*).* On intra-action, Barad states:

> The neologism "intra-action" signifies the mutual constitution of
> entangled agencies. That is, in contrast to the usual "interaction",

which assumes that there are separate individual agencies that precede their interaction, the notion of intra-action recognizes that distinct agencies do not precede, but rather emerge through, their intra-action. (ibid., p33)

Could the looping and cyclical reconfigurations of energy that are circulated through the assembly of sensors, electronic devices and scientific instruments of *Instruction 01: Breathe For Me* be viewed as performing a 'mutual constitution of entangled agencies'? When viewing this artwork (figure 8), exactly when or where the artwork begins, or ends, is unclear. The poetic richness that is afforded to *Instruction 01: Breathe For Me* through its indeterminable spatial or temporal boundaries reflects a conceptual redundancy in describing it as interactive, a term that eliminates a potential reconfiguration of how we think of our 'selves' existing in space. The re-formulations of space that are performed by *Instruction 01: Breathe For Me* dissolves it as a separate individual agency; the artwork and the space weave in and out of each other, ceaselessly co-constituting through their intra-action.

The ways in which Barad's posthumanist Agential Realism re-orientates how we think about dualist renderings of reality, such as the Cartesian mind/body or the subject/object dualism, shares sensibilities with my radical poetic approach to my art-making as outlined in section 2.3. The 'somethings doing' that is outlined through the pure experience of James' radical empiricism can be seen to be a pre-cursor to Barads ontoepistemeology.

Barad's Agential Realism is 'onto-episteme-ological' in that it positions 'knowing' and 'being', epistemology and ontology, as not separate categories but as being co-constituted through and by one another (Barad, 2007). The

dominant western view of a separate 'knowing' and 'being' 'is a reverberation of a metaphysics that assumes an inherent difference between human and nonhuman, subject and object, mind and body, matter and discourse.'(ibid., p185). *Instruction 01: Breathe For Me* exists somewhen between humanism and posthumanism, performing non-rational modes of thinking by poetically re-appropriating the dominant empirical and scientific tools of world-building that are aligned with humanism, and re-orientating their use toward a rendering of a reality that is posthumanist. The two grey sensors that are part of the artwork, although fulfilling their intended use of transducing energies, are no longer constrained to the epistemological, for knowing 'this' or 'that' about the physical environment i.e the gallery-space, but are implicated in, and by, the ongoing ontological status of the space.
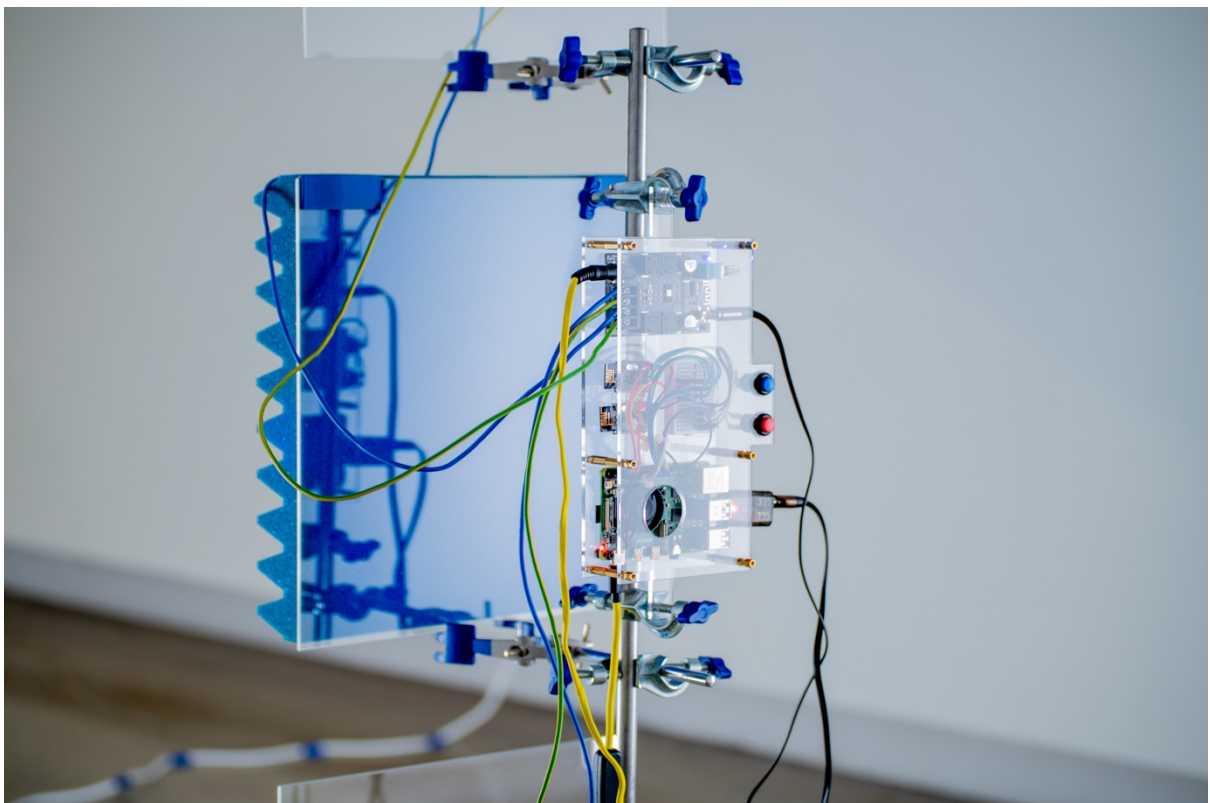

Figure 8. Instruction 1: Breathe For Me, detail

3.1.5 Absolutely Not: A Space for Mind-Independence

The perceptually dispersed electronically performed breath ebbs and flows, a kind of tempo is felt when in proximity to *Instruction 01: Breathe For Me*. This ebbing and flowing emerges from cybernetic enumerations, calculations, and manipulations of the different kinds of energy transduced through the two sensors. Expulsions of steam and light feedback into the system. Where does the transmission of energy start, and when does it end? As an artwork it specifically plays with not only the visual but with functional instruments and devices of empirical world-building (figure 9). Empiricism as an epistemology centres around the existence of an 'objective' world to gain knowledge about through experience. In his 2010 Origins of Objectivity, philosopher Tyler Burge offers several definitions or identifiers of the kind of objective world that is implied and constructed by empiricism, one of which being of objectivity as being 'independent of mind', i.e. an object does not need an observer to exist:

> An element in some subject-matter conceptions of objectivity is mind independence: an objective subject matter is a subject matter that is constitutively mind-independent. (p.46)

Instruction 01: Breathe For Me disrupts the dichotomy of the subject/object dualism that is performed by this 'mind-independent' concept by presenting the suggestion of a kind of subjectivity emerging from the pure experience of the space. But where does the concept of 'absolute space', that would seem to hold or contain the constitutively mind-independent objects of an objective world, be situated in terms of conceptual understandings of the objective as outlined by Burge? The ontological status of 'absolute space' is a historical and ongoing point of philosophical scrutiny and uncertainty.

For Newton, a key humanist thinker, space's lack of casual powers, lead to it as existing not as a substance but as a kind of 'pseudo-substance', a necessity for every-thing to exist (Hoefer, Huggett, and Read, 2022). In John Earman's 1970 article *'Who is afraid of Absolute Space?'*, the author introduces Newtonian absolute space:

Newton's space was also absolute in that 'without relation to anything external' it 'remains similar and immovable'. By the phrase 'without relation to anything external' Newton meant without relation to material bodies. (Earman, 1970, p.289)

Figure 9. Instruction 1: Breathe For Me, detail

This 'without relation to anything external' positions Newtonian absolute space seemingly beyond the 'interactive' behaviour of objects, but it is still thought of as objective through it is constitutively mind-independent

status. In 'The Existence of Absolute Space' (1962), philosopher James A. Gould constructs an argument that even though Newton's concept of absolute space may have been modified since its initial conception, 'there are still senses in which space is considered absolute'(p.101). Gould positions Newton's famous bucket thought experiment[1] as being the central node from which all other conceptions of absolute space, or otherwise, delineate. Over the span of three centuries, the hypothetical, but sometimes physical, movements of a bucket of water are employed to rationalise, and in specific iterations, empirically verify the existence of multiple versions of absolute space, making concrete the idea of 'space' as having an objective mind—independent status within everyday notions of space.

3.1.6 Unconventional Re—Appropriations: A Non—Rational Challenge

Through the use of the humidity sensor and the 3D printed humidifier device, *Instruction 01: Breathe For Me,* can also be seen to be engaged in a procedural action that employs the movement of water, but the ways in this plays out speaks more to the 'non—rational' than the 'rational'. Philosopher Yuk—Hui introduces his concept of the non—rational in his 2021 *Art and Cosmotechnics*:

> We have called this the non—rational, which has to be distinguished from both the irrational and the rational. The irrational is antagonistic with the rational. The irrational can be demonstrated as false, but the non—rational is beyond the realm of demonstration. In poetry, the non—rational can be brought out through the unconventional

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[1] In his famous 'bucket' thought experiment Newton noted that water spinning in a stationary bucket would creep up the sides, while the water stays flat if it is stationary, and the bucket is spinning (Blackburn, 2016e)

and even contradictory use of language. (p.123)

Instruction 01: Breathe For Me presents an unconventional and contradictory use of functional apparatuses (which are typically considered demonstrative, and performative, of the kinds of rational and empirical thinking that centres the humanist self in absolute space). However, the ways in which the apparatuses that were created and used within the artwork, re-positions thinking into the realm of a 'happening doing' or into a Jamesian world of pure experience. A movement of water is felt, it is performed as entangled, and distributed throughout a sensorium of intra-acting perceptual articulations, articulations of and by the gallery-space. What appears to be absent of bodies or immovable is full of aliveness: the apparatus energetically produces a breath, articulating space.

This aliveness, that is performed by the movements of water, the pulsating sheets of acrylic, and a light that 'breathes' *(QR Code 2)*, is simultaneously distributed throughout the entire assemblage that is *Instruction 01: Breathe For Me.* The artwork re-appropriates humidity and light sensing technologies, re-positions their intended usage into a system of thinking that is organismic, performing a kind of cybernetic vitality, and in doing so, the artwork dismantles the Cartesian mechanical worldview that is evoked by the scientific tools of empiricism. In *Mechanism, Organicism, and Vitalism* (2018) Garland E. Allen defines and historically contextualises the three terms in the articles title; each one offering a different metaphor for the ways through which scientists and philosophers can be categorised as seeing the world. The mechanistic viewpoint of reality is closely tied to the Enlightenment era, as brought about by key humanist thinkers such as Thomas Hobbes (1588–1679), Renes Descartes (1596–1650), and Robert Boyle (1627–91) and 'has tended to dominate much of western science, especially biology, over

the past 350+ years' (Allen, 2018, p.59). Allen states that the 'mechanism', which holds the viewpoint that the world and all its contained organisms and structures are mechanical or machine-like in nature:

> embodies the assumption, or metaphysical claim, that our ideas about phenomena derive from interaction with the material world through our senses. This means that matter is primary and our ideas about it are secondary, or derivative. (ibid., p.60)

This metaphysical assumption, which places the interaction, and therefore performing the notion of existence of independent agencies, between material bodies and ideas speaks to the dualist modes of thinking that *Instruction 01: Breathe For Me* conceptually circumnavigates. The looping cyclical quality of the breathing artwork that is produced in the ways in which light, sound, and humidity intra-act speaks to an organismic, or holistic, metaphor of viewing the world, in which reality is seen as an interdependent unified whole.
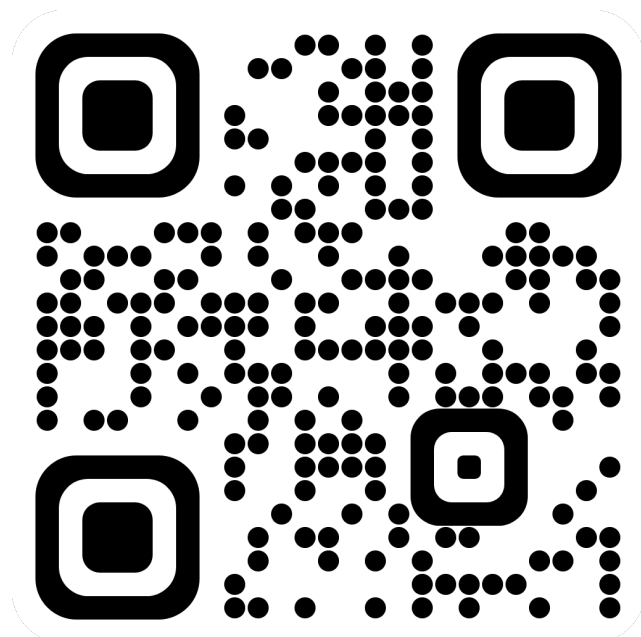
QR Code 2. Instruction 1: Breathe For Me, detail

The organismic thinking that is produced through *Instruction 01: Breathe For Me's* re-appropriation of technology 'challenges' dualist epistemologies, or mechanistic ways of knowing, 'constituting a new method, a unifying logic to grasp being in its totality' (Hui, 2021, p.84). The breath, the ongoing articulation and experiencing of the gallery-space, is performed through interdependent feedback loops, a 'transductive' system of algorithms, cables, sensors and electronics (figure 10), playing upon a kind of 'vitalism' by appearing as 'possessing some non-material, non-measurable forces' (Allen, 2018, p.62). The multi-sensory breath, as arising through the movements of light, sound, and humified water, emerges through a composition-by-field, poetically re-positioning the language of mechanistic and empirical world-building into a non-rational realm of what maybe cannot be said but can be felt, can be experienced.
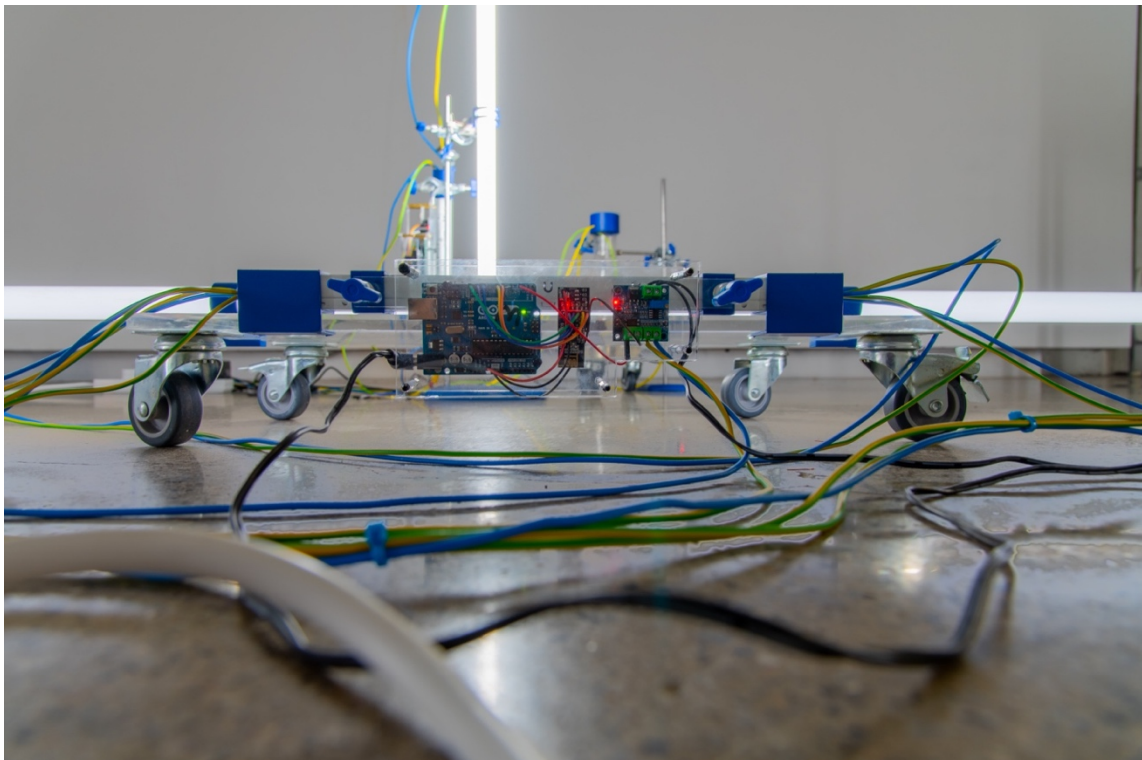
Figure 10 Instruction 1: Breathe For Me, detail

3.1.7 Conclusion

In this section, I aimed to trace the different patterns of thinking that have emerged through the making and final realisation of *Instruction 01: Breathe For Me.* The ways in which the artwork embodied my radical poetic approach to art-practice, as outlined in section 2, re-positioned the ways in which I think about concepts such as self and space, dissolving these terms of any characteristic of separability in a humanist sense. In section 3.2, I will discuss and think through the artwork *Instruction 07: Now, exhale….* This artwork, or composition-by-field, further re-articulates 'the breath' as an ontoepistemological node of enquiry that can further extrapolate the systems of thinking that are materially supported in the exhibition *Can_you_breathe_for_me?* as existing across multiple epistemologies. This diversity and re-composition of thinking will connect posthumanist performativity, Buddhist concepts of interdependence, and guided mindfulness meditations accessed through YouTube, as a means to further re-open and re-evaluate the dualism of a self in space as produced through humanist empirical thinking.

3.2 Instruction 07: Now, exhale…: Knowing and Being
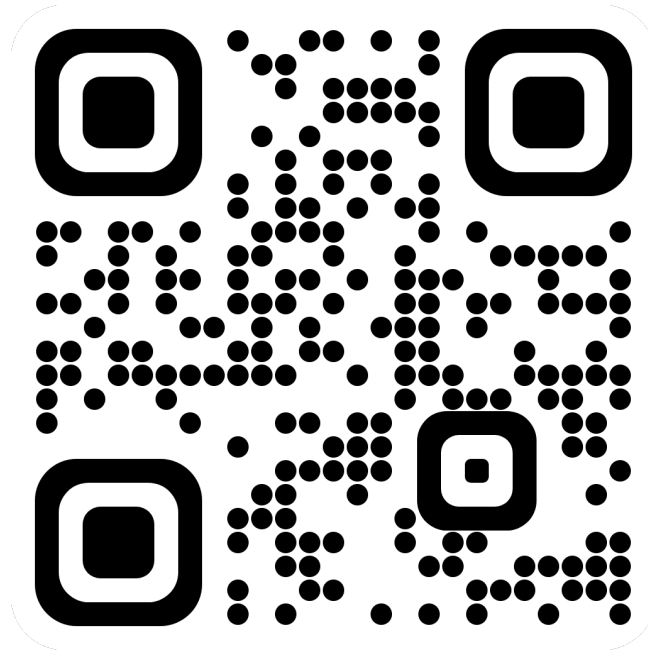
QR Code 3. Instruction 07: Now, exhale...

3.2.0 Description 1: A Poetic Description

As you walk into the gallery space, a microphone points toward you. A small computer screen appears to run through code, it is functional, it is processing. Any sound reverberations from your presence, any presence, in the gallery space, clothes rustling, assemblages pulsating, the gallery door closing, activates a change of operation in the installation.
The gallery door closes.

beep

The fluorescent light bulbs contained within this human scale installation change state, as do others, at the far end of the gallery space. A small stainless-steel fan at the end of the gallery whirls. The small computer screen moves from bare code to a loading icon, onto a clip from YouTube. A

digital new age cosmic animation loops, it is more like a gif than a video. Cheap. Fast. An audio clip starts mid-sentence. A generic American voice. An instruction. 'Relax'. 'Breathe'. An anemometer, normally used to measure wind speed, slowly spins into noticeability. The gallery-space slowly begins to become brighter. 'Exhale'.

beep

The light fades.

3.2.1 Description 2: A Literal Description

Instruction 07: Now, exhale… (figure 11)*,* consists of three separate assemblies consisting of lab equipment, electronics, cables, lights, sensors and micro-controllers. The first assembly confronts the viewer as they enter the gallery. A microphone points toward the gallery entrance, when a sound threshold is exceeded a sequence is activated. The sequence can be seen to begin in this first assembly, a loud beep sound is emitted through an acrylic speaker. An LCD screen begins to stream a clip of a guided mindfulness meditation. This clip is sourced through the use of an algorithm that, searches YouTube with the keyword 'guided meditation', searches within the clip for the word 'exhale'; if found, it isolates the word within a larger sentence or a 15 second timeframe. If the clip does not contain the word exhale, it restarts the sequence until the word exhale is found. When a clip is successfully played, a second assembly located at the back of the gallery is activated through a wireless communication system. A fan contained in this assembly is turned on. The movements of air generated by this fan rotate an anemometer, designed to sense and analyse windspeed, that is contained in the third assembly. The movements of the anemometer digitally control the brightness of the fluorescent tube that is also contained in this third

assembly. A second and final beep signals the end of the YouTube clip, the fan stops, the anemometer, and the fluorescent tube slowly fade.

Figure 11. Instruction 07: Now, exhale...

3.2.3 Introduction: Eastern and Western Epistemologies

Instruction 07: Now, exhale…, the second artwork that I will analyse from the exhibition Can_you_breathe_for_me?, performs as an organismic system of thinking that re-articulates and interplays eastern, specifically Buddhist epistemologies, with dominant western epistemologies. In this section I will analyse this spatiotemporal re-orientation of knowledge systems and the technologies that perform, and how this can enable *thinking with material and cybernetic reformulations of the subject/space dualism towards agential interdependencies*. In section 3.1, I proposed that James' radical empiricism can be seen as a pre-history to posthumanist thinking, specifically Barad's

agential realist account of reality. By analysing how *Instruction 01: Breathe for me* operates as a radical poetic apparatus, I outlined an approach to world-building that is scaffolded with cybernetic methodologies, showing a 'self' in 'space' as entangled . Through *Instruction 07: Now, exhale…*, the ways in which self and space are performed as co-constitutive, is further conceptually extrapolated, textually distributing and interconnecting posthumanist concepts of agential interdependencies to and across several western and eastern epistemologies.

To do this, I will introduce mindfulness meditation as a technology of the self, that allows the meditator to implement and to understand Buddhist metaphysics. Discussing how western neo-liberalism has appropriated mindfulness meditation will allow me to further analyse western contemporary and dominant concepts of subjectivity. The performance of an object, or anchor, of meditation in *Instruction 07: Now, exhale…* will then be discussed in terms of Barad's ontoepistemeology. The agential interdependencies that exist between a self and space, or subject and 'anchoring' object will be read through the kind of breathing produced by *Instruction 07: Now, exhale…*. The meditations that are presented in this artwork are sourced through YouTube, a major proponent of the attention economy (Lukoff et.al, 2021). What does it mean for the pursuit of 'awakening' to a non-dual understanding of reality, to a world of pure experience, when our attention, or experience, is monopolised and therefore objectified?

Instruction 07: Now, exhale…, is a sculptural and electronic assemblage that sources meditative instructions, live in the gallery-space, through YouTube. These meditative utterances isolate instructions to exhale, and are amplified through the gallery-space. These guided mindfulness meditations perform the gallery-space as a site of activity, re-configuring the sounds waves that

articulate the space with electronically propelled movements of air within it, to fluctuating pulses of light that reverberate through it. The artwork deploys the material approach that has been discussed in depth in section 3.1. In the previous artwork, *Instruction 01: Breathe for me,* the agencies intra-acting in, and as part of, the gallery-space were recursively transduced into and out of the artwork through the use of sensors. In *Instruction 07: Now, exhale…* a microphone points out and into the gallery-space, ceaselessly reading the unfolding wave-scape of the gallery-space; its utilitarian signification would seem to amplify any sense of silence between sounds. When a wave's movement is large enough to be perceptible, to envelop the microphone, the articulations of the space are transduced into the circuitry of *Instruction 07: Now, exhale…* and a meditation clip is played back through the artwork. Can meditation instructions be understood as an apparatus? and if so, what role does its use play in the installation?

3.2.3 Meditative Apparatus: World-building, World-Dissolving

In the 2020 Routledge Handbook of Yoga and Meditation studies, editors Karen O'Brien- Kop and Suzanne Newcombe highlight the intricacies of understanding or defining the term 'meditation', as well as noting the hand European modernity, and therefore humanism, played in producing current prevalent 'outsider' understandings of the two terms (O'Brien-Kop and Newcombe, 2020). Even the term Buddhism, which gained popular usage in the 1830's, is a western term that has no direct translation in some of the main 'insider' languages of Asia such Sanskrit or Pali (Keown, 2004).

Buddhism can be traced back to the 5th century BC and is a philosophical system that was outlined by Siddhartha Gautama, who is also known as the Buddha or Enlightened One (Blackburn, 2016f). Buddhism's founding principles

and teachings are built upon Siddhartha Gautama's 'awakening' through meditation, in which he gained the realisation that neither meditation or any forms of spiritual self-discipline provide an awareness of a 'permanent' and 'unchanging' self (ibid.). Understood as such, meditation, can be said to be a kind of technology employed to dissolve a meditator's concept of them-self as a separate, existing, absolute self. Buddha's awakening to nirvana, 'the state, characterized by the extinction of desires and passions, and the transcending of the separate existence of the self', becomes the functioning aim for meditation as an apparatus(Blackburn, 2016g). The implementation of meditation in *Instruction 07: Now, exhale…* positions its use alongside the scientific and empirical tools included in the work, potentially positioning it as both world-builder and world-dissolver.

In *Instruction 07: Now, exhale…*, the guided meditations that are presented within the work are sourced on YouTube using the search definition 'Guided Meditation' (figure 12). They are predominately heavily westernised versions of meditation, specifically mindfulness meditation. This is reflective of 'the widespread application of Buddhist- derived mindfulness practices in healthcare, education and the corporate world' and how it 'is supported by a cumulative body of scientific research on their psychological and physiological benefits and the secular reframing of the aims, principles and premises of meditation practice.' (Husgafvel, 2020, p22*)*. The majority of the guided meditations that are selected, in a 'randomised' way, reperform this scientification and co-opting of meditation in western commercialised culture. Husgafvel makes reference to the following definition of mindfulness meditation:

> To be characterized as meditation, the procedure must contain the
> following operational parameters: Utilizes a (1) specific technique

(clearly defined), involving (2) muscle relaxation somewhere during

the process and (3) 'logic relaxation': a necessarily (4) self-

induced state, using a (5) self- focus skill (coined 'anchor').

(Cardoso et al. 2004 cited in Husgafvel 2020, p.25)

Figure 12 Instruction 07: Now, exhale..., detail

Does the predominance of utilising the breath as an 'anchor' in westernised

guided meditation practice, aim to redistribute one's sense of self away from

a thinking 'I' and toward an embodied and interdependent organism, as outlined

by Siddhartha Gautama? Or does this kind of western outsider co-option of

meditation reify the humanist dualism of a thinking subject in absolute

objective space?

The meditative instructions that are broadcast by *Instruction 07: Now,
exhale…* do seem to point to some-body; who exactly is performed by these

instructions? The microphone implies a specific user but points toward the gallery space. The sounds, air movements and changes of light that rhythmically punctuate the space are measured, algorithmically scrutinised, and expelled back into the space, ceaselessly (QR code 4). A kind of breathing, an intra-action of space, apparatus, and viewer is performed within in the boundaries of a gallery-space that could lie 'empty'. Further re-examining the materially supported modes of thinking contained within the electronic and sculptural assemblage of *Instruction 07: Now, exhale…*, highlights a much deeper, nuanced, and ongoing entanglement between space and self.
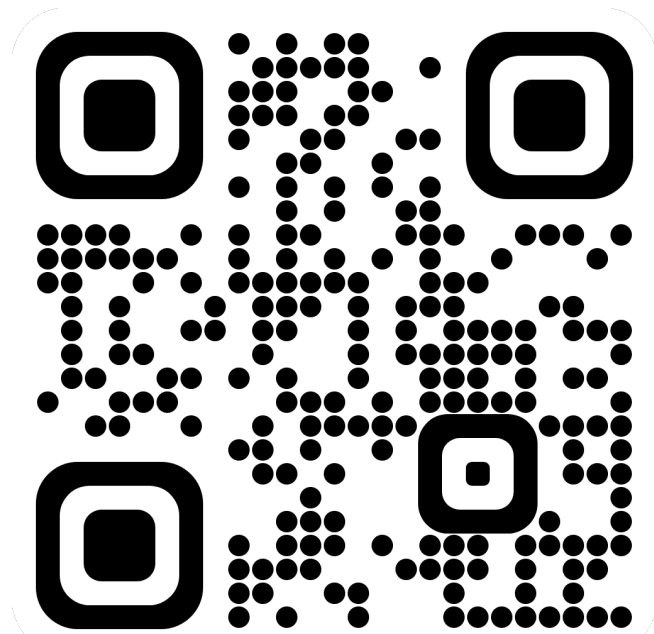
QR Code 4. Instruction 07: Now, exhale..., detail

Viewing the westernised, and therefore humanist, versions of 'meditation' and the ways in which they are reconfigured in *Instruction 07: Now, exhale…* through Barad's posthumanist performative concepts, enables meditation to be read as an apparatus that produces a thinking subject. Contemporary westernised definitions of meditation, such as Cordoso et.al above, frame it as a set of practices or procedures that function as methodological,

repeatable, and transferable, similar to the methods or apparatuses involved in the production of scientific knowledge i.e. as an objective and neutral instrument. In Barad's agential realist account, they state that 'apparatuses produce differences that matter, they are boundary-making practices that are formative of matter and meaning, productive of, and part of, the phenomena produced' (Barad, 2007, p.146). In this Baradian reading, westernised understandings or implementations of meditation, as a kind of apparatus of the self, could, contradictorily, be said to be further producing or reifying the humanist constructions of subjectivity, the transcendental 'I', or of an absolute independent self. *Instruction 07: Now, exhale…* plays with and juxtaposes these different apparatuses of the self, performing them as acts of construction and dissolution entangled. The artwork further complicates notions of subjectivity produced in the work by facilitating or presenting the gallery-space as both the 'anchor' (object) and the 'performer'(subject) of meditation. As the meditative instructions are sonically broadcast throughout the exhibition space, causing simultaneous but spatially disparate reactions in the assemblage, deciphering who or what is being performed and by whom, or, what it is being performatively produced by, becomes increasingly and deliberately complicated.

3.2.4 Anchoring Breath: Almost Embodied Subject

Can re-configuring breath as anchor or object, within both *Instruction 07: Now, exhale…* and mindfulness meditation, offer understandings of the kind of subjectivity that is thought to exist in Buddhist metaphysics, and therefore offer a means to develop new understandings of agential interdependencies? The artwork, as a form of apparatus, both analyses and animates the gallery-space by performing a kind of breathing. The breath is where what is thought of as space in a humanist view, enters a body and the body expels 'back' into

that space. The breath demonstrates a state of interconnectedness, an intra-action of artwork and gallery-space.

In their essay *The Self and Subjectivity: Why The Enlightenment Is Relevant for Posthumanism*, Karen Kukkonen states that agency and subjectivity are 'distributed in posthumanist thinking. They extend beyond the boundaries of the head and the individual human body and into the environment, pulsing through neuronal, embodied, and algorithmic conduits' (2020, p.27). The act of breathing, as a conceptual device in *Instruction 07: Now, exhale…*, not only re-positions the technological installation as an almost embodied subject, but anchors any kind of possible subjectivities' interdependence to the co-constituting environment it is entangled in. Applying this reading to a molecular level of a breathing organism, oxygen and its eight electrons, enter a body from that bodies' immediate external space (Babcock, 1999). In a mechanical viewpoint, what was 'external' becomes 'internal', subsumed into the bloodstream and sustaining the various biological, and so neurological, processes needed to maintain the body. The removal of this molecular and biological interplay between a body, a breath and the space a body inhabits would rapidly, and perhaps posthumously, refute the disconnection between 'mind' and 'body' that is produced by Descartes' I think therefore I am. It is as if that in one deep intra-active breath the strength of the project that is humanism is deflated.

The posthumanist subjectivities produced through *Instruction 07: Now, exhale…*, make implicit agential interdependencies, and therefore the entanglements of self with the world it is co-constitutive of, echoes Buddhist metaphysical constructions of reality. Barad states of their key concept of entanglements: 'To be entangled is not simply to be intertwined with another, as in the joining of separate entities, but to lack an independent, self-

51

contained existence' (2007, p. IX) In this posthumanist worldview, a 'self' lacks and is not made up of the kind of permanent and unchanging substance that is produced by the Cartesian mind/body dualism. In *Engaging Buddhism: Why it Matters to Philosophy (2015)*, Garfield, compares and contrasts key thinkers of the Enlightenment, such as David Hume, with that of Buddhist metaphysics. Hume (1711–76), a founding figure of empiricism, who is considered one of the 'principal architects of the Enlightenment', produced a metaphysical system in which 'events in nature are in themselves loose and separate, and the art of the scientist is to detect the patterns in which they fall.'(Blackburn, 2016h). In contrast to this now dominate worldview, Garfield introduces a Buddhist concept of interdependence:

> Moreover, while Hume regards events as 'independent existences', for Buddhists, dependent origination guarantees that nothing is an independent existent. The only account we can give of anything adverts to its relations to everything else. (Garfield 1995 cited in Garfield 2015, p26)

This central tenet of 'dependent origination' in the Buddhist metaphysical system, and therefore its relation to meditation practice such as ones that feature in *Instruction 07: Now, exhale…,* reverberate with the performance of nondual conceptions of 'self' and 'space' in the exhibition *Can_you_breathe_for_me?.* Does meditation, specifically mindfulness meditation that focuses on the act of breathing, offer a way of knowing reality, or an approach to metaphysics that does not assume a mechanistic or a dualist version of the world? If so, does it speak to Barad's ontoepistemeolog*y*, James' pure experience and also Olson's projective verse manifesto? Is it that through mindfulness meditation, the subject can realise, 'I' am not independent from a breath, or the space I draw a breath

from, but know that the 'origination' of 'I' is dependent on there being a breath? And if so, it can be said that, *Instruction 07: Now, exhale…*, framed as a kind of poetic-apparatus, performs an *ontoepistemological* rendering of reality, spinning knowing and being into and within, not only the ongoing entanglements of space and self, but into the array of apparatuses and instrumentats that is the artwork (figure 13).

Figure 13. Instruction 07: Now, exhale..., detail

3.2.5 Paying Attention: Cosmologies and Technologies

The re-positioning and re-configuring of the varied technologies in *Instruction 07: Now, exhale…*, presented and performing as artwork, questions not only the function of these specific technologies, both western and eastern, but also questions how we are performed by or entangled with their operation in the world. The work layers the cosmologies of technologies; it speaks to the western appropriation of Buddhist meditation techniques as

scientifically approved and verified mindfulness meditations, and it reconfigures scientific instruments as poetic, non-rational apparatuses. The artwork accessing these mindful appropriations through a major platform of the attention economy, YouTube, would seem to point to a production, to a capitalist objectification, rather than a releasing of one's 'self'. This not only western but neoliberal re-appropriation of meditation has been branded by some critics as 'McMindfulness' (Loy and Purser, 2013). The authors of the now widely referred to 2013 Huffington Post article 'Beyond McMindfulnes', state:

> Rather than applying mindfulness as a means to awaken individuals and organizations from the unwholesome roots of greed, ill will and delusion, it is usually being refashioned into a banal, therapeutic, self-help technique that can actually reinforce those roots. (Loy and Purser, 2013)

Furthermore, when this form of 'self-help' is accessed through platforms such as YouTube, which capitalises on a user's attention and engagement with their services, what technology is helping is to strengthen the notion of a separate, and therefore humanist self. This view of the technologies of the attention economy, also speaks to Martin Heidegger's concept of technology as 'enframing' (Heiddeger, 1977). This Heideggerian account of technology positions it as reframing the objects of experience as standing-reserve, as some-thing to exploit, he states of technology:

> Everywhere everything is ordered to stand by, to be immediately at hand, indeed to stand there just so that it may be on call for a further ordering. Whatever is ordered about in this way has its own standing. We call it the standing-reserve. (1977, p.28)

The attention economy employs technology as means to harvest experience; the way that *Instruction 07: Now, exhale…* sources the Buddhist technology of meditation through YouTube is paradoxical. What the artwork and mindfulness meditation, as understood from a Buddhist perspective share, is an aim to reveal the non-permanence of this humanist, capitalist, self existing in a separate immovable world. Such insider modes of meditation, and the intra-actions performed through the artwork, position knowing this kind of revelation of nonduality as accessible through being. Is 'being' the immediacy of pure experience? Is it before a 'this' or a 'that' are mediated into or known as an object or a subject? If so, then the ways in which YouTube, and the other technologies of the attention economy, monopolise human attention, and therefore enframe experience, actively prevent a transcending of the separate existence of the self.

Perhaps it could be said that empirical and humanist worldviews, which produce dualist notions of a separate self in space through their ongoing verification of independent existences, retain dominance by methodologically rejecting, verifying, and then re-appropriating the very technologies that would seem to be in a position to challenge the dualisms that they produce. Artworks such as *Instruction 07: Now, exhale…*, and exhibitions such as *Can_you_breathe_for_me?*, re-configure and re-appropriate the world-building technologies of western epistemologies in such a way that it allows new systems of thinking and new potentialities or uses for these technologies to emerge.

3.2.6 Conclusion

In this section, the ways in which the technologies of eastern, western and posthumanist epistemologies were implemented in *Instruction 07: Now,*

exhale… were conceptually mapped out; this further re-orientated and questioned the existence of an absolute separate self in space. In section 3.3 western dualist and mechanical models of intelligence are thought through the artwork *Instruction 05: Nirvana Focus Test*. The development of artificially intelligent systems, that are created through this kind of humanist modelling, can be seen as boundary-making apparatuses, but can also be mobilised as boundary-dissolving, embodying a kind of 'mechano-organicism'(Hui, 2021).

3.3 Instruction 05: Nirvana Focus Test: Knowing and Sensing
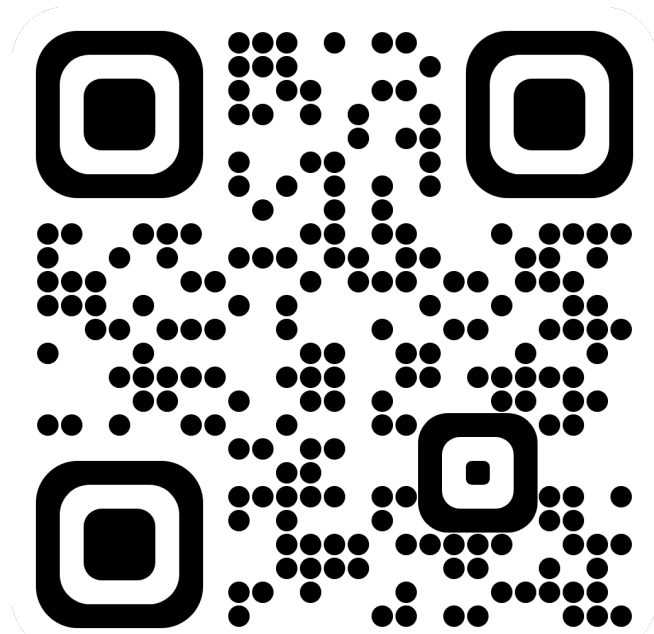
QR Code 5. Instruction 05: Nirvana Focus Test

3.3.0 Description 1: A Poetic Description

There is a mechanical murmuring sound. Almost organic in its whispering rhythm. It's a lens, moving, rotating, focusing. It points to the gallery window. Background, cars drive by. Foreground, people walk by. A seagull dominates the remnants of a chicken fillet roll in the middle-ground. The window frames a constant flow of experience.

The lens is connected to a larger collection of electronics and scientific apparatus. A small lcd screen translates what the lens is capturing into illuminated pixels on a screen. The window, the seagull, the world, come in and out of focus, constantly. There is a symbol on the window. Almost nostalgic in its appearance, tv test patterns, lens focus charts, BBC,

Hollywood, the language of a film set. Digital lines, that appear to be fluid, are drawn in and between the symbol's digital representation on the screen. The image comes in and out of focus. The fluid lines morph toward a more certain boundary around the live representation of the symbol. The symbol, the digital drawing, the window, and the world behind it, focused.

A bell rings.

A jump, a murmur, begin again.

3.3.1 Description 2: A Literal Description

Instruction 05: Nirvana Focus Test (figure 14) consists of two computational micro-controllers, a computer controlled camera lens, a bell connected to a servo motor, an LCD screen, a vinyl of a geometric pattern on the gallery window and a laboratory stand with multiple clamps and acrylic brackets attached. An artificially intelligent algorithm is programmed to focus on the pattern on the window. The results of this focusing is visible on the LCD screen. The process by which the algorithm digitally draws lines around what it calculates as being a boundary, or, an edge of some 'thing' in its environment. When the geometric test pattern is fully in focus, the servo motor moves to ring the bell.

3.3.3 Introduction: Metaphysical Assumptions

In Section 3.2 I discussed the ways in which the artwork *Instruction 07: Now, exhale…,* combined several techniques of knowing through the re-appropriation of both western and eastern methodologies. The ways in which Karen Barad's ontoepistemological framework connects to Buddhist metaphysical concepts of

interdependence was anchored to the role of the breath in *Instruction 07: Now, exhale…*. The cybernetic reformulation of the gallery-space as being thought of as both a subject and an object through the distributed meditation the artwork performs, challenged the humanist notions of a separate self in a space that is without relation to anything external. In Section 3.1 the ways in which *Instruction 01: Breathe For Me* poetically re-appropriated the scientific and empirical tools of human centred world-building produced what has been described as an organismic mode of thinking. The mechanical thinking that underpins the Cartesian subject/object dualism was dynamically re-configured through the ongoing intra-actioning experiencing of the energies that are distributed through, and by, *Instruction 01: Breathe For Me.*

Figure 14 Instruction 05: Nirvana Focus Test

In this section, 3.3, I will introduce the reader to *Instruction 05: Nirvana Focus Test*, an artwork that poetically diffuses concepts of the mechanic and

the organic. I will ask what kinds of metaphysical assumptions are we engaging in when we envision an algorithm as performing or having 'intelligence'? *Instruction 05: Nirvana Focus Test* reconfigures the validity of an independent humanist self as existing within a transcendental space by performing a kind of algorithmic ritual that collapses Buddhist techniques of meditation with Pavlovian conditioning.

3.3.4 Models and Mirrors: *What Humans Do*

During the making of *Instruction 05: Nirvana Focus Test,* I focused on the ways in which artificially intelligent algorithms could be used, as pivot points, to re-orientate the ways that artworks, in *Can_you_breathe_for_me?,* could re-position concepts of self and space across multiple histories and epistemologies. In his 2020 *AI Ethics*, philosopher of technology, Mark Coeckelbergh states that 'AI can be defined as intelligence displayed or simulated by code (algorithms) or machines', and that AI demonstrates a need to question the definition of intelligence and how we came to it (p.64). In James Bridle's 2022 publication *Ways of Being*, he notes the difficulty of clearly defining what intelligence is. Historically, intelligence is conceptualised as 'what humans do'; and is attributed to qualities such as the 'capacity for logic, comprehension, self-awareness, learning, emotional, creativity, reasoning, problem-solving and planning' (Bridle, 2022, p.29). Bridle asserts that this human-centred definition of intelligence is limiting in the way that it rejects the multitudes of intelligences entangled in the 'more than human world' (ibid.). The history of AI can be seen to be historically and philosophically intertwined, with concepts of human intelligence as being the proto-typical and exceptional form of intelligence (ibid.). The Turing Test, created by Alan Turing in 1950, is the historical benchmark for calculating the progress of computer algorithms and is measured

through a computer's capability of becoming indistinguishable from a human mind (Finn, 2017). This history of the human mind, as the source and definition of intelligence, is also evident when tracing the myriad of academic and scientific areas of knowledge that the field of AI subsumes, in both how it is computationally constructed, and how it attempts to mirror mechanical representations of the human mind (Kelleher, 2019). These fields include, but are not limited to, mathematics, engineering, linguistics, cognitive science, computer science, psychology, philosophy, and neuroscience (Coeckelbergh, 2020). Although AI, as a science and as a technology, has made great progress since its original conception at the Dartmouth Workshop of 1956, its intellectual abilities are still classed as weak (performing singular elements of what a mind can do) as opposed to strong or general AI (a total emulation of consciousness) (ibid.). I argue that the kind of weak AI that *Instruction 05: Nirvana Focus Test* performs, speaks to the larger conversation of what strong or general AI means for the ontoepistemological status of the human, and therefore its surrounding environment i.e. space. Does the ongoing attempt to emulate, simulate, or describe, human consciousness through mathematical algorithms reify mechanistic models of the world, and therefore reproduce the Cartesian subject/object dualism? Or are the ways in which AI would seem to fail in understanding what it means to be in the world, point to a more vitalist and mysterious, explanation of what it means to be human or to be alive?

3.4.5 Decisions, Decisions…: *Sensing, Knowing, Cutting*

Instruction 05: Nirvana Focus Test employs 'computer-vision', a form of AI that uses *neural networks* to facilitate deep-learning to replicate human sight and recognition (Kelleher, 2019). There has been a rapid rise in the development and implementation of artificially intelligent computer vision

algorithms over the last 10 years (Patel, 2019). I argue that this rapid rise raises an important need to re-evaluate the relationship between intelligence and sensing and what that means for the exceptional humanist human. The kind of technology that is central to the operation of *Instruction 05: Nirvana Focus Test* can be said to sense its environment, similar to the discussion of transducers in sections 3.1. Yet the algorithms contained in this artwork work toward performing a kind of intelligence that goes beyond sensing an environment, categorising it into separated elements. The artwork digitally draws lines on an LCD screen as part of its process of focusing in and out of a vinyl geometric pattern that it points to (QR Code 6). These lines are productive of the ways in which this specific implementation of computer-vision can differentiate between the boundaries of 'things' in the world. The amount and length of these lines, as well as the shapes constructed by them, are computationally enumerated to make the digitally captured environment intelligible or machine readable (opencv.org, 2022). This detection ability cannot be specifically located within the micro-computer that executes the code; it is distributed throughout and performed by the neural networks and datasets that it has been trained upon. Deep Learning, which is a branch of machine learning, attempts to allow for 'accurate data driven decisions' (Kelleher, 2019, p.1), but what is at stake when an algorithm is given power to decide? The 2021 Oxford Dictionary of Word Origins traces the origins of the word decide:

> Decide comes from Latin decidere 'determine', from de- meaning 'off' and caedere 'to cut'. Caedere is also found in *concise* [L16th] literally 'cut up'; *excise* [L16th] 'cut out'; *precise* [LME] 'cut in advance or short'; scissors, and *suicide* [M17th] 'cut or kill yourself'.'

Is there a kind of humanist subjectivity performatively produced through the

ways in which *Instruction 05: Nirvana Focus Test* can be seen to decide the boundaries of things, to cut-off this thing from that thing? Karen Barad's understanding of the world as being made up of phenomena, entanglements of intra-acting agencies, places importance on the cutting-off of phenomena (Barad, 2014). *Instruction 05: Nirvana Focus Test,* in this posthumanist performative view, does not find, categorise, or differentiate between things but is intra-actively implicated in the ongoing articulation, or cutting up, of the world. Barad uses the phrase cutting together/apart, pointing to the performative, productive and discursive nature of not only scientific apparatus but any forms of investigation or research (ibid.).In Section 3.1 I proposed that William James' metaphysical system of radical empiricism, in which he constructs a world of pure experience as opposed to independent objects, can be seen as a precursor to the kinds of posthumanist thinking that is produced by Barad's agential realism. Barad states:

> The primary ontological unit is not independent objects with inherent boundaries and properties but rather phenomena. In my agential realist elaboration, phenomena do not merely mark the epistemological inseparability of observer and observed, or the results of measurements; rather, phenomena are the ontological inseparability/entanglement of intra-acting agencies. (Barad, 2007, p139)

James' primary ontological unit is thought of as a kind of 'primal stuff' or 'pure experience' (James, 1912). Is *Instruction 05: Nirvana Focus Test* cutting phenomena out of, or through pure experience? And if so, can pure experience therefore be thought of as a kind of ontological foundation for not only humanism to be cut out of, but also posthumanism? If we are to view the artwork as being engaging in a cutting together/apart, then the artwork,

and the notions of subjectivity or intelligence that would seem to be present through it, are simultaneously produced through this incision. Viewing the artwork (figure 15) in this way has implications for any humanist notion of a subject 'interacting' with independent objects.
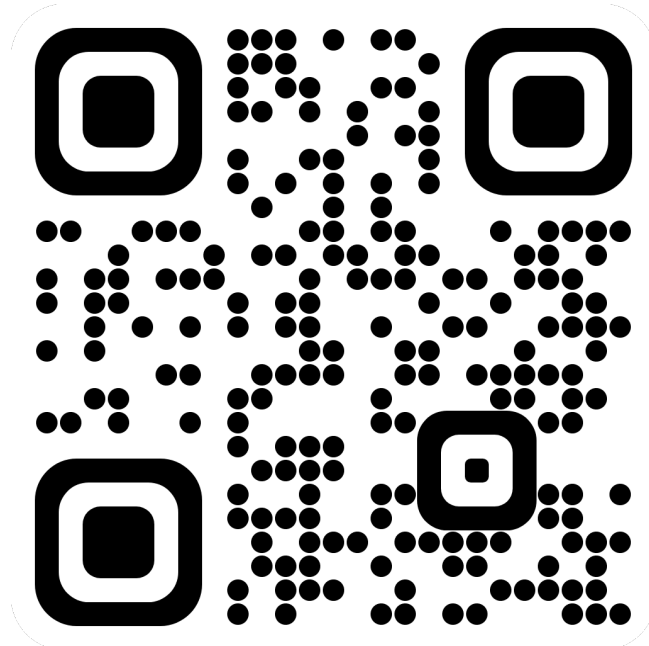
QR Code 6. Instruction 05: Nirvana Focus Test, detail

3.4.6 Focus, Categorise, Attain: *Poetic Paradox*

The title of *Instruction 05: Nirvana Focus Test* positions the artwork as attempting to engage with or grasp a primary ontological state that is produced through Buddhist metaphysics. The title references the Buddhist concept of *nirvana*, a non-dual version of reality that I introduced in section 3.2. Nirvana can be thought of as a state that follows a complete re-orientation of how a self experiences its self, or non-self. Does this non-self, in how it defies categorisation, point to James' pure experience, an ontological state that is yet to be cut into 'this' or 'that' thing? What does it mean for us to think of an AI artwork to be in the process of attempting to attain nirvana? In *Engaging Buddhism: Why It Matters to*

Philosophy, Garfield states:

> On what I am calling a Buddhist view, a cessation (nirvāṇa) of dukkha is
> possible through awakening (bodhi) to the nature of reality, involving
> a direct apprehension and engagement with reality —including both our
> objects and ourselves as subjects— as impermanent, interdependent and
> lacking any intrinsic reality. (Garfield, 2015, p.11)
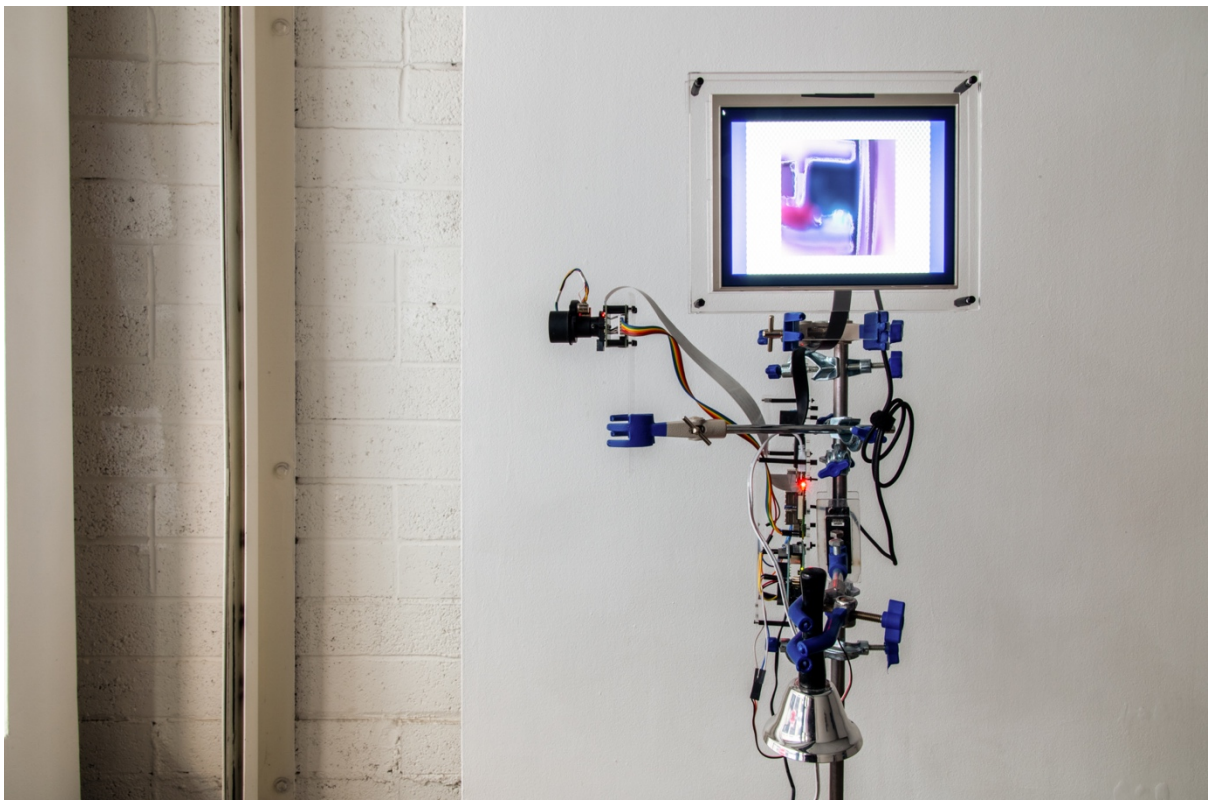
Figure 15 . Instruction 05: Nirvana Focus Test, detail

'Dukkha' is often referred to as suffering in a western context but Garfield
defines dukkha, as being a perceptual process that is 'shot through with
reification', in which we take the world and ourselves as being constituted
by permanent and independent entities that have identifiable intrinsic
natures (Garfield, 2015, p.13). The cessation of conceptualising both
subjectivity and objectivity as separate agencies, as permanent, is how

nirvana is manifested. There is a kind of poetic paradox in the contextual framework that surrounds *Instruction 05: Nirvana Focus Test.* The constant zooming, focusing and rotations of the computer-controlled camera lens onto and into the surrounding environment ensures that the artwork is perpetually boundary making and cutting itself and the world together/apart. The ongoing cutting of the AI algorithm, from and to the environment, is brought into perception by the digital drawing that continually morphs into more rigid representations of lines or boundary-making. The geometric pattern comes into focus, the bell rings; the artwork, the geometric pattern and the gallery-space are shot through with reification.

3.4.7 Ring My Bell: *Mechanical Bodies*

Does the sound that the bell makes speak to meditation rituals, marking the beginning or end of a meditation? But the intermittent ringing could also reference the sound of a school bell; class has begun. Or does the bell signify the moment that a humanist notion of knowing, that is performed through the AI algorithm, is achieved, i.e a subject identifying an object of perception? The use of the bell could also be thought of as pointing to western notions of training and conditioning, such as Pavlov's experiments, that raise questions about the difference between knowing and sensing. In 1904 Ivan Petrovich Pavlov won the Nobel Prize for physiology (Gregory, 2006). His work demonstrated a 'process of learning through which the behaviour of organisms becomes dependent on environmental stimuli' (Colman, 2015). Pavlov famously worked with dogs to show that neutral stimulus, such as the ring of a bell, when paired with an unconditioned stimulus such as food, can elicit particular responses such as salivation (ibid.). In *Mechanistic Explanation in Neuroscience*, the authors Catherine Stinson and Jacqueline Sullivan, discuss what this Pavlovian finding in physiology means

in terms of the mind/body problem:

> In contrast to Descartes, who thought the mind influences the body through the pineal gland, Pavlov claimed non-physical or psychic causes are not responsible for either innate or conditioned reflexes. Rather, reflexes can be explained solely in terms of neural mechanisms mediating between stimuli and responses. (p. 337)

The kind of knowing implied by conditioning would seem to re-position the sensing of environmental stimuli as being central to mapping a dependence between organisms and their environment, circumnavigating the need for a separated Cartesian self, observing its environment. Responses are automatic. '*I*' do not decide*.* This Pavlovian move re-positions knowing out of Cartesian transcendental space and into a physical body. The Pavlovian body is scientifically represented as a mechanical body in terms of neural mechanisms. Does the kind of AI technology that is employed in *Instruction 05: Nirvana Focus Test* (figure 16) speak to these mechanical bodies and neural mechanisms, and if so, does this anchor thought processing to physical bodies, or, is thinking/subjectivity distributed inside and outside of bodies/matter?

3.4.8 Looping Assumptions: Artificial Nirvana

Before one can think of AI as attaining Nirvana, one must first assume that the AI first attained the kinds of dukkha or suffering that can only be attained through self-realisation, a self-separated from the world. Conversely, one must also assume, that if an AI is to achieve this kind of human-like-subjectivity, human subjectivity can be implemented through mathematical algorithms and formulations of consciousness. In their widely

cited 1972 book, *What Computers Can't Do: A Critique Of Artificial Reason,* Hubert Dreyfus puts forward an argument that researchers and workers, involved in the creation and development of the AI of that time, made great assumptions about the human-mind in their quest to emulate it (Dreyfus, 1972). The kinds of artificially intelligent systems that were being developed at this time relied on 'symbolic representations' of the world and were seemingly built upon four assumptions (ibid.). Dreyfus categorised these assumptions as being biological, psychological, epistemological and ontological. AI researchers ultimately assumed that the human was mechanical in nature and that the world 'must in principle be analysable as a set of situation free determinate elements' (ibid. p.68).
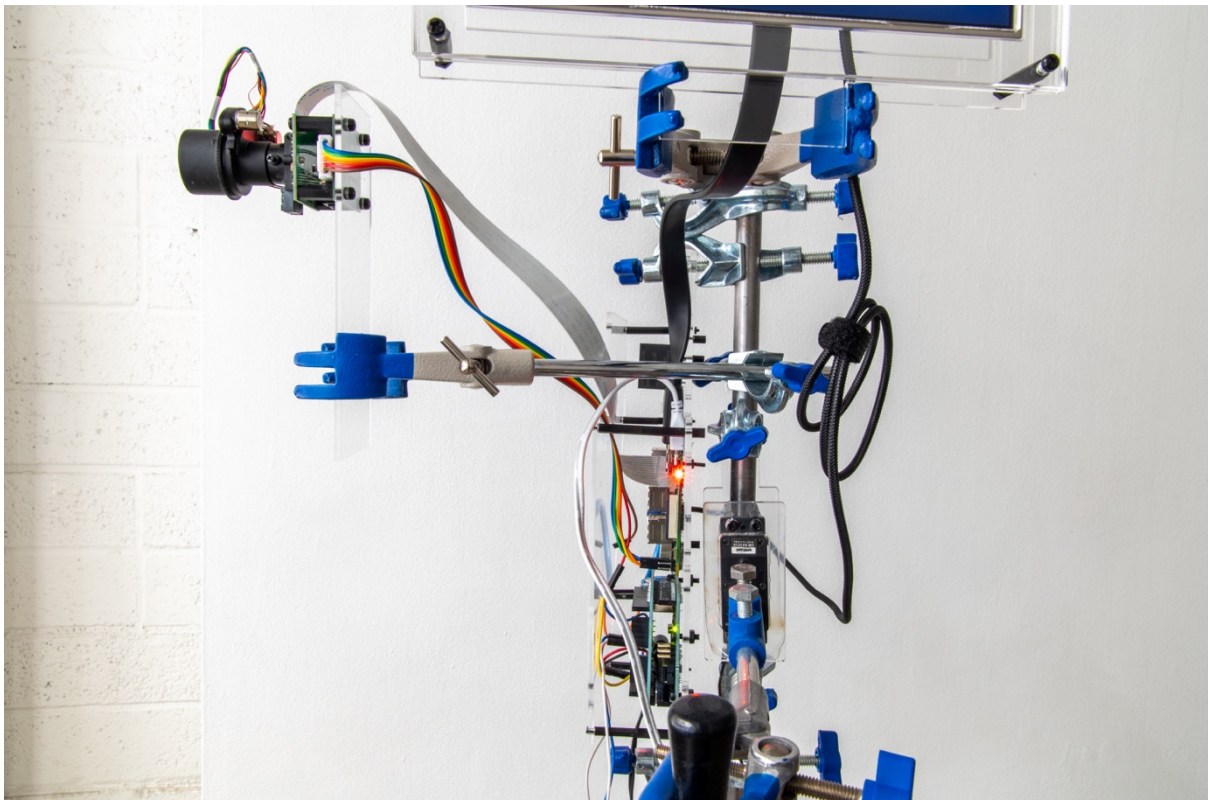

Figure 16 . Instruction 05: Nirvana Focus Test, detail

The kind of AI employed in *Instruction 05: Nirvana Focus* may no longer perform the four assumptions through their design as outlined by Dreyfus, but does

the contextual framing of this artwork bring into focus an epistemological assumption surrounding all forms of AI; that AI knows the world (Cantwell Smith, 2019)? In *The Promise of Artificial Intelligence: Reckoning and Judgment* (2019) Brian Cantwell-Smith builds upon the work of Dreyfus, he describes what AI systems can and cannot do, and by doing so demonstrates that there is a need to understand the ontological and epistemological status of the world and how we know it (ibid.). Cantwell asserts that machine-learning, the prevalent approach to developing AI today, may have overcome the biological and the psychological assumptions that mired the AI of Dreyfusian critique. He notes that there is an epistemological assumption surrounding contemporary understandings of AI, he explains:

> But there is no reason to suppose, and considerable reason to doubt, that any system built to date, and any system we have any idea how to build, 'knows' the difference between: (i) its own (proximal) state, including the states of its representations, inputs and outputs; and (ii) the external (distal) state of the world that we at least take its states, its representations and those inputs and outputs, to represent. (ibid., p.76)

Cantwell re-orientates AI as a purely cybernetic system, a system that does not know its self from its environment. Understood in this way, perhaps *Instruction 05: Nirvana Focus,* only performs as a form of knowing, its ability to learn from its inputs or categorise its outputs, is a computational extension of the ways in which we produce an objective world. It can be then deduced that the artwork cannot attain nirvana as it does not already know the world and therefore does not calculate a self. But is it not already making manifest what the state of nirvana is thought to be: moving beyond a recognition of its own 'proximal state' and the 'external state of the world'?

3.4.9 Conclusion

In this section, the Buddhist concept of nirvana was employed as a central node in creating a system of thinking that worked towards a de-stabilisation of the validity of a humanist dualist self. Karen Barad's key phrase cutting together/apart, re-positions the world as being constructed of, and through, phenomena. By re-articulating the kind of artificially intelligent algorithm that is employed in *Instruction 05: Nirvana Focus Test* as a process of cutting itself together/apart from the world, all dualisms, including that of a self in space, were re-positioned as being cut out of pure experience. In the Conclusion, I will extrapolate what this kind of metaphysical re-evaluation means in relation to the other re-formulations of thinking that have emerged through the making and presentation of the exhibition Can_you_breathe_for_me?

3.4   Chapter Conclusion

In Chapter 3, I analysed three of the key artworks from the exhibition *Can_you_breathe_for_me?.* The multiple systems of thinking that have been re-opened, re-positioned, re-articulated, and produced through the exhibition has allowed me to re-formulate how I think about not only a self or subject in space but of my*self* in space. The ramifications of how these key terms of my enquiry have been materialised and conceptualised, and what that means for the dualism that they perform, will be further analysed in the conclusion of this exegesis.

Exegesis Conclusions

At the start of this exegesis, I positioned my professional art-practice as a process that interrogates the mysteries of what it means to be a 'self' in 'space'. My previous exhibition, *Projective Verse 9: Deep Breadths,* was described as illustrative of, or constrained by, the philosophically out-dated but none the less common-sensical and quotidian humanist descriptions of reality. My own understandings or feeling of being a self in space, and the kinds of absoluteness that I inherently assumed existed, has drastically shifted, and re-configured through a vast amount of practical and theoretical research, of which this document could only map out a portion.

The main body of this exegesis was initiated as a textual and theoretical space that mapped the ways in which my own thinking of the humanist subject/space dualism was re-positioned and re-orientated, through the varied material and cybernetic reformulations in the exhibition *Can_you_breathe_for_me?,* towards agential interdependencies. The artworks included in the exhibition, in different ways, re-configured the tools, verification processes, and visual signifiers of the dominant world-building metaphysics that is empiricism. The re-appropriation of these different forms of technology re-orientated their scientific purposes, bending their functionality away from the ways in which they are thought to verify the empirical observances of an objective world, moving more toward poetic usages. This re-appropriation which was described by philosopher Yuk Hui as pointing to the non-rational, provided ways for the artworks to perform as radical empirical systems, operating 'where philosophical thinking must begin: immediately in the middle' (Massumi, 2011, p.1).

William James' concept of pure experience, as was first introduced in his

1905 article *Does Consciousness Exist?,* became a kind of non-rational metaphysical pseudo-substance that guided the ways in which I repositioned not only the approach to making in my art-practice but, also my ways of thinking about the world throughout this research project. As detailed in Chapter 2, James' metaphysical system collapses the Cartesian dualism of object and subject, or material and thought, into one primal stuff. The ways in which James philosophically works toward dismantling even the most fundamental of dualisms such as consciousness and its contents, has throughout *Can_you_breathe_for_me?* and this exegesis, been materially and theoretically linked with posthumanist and Buddhist descriptions of reality. James states:

> Experience, I believe, has no such inner duplicity; and the separation of it into consciousness and content comes, not by way of subtraction, but by way of addition. (James, 1912, p.29)

James' understanding and interrogation of the need to look more closely at the act of addition and subtraction speaks to Karen Barad's key phrase of cutting together/apart. Understood under these concepts, one cannot completely dissolve the subject/object dualism, and therefore subject/space dualism out of existence, however, one can say that neither side of a dualism are pre-existing separate immovable agencies. They *exist* as entangled. The underlying cybernetic logic of the artworks in *Can_you_breathe_for_me?,* performatively produce poetic re-compositions of thinking that, allow for an organismic non-dual circulation of the occurrence of the subject/object dualism, reconfiguring notions of a self existing in space. Hui's explanation of this 'organismic nature' (Hui, 2021, p.98) of the artworks, allows for a re-opening of the systems of thinking that are productive of the metaphysics of James, the ontoepistemeology of Barad and the non-duality of Buddhist

metaphysics.

If the artworks in *Can_you_breathe_for_me?* are productive of knowledge and perform as materially supported thinking, a concept of art-making that is outlined by Hui in *Art and Cosmotechnics,* what conclusions can be drawn about the ways in which the technologies included in the exhibition effect thinking in their everyday usage? From both a Jamesian and Baradian standpoint, the kinds of technology, or apparatus, employed in *Can_you_breathe_for_me?* are intra-actively addition-ing and subtracting, they are worlding into and out of pure experience. Throughout the three sections of chapter 3, different forms of technology, such as sensors, artificial intelligence, and even 'outsider' iterations of mindfulness meditation were seen to, in ways, further construct a world in which the exceptional, humanist, thinking, human remains at its centre. There is a kind of cyclical contradiction in the kinds of cutting together/apart of the gallery-space that the artworks are intra-actively producing. The *addition*-ing, the subtracting, the worlding of the world, emerging and collapsing, in and out of focus, gets the viewer further and further away from the primal pure experience of the gallery-space. Maybe I should just ask:

Can_you_breathe_for_me?

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