Languages of Listening:

How Digitally Mediated Ficto-critical Strategies Can Enrich Sonic Art-focused Sound Studies

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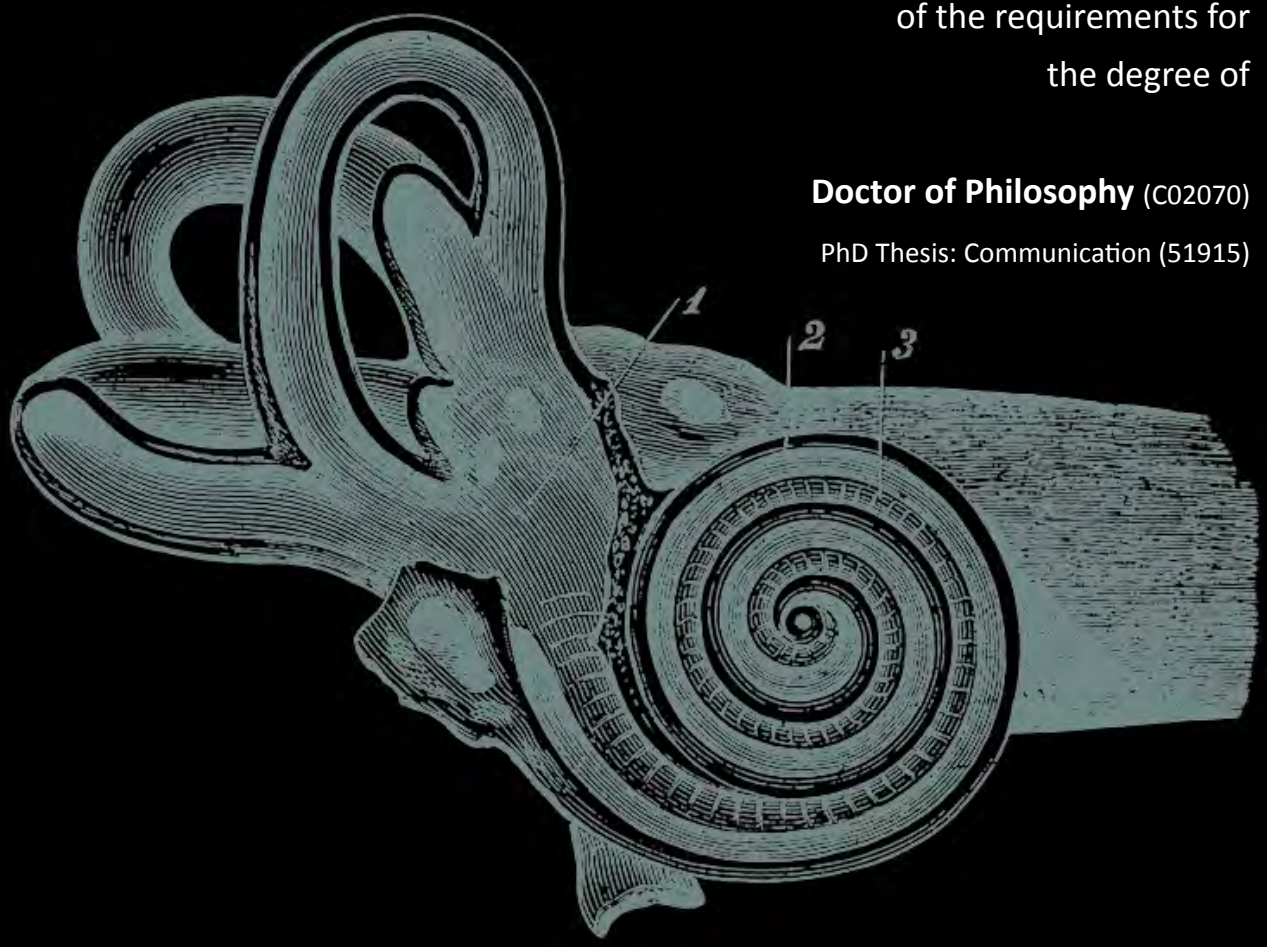

under the supervision of
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Certificate of Authorship

I, **Gail Priest** declare that this thesis, is submitted in fulfilment of the requirements for the award of **Doctor of Philosophy**, in the **School of Communications, Faculty of Arts and Social Sciences** at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

This research is supported by the Australian Government Research Training Program.

Signature:

Date: 9/2/2023

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This thesis was edited by Peter Blamey who is an academic and artist working in the field of sonic art.

Module (v): *Memexical Machine Reading* was programmed with assistance from JavaScript specialist Luke Dearnley.

Format of Thesis

The *Languages of Listening* research is delivered as a multimodal thesis intertwining theoretical analysis in a traditional format and a collection of online ficto-critical explorations.

The traditional text-based document takes the form of this PDF offering hyperlinks to the mediated ficto-critical material that illustrates and enacts the arguments and to contents within the document. If viewing with Preview, please open the Table of Contents window (option, command 3) to easily navigate through the document. In Adobe Acrobat the Table of Contents appears as bookmarks.

The ficto-critical body of work comprises eight web-based modules that are housed on the *Langugages of Listening* website

https://www.languagesoflistening.net

pw: sonaural

A password has been added to the main index page to shield the work from the public. I recommend saving the password in your keychain for faster access.

The links from the online modules to the theory document will take you to a copy of this PDF housed online for quick reference.

Below I have provided a reading diagram. I have also included “bridging” interludes to the online modules in the theory document. While the ficto-critical modules are designed to be independent and can be read in any order, the diagram and bridges from the theoretical thesis are offered to assist with ease of navigation for the purposes of examination. The reading diagram also appears in Chapter 1, and in the introductory notes of the website.

Mediated Ficto-Critical Theory Analysis
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This is the suggested reading order for the purposes of assessment, however the online modules are complete units that can be read in any order.

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Bridge (i)

Module (i)
Listening to My Listening

Chapter 2. Sonaurality: Ontologies of Sound and Listening

Chapter 3. To Prick Up the Philosophical Ear

Bridge (ii)

Module (ii)
In_Listening_In

Bridge (iii)

Module (iii)
Surface Friction

Chapter 4. Ficto-criticism as Performative Research

Bridge (iv)

Module (iv)
Listening Lingua

Chapter 5. Mediations: Digital Literature and Audiography

Bridge (v)

Module (v)
Memexical Machine Reading

Bridge (vi)

Module (vi)
In the Wolf Thickets

Bridge (vii)

Module (vii)
Tonotopia

Bridge (viii)

Module (viii)
Bedtime Stories

Chapter 6. Exegetical Congeries

Chapter 7. Conclusions: Looking Backwards, Listening Forwards

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Abstract

Sonic art is a relatively new field of practice that concerns itself with the experience of listening to sound, perceptually and conceptually. Historically, sonic art has developed out of visual art and music practices, and as a consequence, theory exploring sonic art has adopted the theoretical tools of these previous practices. Given the print-based tradition of academic publication, sound studies texts are also primarily delivered in these standard, textual formats. Even when delivered electronically, these publications are decidedly silent.

This practice-based research argues for and enacts a mediated ficto-critical approach to sonic art-focused sound theory. I propose that sonic art is concerned with sonaurality, a term I have developed to consider the complex interrelation of sound as object and listener as subject, in which they bring each other into meaning. I argue that traditional methods of theorising, which rely on the concept of critical distance, are based on observation, a visual paradigm that is not best suited to consider the entangled relation of sonaurality. As an alternative, I offer a tomographic approach in which slices of experience are built up to illustrate a pluralistic understanding of a whole from within. The tomographic approach results in a reflexive and critical subjectivity that can consider the experiential nature of sonaurality.

The notion of reflexivity is key to this research. Drawing on phenomenology, I argue that sonic art is inherently reflexive, encouraging us to become more conscious of our perceptual and conceptual understandings of ourselves in relation to the world. Consequently, I contend that sound studies should also adopt a reflexive approach to deal with its subject. I propose and enact an alternate sound theory in which the reflexive tomographic authorial position can be nurtured through the strategies of mediated ficto-criticism. Ficto-critical strategies combine creative and theoretical writing to develop complex subjectivities through textual experimentation. These strategies encourage both reflexive writing and reading experiences. The reflexive effects of the ficto-critical strategies are further heightened though techniques drawn from e-literature and digital sound studies. By exploring mediated online publication approaches, I illustrate how we can develop sonic thinking and theorising through sound.

My research is undertaken using a practice-based performative research methodology in which my arguments are made through a theoretical analysis document and exemplified through eight online modules exploring mediated ficto-critical formats. These two bodies of work are intended to be read in parallel with relevant links provided between them. By enacting my arguments around sonaurality, tomographic positioning and reflexivity through mediated ficto-criticism, I am not proposing to comprehensively replace traditional theory based on critical distance. My research illustrates how a mediated ficto-critical approach can meet sound and listening from within a paradigm of the aural offering an alternative mode of theorising that is experiential, experimental and rigorous, productively enriching sonic art-focused sound studies

Chapter 1
Seeking Words for the Heard: Contexts, Frameworks, Definitions

> ***Sound:*** *But listen, I have some advice for your fellow writers: tell them to stop discussing the absolute values of Sound, with difficult words.*
> ***Writer [disheartened]:*** *But they will tell me that I'm ignorant and a fool, and that I blame their knowledge and discourse.*
> ***Sound [firm]:*** *And you tell them, from me, they might be damned…Perhaps, if somebody attempted to write my many contradictions, they might glimpse past my vanishing.*
>
> ("Dialogue of Sound and a Writer", in Cascella, 2015, p. 2)

Part 1: Plots and Plans

Languages of Listening is a research project enacted through theory and practice that seeks to develop alternative ways of producing and presenting theoretical commentary about sonic art. Sonic art and sound studies are comparatively recent forms and in their relative newness they offer the opportunity to investigate alternative and innovative forms of theorising that may be better suited to the sensorial and conceptual specificities of sound and listening—a complex I refer to as *sonaurality*[1]. Through this research I make a case for a mediated ficto-critical approach as a productive and incisive way of exploring sonic art-focused theory. A mediated ficto-critical approach uses what I am calling a *tomographic* authorial position that challenges the binary conceptions of subjectivity and objectivity, a reflexive textuality that encourages formal experimentation, and integrates audio media material as sensorial and semantic material allowing sound theory to actually be heard.

In this introductory chapter, I declare my aims, objectives and methodology. I also offer the contexts and frameworks of the research based on an overarching definition of art based in phenomenology and embodied cognition, which considers art to be a tool that encourages us into a heightened understanding of our perceptual engagement with the world. These aspects are covered creatively in the ficto-critical module (i): *Listening to My Listening,* which you may read before or after this chapter. I then present my definition of sonic art and how this study sits within the multidisciplinary field of sound studies. With key definitions established, I proceed to a more detailed summary of the research narrative.

[1] I have developed a number of specific terms in the process of this research. These are summarised in Appendix 1 (p.170).

(i) Aims, objectives, methodologies

The aim of this research is to find alternate approaches to theorising sonic art so that its sensorial and conceptual specificities may be engaged with more holistically. Traditional formal theorising has historically maintained hierarchies of knowledge that have implicit patriarchal and colonial origins. I aim to make sonic art-focused sound theory that is more open and accessible to those who feel alienated by these traditional structures such as academics who are non-male, academics of colour, artist-academics as well as practicing artists and audients who want to engage more deeply with the ideas in sonic art. I propose that the relational, spatial and temporal qualities of sound create a situation in which the listener/writer cannot be separate from the experience, and that to deny this entanglement through the pretence of a critical distance, as it is established in traditional theory, is to significantly limit the capacity to engage meaningfully with the work. In order to achieve the aim of finding alternate approaches to theorising sonic art, I pursue a number of objectives:

- From a comparative review of current literature on the ontology of sound, develop a working ontological position that considers both sound and its reception as listening—what I term sonaurality. From this position I can then argue for the specificity of sound and listening as it appears in sonic art, and how this requires alternate theoretical approaches.

- By collecting and analysing current literature that critiques theory as operating from a visual paradigm based on observational distance, develop an argument for an alternate epistemological approach to sound theory.

- Collect, compare and synthesise alternate epistemological approaches from feminist perspectives that argue against traditional preferencing of objectivity as it equates to critical distance. From this analysis develop an alternate epistemological approach—tomography, a reflexive subjectivity and process-based experiential perspective—that can be utilised in alternate sonic art focused sound theory.

- Analyse commentary regarding ficto-criticism to establish a range of strategies that enable a tomographic reflexive approach to writing and reading. Online digital delivery methods are also analysed for their ability to nurture a tomographic approach. This investigation involves comparative literature reviews of current experimental sound theory in print and online.

- Apply the strategies of ficto-criticism implemented through digital publishing techniques drawn from e-literature and digital sound studies, to develop a set of online modules that enact and expand on my arguments, exemplifying how a mediated ficto-critical approach enhances sonic art-focused sound theory.

This research is undertaken within a practice-based research methodology in which theory and creative exploration inform each other iteratively. This involves the methods of writing-as-research, explored through ficto-critical strategies in which creative and critical modes meld and entwine, with these textual explorations integrated, exemplified, and re-imagined through creative sonic experimentation. Additionally, I have used current web-design technologies to deliver these ficto-critical explorations, taking full advantage of the hypertextual, associative, interactive and sounding affordances that this enables. To this end, the dissertation has been developed as two interrelated documents: this theoretical analysis delivered in the more traditional format; and a set of eight online modules created using mediated ficto-critical strategies.

(ii) Languages of Listening online modules

The online modules draw on the contents of the theoretical thesis, exploring the ideas through different structures, voicings and media, inviting associative and “active” reading and influencing the way the concepts come to meaning. There are correlations with each theoretical module, however, the nature of the mediated ficto-critical materials is that they operate on interconnection and association, therefore the modules are concerned with multiple aspects of the theoretical analysis across chapters. There are active links between these two documents (the links from the website to the theoretical thesis will lead you to this document stored online) and I have supplied a reading diagram (see Figure 1 below), that indicates a suggested trajectory, but the reader is also encouraged to deviate as they feel compelled. This theory document also offers bridging interludes that introduce the relevant ficto-critical modules and direct the reader toward them.

Mediated Ficto-Critical Modules Theory Analysis Chapters

This is the suggested reading order for the purposes of assessment, however the online modules are complete units that can be read in any order.

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Chapter 6. Exegetical Congeries

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Figure 1. Diagram of the two bodies of content submitted as a combined thesis, including a suggested navigational path between the two.

Part 2: Conceptual Framing - Reflexivity in Perception, Art and Philosophy

Through this research I argue that reflexivity plays a critical role in the making and perception of sonic art and is subsequently key to developing an alternate authorial voice that, I propose, is better suited to theorising sonic art. In this section I will explicate how reflexivity and its effects serves as the conceptual hinge on which this research relies.

(i) Art and Cognitive Reflexivity

Philosopher and cognitive scientist Alva Noë suggests that the strategies of art are not merely representational but are disruptive and displacing, causing us to re-evaluate assumed, normal organisational structures. Our everyday activities are "involuntary modes of organisation" performed as second nature (2016, p. 29) but in potent art experiences, our involuntary perceptions are challenged with a problem or a difficulty, the negotiation of which results in a heightened awareness of the perceptual process as it is happening. However, "our consciousness of, perception of, access to the world around us does not come for free. We achieve them by thoughtful and active looking" (Noë, 2016, p. 102). This understanding then assumes that there is intentionality and reflexive work in any art experience.

The psychological significance of difficulty and its negotiation finds roots in the research of developmental psychologist Édouard Claparède, working at the turn of the twentieth century. As recounted by fellow psychologist Lev Vygotsky (1986), Claparède suggested that a young child is much more aware of difference than they are of likeness because the recognition of likeness requires an abstracted sense of generalisation that is not yet developed. Thus, when a child encounters difference and obstacles it makes the child more aware of a learning process being undertaken. Vygotsky adopted this "law of awareness" (1986, p. 163), also translated as "law of conscious awareness" (1987, p. 183)[2] suggesting that "the more smoothly we use a relation in action, the less conscious we are of it; we become aware of what we are doing in proportion to the difficulty we experience in adapting to a situation" (1986, p. 163). It is this concept, whereby difference, obstacles and difficulty encourage awareness of perceptual and learning processes, which affirms an understanding of art as a reorganisational and reflexive process.

[2] I use the 1986 translation of Vygotsky for all longer citations but note the addition of "conscious" in the 1987 translation as significant reinforcement.

(ii) Phenomenal Intentions and Consciousness

Consciousness of awareness also forms the basis of phenomenology as originally proposed by Edmund Husserl. Husserl's notion of intention, adapted from Franz Brentano, suggests that "all mental experiences are directed at an object that is part of the content of that experience" (Käufer & Chemero, 2015, p. 25). In our "natural", naïve state, we are constantly engaged with the world, which makes it difficult to separate out our consciousness of the world as a thing in itself. When we specifically turn our attention to something, we become aware not of the thing itself, but of our experience of the thing. We can never know the thing itself in its entirety, only our perceptual perspectives on it. (Husserl, 1931, Loc 2702; Käufer & Chemero, 2015, p. 38). In Husserl's phenomenological analysis, the object of intention is not simply that which is perceived, but the act of perceiving itself.

Importantly, the emergence of conscious awareness does not condone a purely subjective solipsistic introspection. Don Ihde says that

> To truly 'know himself' [sic] in phenomenology one must 'know the world.' Reflective knowledge is, in spite of the present necessary linguistic conventions, quite distinct from a "Cartesian" introspective procedure. (Ihde, 2007, p. 37)

Phenomenological perception is always in relation to and through the world; through our body and its relations with the environment. It is never simply our own experience that we are becoming aware of, but our experience of ourselves and the world as "Self-Other-things" (Merleau-Ponty, 2012, p. 57) in an inextricable relation.

Phenomenologist Merleau-Ponty, building on Husserl's ideas, offers a useful metaphor to explain the way in which we become conscious of our consciousness. He suggests that there is one circle in which we live naturally and naïvely, and an overlaid concentric circle of reflexive awareness. When we question ourselves and our perception, these circles decentre, revealing the reflexive level of awareness (Merleau-Ponty, 2004, Loc 5129–5132). I see this decentring as the underpinning notion of Noë's view of art and philosophy as reorganisational. Both art and philosophy allow the circles to slip out of alignment to experience the perception of things more vividly. The metaphor of misaligned circles also allows us to reconsider the distance that is presumed to be necessary for critical thinking. The two modes of experience exist together, overlaid and interlocked, yet it only needs a shift off-centre, rather than full separation, to allow for greater reflection and understanding.

My research relies on a synthesis of the notions of Claparède, Vygotsky, Husserl, Merleau-Ponty and Noë that highlight how the obstacles and difficulties that require negotiation, learning and reorganisation create a heighted awareness of perception and consciousness. The negotiation of these challenges creates a productive reflexivity that allows us to reconsider ourselves and our place in the world in a way that is highly productive for theorising art, and sonic art in particular.

(iii) Language Reflections

I am aware that the term *reflection* has visual implications, and as my study aims to critique the prevalence of visual paradigms that influence our language, particularly in relation to knowledge and theory, this could seem contradictory.[3] However, guided by Jean-Luc Nancy, the consideration of reflection in relation to listening offers interesting nuances: "[i]n terms of the gaze, the subject is referred back to itself as object. In terms of listening, it is, in a way, to itself that the subject refers" (2007, p. 10). This is due to the reverberation and proliferation of sound, in which a sounding object vibrates and propagates. Comparing sound to meaning, Nancy says:

> Sound is also made of referrals: it spreads in space, where it resounds while still resounding ''in me," … [sounding] is already ''re-sounding'' since that's nothing else but referring back to itself. To sound is to vibrate in itself or by itself: it is not only, for the sonorous body, to emit a sound, but it is also to stretch out, to carry and be resolved into vibrations that both return it to itself and place it outside itself. (2007, pp. 7–8)

The idea that sound reverberates inside and outside the body provides a key to exploring a reflexively subjective authorial position of tomography, which I explain in Chapter 3. Using this notion of re-sounding back to oneself, Nancy draws on the grammatical nature of the French word for perception—*ressentir*—a reflexive verb that indicates "a feeling-oneself-feel" (p. 7). The Collins Dictionary (2022) defines a reflexive verb as "one where the subject and object are the same, and where the action 'reflects back' on the subject". It is in this sense that I use the term *reflexive*, in that it is not simply the mirrored copy of visual *reflection*, but a resonation and reverberation through subject as subject-object. This has implications for understanding the complex subject-object relations of sound and listening and for the negotiations of self, text and world that Gerrit Haas (2017) puts forward as the effect of ficto-criticism.

[3] For example, this phrase might commonly be expresses as "this could be viewed/seen as contradictory".

Part 3: Key Concepts and Definitions

(i) From Sound in Art to Sonic Art

Based on my definition of art as integrally reflexive, I define sonic art, also called sound art, as not simply referring to creative practices that use sound as a medium but those that have the intention of encouraging a reflexive contemplation of sound and listening. Caleb Kelly suggests that to focus only on sound as an artistic medium does not adequately encapsulate the conceptual concerns of an artist or artwork. He goes further to say that "sound in art can never be reduced to a movement or genre" (p. 18), adopting the approach that sound is "immanent to contemporary art" and turning his focus to listening to the visual arts for their inherent audibility (2011, pp. 13–15). I would argue that there are artists and artworks that are focused on the contemplation of the aural realm, whether this be through medium, form, framing or context. These works are about the effect of the medium of sound, whether they use sound as material or not, and are concerned with shifting our awareness of ourselves as listeners. Brandon LaBelle suggests that "sound art as a practice harnesses, describes, analyses, performs, and interrogates the condition of sound and the processes by which it operates" (2010, p. ix). LaBelle's definition emphasises that questioning always accompanies the sounding-listening experience, proposing there is a reflexiveness inherent to sound art practices.

Sound is manifested in the arts as installation, live performance, audiovisual work, conceptual explorations and text projects, evidencing its emergence from other forms such as sculpture, conceptual art, performance art, poetry, film and, of course, music. LaBelle suggests the term *sound art* begins to appear in the 1960s (2010, p. xxii), which Seth Kim-Cohen says consolidates into a "discrete category of artistic production" in the 1980s (2009, p. xix). Conversely, Alan Licht locates the origins of the term in the 1970s but suggests it did not gain currency until 1990s following a spate of high-profile international exhibitions (2009, p. 3). These divergences in dates illustrate the futility of attempting to carve out taxonomic niches. A full historical overview is beyond the remit of this research, but the summary below provides a background to the field, focusing on the way in which extra-musical sound manages to assert itself across art forms.

(ii) A Very Brief History of Extra-musical Sound

Some of the earliest experimental uses of sound in art can be found in the performative and textual experiments of Italian and Russian Futurists, taking place pre-World War I. This

manifests as extreme linguistic play in spoken word performances and the inclusion of the clamour of the modern world in orchestral music via new noise-making instruments. The Dadaists also undertook performative experiments of a sonic nature in their cabaret performances concentrating on word and noise (Kahn, 2001; Cox & Warner, 2006; LaBelle 2010). The development of sound on film led to early experiments with montages of everyday sounds, such as Walter Ruttmann's *Wochenende* (1930), which dispensed with image and uses sound only. In the late 1940s, the development of audio tape technologies during World War II facilitated Pierre Schaeffer's development of *musique concrète*, which is covered in more detail in Chapter 2 (Schaeffer, 2017; Cox & Warner 2006).

The 1950s and '60s saw a significant shift in compositional music, with John Cage's provocations advocating for the use of non-musical, extra-musical or everyday sounds in instrumental music. His chance-based compositional methods and non-traditional scores also opened up the performative scope to more interdisciplinary expressions (Kahn, 2001; LaBelle, 2010; Cage in Cox & Warner, 2006). It is in the 1960s, when experimental music cross-fertilises with gallery practices—sculpture, installation, happenings and conceptual pieces—that sound art begins to develop its own status as an artistic pursuit. LaBelle suggests that this is in response to the overall cultural shift from single, object-oriented art to dematerialised, relational and time-based forms (2010, p. xxi). Kim-Cohen positions sound art as an extension of minimalist and conceptual art (2009). However, the boundaries between sound art and experimental music remain fluid, often depending on context.

LaBelle suggests that sound art, through its temporal nature, operates within a field of relationality. The way in which sound propagates through space also means sound art is concerned with spatiality and site-specificity (2010). Licht concurs that spatiality is key in the shift to sound art from music, suggesting that spatiality allows these practices to escape the entertainment expectations of other time-based media and narrative forms such as music, film and literature. However, in his need to align sound art with the gallery space, Licht banishes performance as a possible outcome: "Sound art belongs in an exhibition situation rather than a performance situation—that is, I would maintain, a necessary correlative in defining the term" (2007, p. 14). Evidenced by the rich history of performed sound experiments, such as Fluxus events, Group Ongaku performances and Alvin Lucier's conceptually driven compositions—all activities regarded by LaBelle (2010) as explorations that can be understood as experimental music *or* as sound art—Licht's definition is too limiting in its binary division. His emphasis on

the spatial and the space of the gallery undervalues the temporal and ignores the potential for sonic experimentation in many more formats and venues. His restrictive, place-based taxonomy denies the very fluidity and relationality of sound occurrences and experiences that sees sound art bleeding into all manner of spaces from concert halls, to external locations, to websites. Licht's definition attempts to sidestep, or tidy up the complex entanglement of sound art and music, but in doing so, he denies the form a greater depth and breadth.[4]

(iii) Sound versus Music

Licht's need to draw a line between sound art and music is evidence of a taxonomical drive for neat categories that I argue is not constructive when considering art that is concerned with sound and listening. Given the history of sound art and its emergence through and against music and its relation to other artforms, it is not possible, or productive, to fully extricate one from the other. Sound theorist Macon Holt suggests that sound art's relation to music is one of "incredulity toward the metanarrative of music" (2020, p. 331). He proposes that sound art deals with sound

> on a pre- or even post-musical level. There is no imperative that it move to the level of music but the level of music exists and is present as a relative position in our sonic experiences as listeners and practitioners (2020, p. 331).

Salomé Voegelin highlights the intention of the listener in how a piece may be approached as music or sonic art. She says that listening with a musical aesthetic renders sounds as knowledge, arranged within set systems. This is an "*absolute listening* that evokes value and authenticity, producing the idea of an objective ideality as a kind of objecthood in a time-based medium" (Voegelin, 2010, p. 53, emphasis in original). I concur with both Holt and Voegelin. I believe that accepting the territorial ambiguity is integral to "defining" sonic or sound art. It is in the composer's intention to not simply conform to the organisational structures of musicology, Holt's "metanarrative", but to explore and reorganise the processes of sound-making and listening; and in the intention of the listener to engage with these processes reflexively that sonic art comes about. In this thinking the border between music and sonic art can remain porous, as reception is based on context and the intention of both composers and listeners, rather than on genres and styles.

[4] Licht has recently revised this 2007 book, retitling it as *Sound Art Revisited* (2019). While he proposes to have revised his binary approach to some degree, he says he is "still committed to a workable definition of sound art that avoids too much overlap with experimental music" (2019, p. ix). He essentially has not changed his position on performance. For example, to be able to call the work of Akio Suzuki sound art, he recasts his performances as "demonstrations". Having experienced Suzuki's mesmeric performances on multiple occasions I find Licht's recasting deeply problematic.

(iv) Difficulty and Reflexivity

I propose a biological and cognitive basis to the notion that sonic art, in its resistance to established musicological structures, is inherently reflexive. Scientific studies into the neurological processing of hearing (cited in Thomson, 2014) suggest that in order to save processing power, not all aural information received at the primary auditory cortex is immediately passed on to the higher brain regions that process melodic and rhythmic information. Initially, only a small sample of information is passed on from which a prediction or assumption is made about what will happen next. This inference is passed back down to the primary auditory cortex and cross-checked. If the guess is correct, then the process continues in this partial processing manner. However, if the guess is wrong then the full data set needs to be sent to the higher regions of the brain. If this is the case, then with unpredictable sonic experiences, more information must be sent more regularly to the higher regions of the brain, creating a more intensive neurological experience.

If we consider Claparède and Vygotsky's law of conscious awareness (1987), which suggests we become more conscious when we must negotiate new and unknown things, then this stretching of the auditory processing capacity while in the presence of complex creative auditory stimuli should make the listener more aware of the act of listening.[5] The intention here is not to set up a dichotomy between sonic art and music, but to acknowledge that the intention of the practice and the intention of the listener affects what is being reflected on in the listening experience, and thus justifies some separation—with permeable boundaries—of sonic art from the main body of music, while allowing for the inclusion of experimental music practices.

In the sections above I have used the term sonic art and sound art interchangeably, mainly in relation to how it is used in the texts cited. However, I suggest that sound art as term is so hotly contested (in the manner of Kelly and Licht) partly because of its grammatical awkwardness. If it is accepted that the aim of this art is to draw attention to the perceptual act of listening it might seem that "listening art" is a more appropriate term. But if we are looking for a grammatical correlate to visual arts, an adjective-noun combination is required, such as audible art. Of all the possible options, I prefer the term sonic art—where sonic is an adjective

[5] Of course, a listener confronted with some pieces of classical music for the first time may also experience this more intensive process. Theodore Adorno used the terms *standardized* and *non-standardized* music to describe this situation in the Western classical canon. Standardised music "listen[s] for the listener" and is one in which the elements and development are easily understood and predicted (cited in Thomson, 2006, p. 41). Non-standardized music attempts an "autonomy from, rather than submission to, social process" (p. 50).

used to describe things "of or pertaining to sound" (Collins Dictionary, 2022)—not only for its grammatical correlation but because it also allows for a more transdisciplinary understanding of the term. As we saw with Licht's definition, sound art has a strong association with installation and gallery-based practices, but the term sonic art allows for all manner of creative manifestations, from installation, performance, recording, conceptual and textual artworks.

(v) Defining Sound Studies

Sound studies is an interdisciplinary field in which sound and listening are the object of study across the gamut of culture, history and society. Researchers may engage with aspects of sound study through disciplines such as history, sociology, politics, gender studies, anthropology and so forth. Jonathan Sterne describes the field most succinctly, proposing that

> Sound studies' challenge is to think across sounds, to consider sonic phenomena in relationship to one another—as types of sonic phenomena rather than as things in themselves—whether they be music, voices, listening, media, buildings, performances or another path into sonic life. (2012, p. 3)

Regardless of the specific area of the sonic realm being studied, Sterne emphasises that sound studies is aware of its own history and critical in a reflexive way, invoking Pierre Bourdieu and Donna Haraway: "Both argued that knowers must place themselves in relation to what it is they want to know: they must account for their own position and prejudices, lest scholars misattribute them as qualities of the object of study" (2012, p. 4). This situated and reflexive authorship is also what I argue for through this research (with full detail in Chapter 3). So, if Sterne already insists this is present in sound studies, it might seem that I have nothing to argue. On the contrary, what I am proposing is a holistic alternative approach to sound theorising that threads the notion of reflexivity into the very form and fabric of the exploration. I will be arguing that the strategies of ficto-criticism consciously highlight subjectivity, situatedness and relationality. When combined with digital mediations that also aim to increase reflexive experiences of the reader/participant, the resulting "texts" propose a way forward in sound theory that is currently not being fully exploited.

Sonic art-focused sound studies. Within the broader area of sound studies, this research is situated in the field that concerns itself with creative practices involving sound and listening. Key theorists in the area, many of whom are drawn on throughout this thesis, include Salomé Voegelin, Christoph Cox, Brandon LaBelle, Don Ihde, Caleb Kelly, Douglas Kahn, Holger Schulze, Sanne Krogh Groth, Annie Goh, Seth Kim-Cohen, Alan Licht, Casey O'Callaghan, Jean-Luc Nancy, Michel Chion, Pierre Schaeffer and Joanna Demers, which is by no means an extensive

list or in any particular order.[6] There is much to be learned from this developing canon of texts. As sonic art has developed as a more recent artform with roots in music, visual art, film and performance practices it is not surprising that in theorising these practices we may draw on the theoretical paradigms of these forms. However, it is important to remain critically reflexive about the traditional theoretical paradigms these modes may bring with them, specifically embedded notions of spectatorship, critical distance and the need to taxonomically define and map. As I will argue through this research, I am seeking ways of theorising that are suited to the aural realm, ways not automatically transplanted or overlaid from what I will argue in Chapter 3 are potentially visual paradigms. This is not to dispense with visually based theory altogether, or to set up binaries, but to ensure that these notions are being examined and that a space for alternatives is accommodated.

Digital sound studies. Drilling down further into the areas of sound studies, this research, with its exploration of mediated forms and online publishing, is situated within the developing field of digital sound studies. Despite the sounding capacities of digital publication, the majority of sound studies texts are still presented through the standards of print, both in the form of paper books and in the relatively conservative conversion of these to static, print-like online formats with hyperlinked footnotes (at best). Conversely, digital sound studies emerged as a result of the increasing ease with which sound can be incorporated into research projects through both bespoke solutions and readily available online platforms like SoundCloud and YouTube. Digital sound studies seeks to challenge text-centric notions of scholarship and encourage ways that we may listen to critical enquiry. Listening to scholarship also offers the potential to address issues around representation and access, both in terms of the scholars who may contribute and the readers, which may extend beyond elite academic circles.

In a recent anthology titled *Digital Sound Studies*, Lingold et al. (2018) position this field within the broader area of digital humanities due to its integrated use and analysis of digital tools in research and pedagogy. Tara Rodgers also contributes a vital digital sound studies perspective in the recent *The Routledge Companion to Media Studies and Digital*

[6] It could be argued that this list is predominantly male and Euro/American-centric. I would argue that this is still representative of the publishing industry for sound theory. It is changing but slowly. A quick survey of the Bloomsbury Sound Art catalogue for 2021, reveals that only 25% involve writing by females. (I did not do a breakdown based on ethnicity as it moves beyond the scope of my discussion.) Many of the texts by female writers were on specific topics that were not relevant to my exploration of sonic art-focused sound theory. Where possible and relevant I have chosen to highlight the work of female sound theorists such as Voegelin, Demers, Cascella and Kapchan.

Humanities (2018). Growing out of the narrower form of computational humanities, digital humanities has now expanded to describe "new modes of scholarship and institutional units for collaborative, trans-disciplinary, and computationally engaged research, teaching, and publication" (Burdick et al., 2012, p. 122). Digital humanities (DH) has a reputation for large-scale infrastructural projects involving significant funding and institutional collaborations. However Lingold et al. describe digital sound studies as operating in contrast to the grander scale of DH projects. This reflects the more marginalised nature of the aural realm in general and the inbuilt DIY approach of sound and experimental music. Many digital sound studies projects that they cite have a less institutionalised approach, evidenced by the blog format of *Sounding Out!*, and the use of the popular form of podcasts to deliver "audiographic criticism" (Smith, 2019). It is within this sphere of DIY digital sound studies, with its aim to open the ears of those in the field of digital humanities specifically, and humanities in general, that I position the *Languages of Listening* research.

(vi) Defining Ficto-criticism

As a practice-based research project, I am enacting my argument for a reflexive, digitally mediated theorising through a set of online modules developed as an exploration of ficto-critical writing-as-research. Ficto-criticism, as a specific term, developed in the 1980s and '90s. In my research I undertake an analysis of the strategies of ficto-criticism and explore how they may be applied to contemporary sonic art-focused sound theory, essentially reinvigorating the form.

Anna Gibbs offers a two-pronged definition of ficto-criticism. Firstly, ficto-critical writing "uses fictional and poetic strategies to stage theoretical questions" (2003, p. 309). Significant here is the use of the verb "staging", an active verb that implies that the theoretical questions are not simply exemplified or represented through creative turns but performed or *enacted*. Gibbs use of staging implies the suspension of disbelief in which an audience concedes to delay judgement on the "truth" of a presentation, in order to meet the fabrication on its own terms. As a result, within the context of the ficto-critical there is a suspension of the demand for truth in terms of the objectivity of the theoretical/critical position. Ficto-critical writing, at its core, creates a space in which questions around subjectivity and objectivity are always explicitly circulating. Heather Kerr and Amanda Nettelbeck (1998), call this space of suspension "the space between" (the title of their collection of ficto-criticism by Australian female writers), a concept that has become integral to discussions of ficto-criticism in Australia.

The second part of Gibbs' definition, that ficto-critical writing involves a "read[ing] of theoretical texts in any discipline in the light of their rhetorical strategies and figures" (2003, p. 309), describes the intertextuality inherent in ficto-critical writing that goes beyond citation as argumentative justification to wielding it parasitically, symbiotically, contradictorily or enigmatically. Gibbs roots this notion firmly in feminist theory, citing writers like Hélène Cixous, Monique Wittig and Luce Irigaray, drawing particular attention to the latter's re-reading/writing of Sigmund Freud "in order to undo it from the inside" (2005, p. 4). Gibbs says that reading theory as fiction emphasises "textuality over 'truth'" (2003, p. 310) challenging the notion of universal and unchangeable theoretical solutions.

Returning to the metaphor of space, Anne Brewster sees the hybridising and cross-disciplinary opportunities of re-reading other theoretical texts as a "space clearing" via a "defamiliarising [of] genre" that "interrogates the way in which academic knowledges are constructed" (1995, p. 90). Susannah Worth contends that ficto-criticism

> question[s] categorisation itself. This mode of writing does not negate or render obsolete the distinctions it challenges, but plays with them, and in fact, requires their continued existence and oppositions to maintain its dynamic, hyphenated tension. (Worth, 2015, p. 8)

In this way ficto-criticism works with pluralities, interaction, intra-action and association rather than binaries and oppositional argument. Preferring the hyphenated version of ficto-critical, Worth says that the hyphen *is* Kerr and Nettelbeck's space between, "hinging" the hybridity of the approach. For this reason I too use the hyphenated version of the term in this research.[7]

While the term is known globally, ficto-criticism developed an extensive discourse in Australia and Canada in the late 1980s and early 1990s. The term comes to prominence through an interview with Frederic Jameson, who describes this new kind of writing by post-structuralists like Jacques Derrida and Roland Barthes as the "flowing together of theory and criticism" in a way that theory tells "little narrative stories" (Jameson, 1987, in Muecke & King, 1991, p. 13). Helen Flavell contends that Jameson was picking up on the term as it was being used in Canada (the interview was published in a Canadian art magazine). It was specifically used by the art critic and psychologist Jeanne Randolph to describe her way of writing experimental commentary on the Canadian art scene. In the introduction to a collection of her texts from the 1980s, editor Bruce Grenville suggests that

[7] Alternate versions, including *fictocriticism* and *fictocritical*, appear in direct quotes when used by other authors.

> [Randolph] challenges the conventions of critical writing by undermining its claims to authority, scientific objectivity, and the Real. In doing so, she disrupts the traditional representation of the art object and its claims to unity and authenticity. Through a conflation of psychoanalysis, art criticism, fictional literature, critical theory, the politics of representation and the ethics of interpretation, Randolph constructs a tenable counter-narrative of contemporary critical practice. (Grenville, 1991, p. 12)

Flavell further explores this Canadian connection in her research, highlighting that ficto-criticism is often theorised to be the result of post-structuralism and postmodernism, however, there are equally strong roots in feminist theory. As such I explore feminist theories around subjectivity and objectivity to interrogate how critical distance has an inherent presumption of a male universality. This exploration then allows me to make the case that a purely "objective" approach, and associated models of critical distance, are not well suited to dealing with the specificities of sound and listening as they manifest in sonic art.

Through this research I propose using ficto-critical writing strategies: transparent subjectivity, non-hierarchical intertextuality of fiction and theory, fragmentation, formal textual play, ambiguity and open arguments. These techniques encourage not simply a reflexive writing but also a reflexive reading. Ficto-critical writing calls for significant structural experimentation, in which form and content inform each other, perhaps even generate each other. Further, by employing digital media techniques, and with lessons learned from early e-literature experimentations and digital sound studies, I explore the complex subject-object relations of sound. This exploration results in the eight online modules housed on the *Languages of Listening* site.

(vii) Grammar as Metaphor

As my intention is to challenge traditional ways of theorising, it might seem contradictory that I frequently refer to such a conventional theoretical form as grammar. Within this research grammar operates as a metaphor or thought figure, which allows me to bring together key notions within sound and language, particularly relations between subjects and objects. This was initially inspired by the provocations of Salomé Voegelin:

> Sound, when it is not heard as sublimated into the service of furnishing a visual reality, but listened to generatively, does not describe a place or object, nor is it a place or object, it is neither adjective nor noun. It is to be in motion to produce.… listening to sound as verb invents places and things whose audience is their producer. In this appreciation of verb-ness the listener

> confirms the reciprocity of this active engagement and the trembling life of the world can be heard. (2010, p. 14)

Throughout this research I test this notion, exploring how the structures of language can grapple with the potential "verb-ness" of sound and listening, and how we can express the relationality that arises between sounds and the listener. This has led me to explore what I am calling *poetic grammars* through the *Listening Lingua* interview project, in which I asked people to describe the sounds I play them. I have then analysed their responses, not for strict linguistic codification but for hints as to how sound allows itself to manifest in language. Through this process I see grammar not as a system of codifications but as sets of relations. In this way grammar serves as an interpretive tool, one of many, which allows me to discuss these slippery subjects.

It is not just Voegelin who is interested in grammar. Both Pierre Schaeffer (2017) and Jean-Luc Nancy (2007) use grammar as a metaphoric and interpretive tool to grapple with the subtleties of sound and listening. As a native English speaker with some level of French, I can't help but be intrigued by what is lost and gained in words about sound that arise in translations of French sound theory texts. A basic example can be seen in the verb *entendre*, which is translated as "to hear". In English, we tend to use "to hear" as the biological, less reflective way of discussing sound, preferring "to listen" as the more intentional form. Yet in French, *entendre* is more closely related to *comprendre*, "to understand". This makes Schaeffer's four quadrant analysis of listening and its verbs (included on p. 30) even more complex. While I lack the linguistic training to fully pursue this line of enquiry, the subtleties, nuances and metaphorical implications that arise via attention to grammar is productive.

Similarly, I am drawn to etymologies of words, and how traces of meaning may reside through many permutations, or even flip to the opposite, which surprisingly is the case with the ancient designations of subjective and objective (Daston & Galison, 2007, p. 29). I agree with creative fiction writer Melissa Febos, who says that etymology allows us to see words as "little suitcases in which our entire history is packed. The history of colonization and imperialism is packed into every word in the English language" (in Nielson, 2021, p. 51). I attend to grammar and etymology through this research not as an expert attempting to prove a point but to open up poetics, sense and meanings beyond meanings, as Nancy (2007, p. 34) would say.

Part 4: Research Narrative

In this final section I will summarise the progression of my theoretical argument. The ficto-critical modules are introduced through the bridging sections found interspersed between the chapters. These bridges explore the relation of the modules' content to the proceeding chapter or chapters. With direct links to online modules from the bridging sections, the reader is guided through the proposed reading journey (particularly useful in the context of assessment). However, the online modules are complete in themselves and may be read in any order.

(i) Ontological Enquiries

Chapter 2, "Sonaurality: Ontologies of Sound and Listening", works through proposed ontologies of sound according to current sound theory. Through these different perspectives I am seeking to explain the complex relations that sound and listening pose, brought about by the time-based ephemerality and spatial immersiveness that are particular to sound and listening. I organise this literature into three ontological approaches. Phenomenal approaches focus on subjectivity and the relational nature of sound exemplified by the thinking of Salomé Voegelin (2010) and Pierre Schaeffer (2017), drawing on the phenomenology of Edmund Husserl and Maurice Merleau-Ponty. Second is the material perspective offered by Christoph Cox (2018), Casey O'Callaghan (2007) and Tim Ingold (2011), proposing sound as flow, event, and medium (respectively), in a manner that allows sound independence from listening. The third approach explores cognitive aspects of listening, engaging with embodied cognition developed by James J. Gibson (1986) and the concept of enaction proposed by Varela, Thompson and Rosch (1991)—perspectives from psychology that reinforce aspects of phenomenology. Collectively, these approaches form the basis of Grimshaw and Garner's suggestion that sound is an "emergent perception" (2015), a model that offers a productive collation of concepts from all three ontological positions.

By synthesising these different approaches, I offer my own proposition of the sonaural. Sonaurality considers, as a whole, the relationship of sound (both sensed and conceptual) and its perception through listening (whether real or imagined). The purely material flow of sound presented by Cox is not discounted but this sound can only be considered through listening, which then renders it part of the sonaural relationship. In terms of sonic art, sound is not something that can be explored in isolation, only worked

with, analysed and understood through its relation to listening. A sound work itself does not have to use perceptual material, but it cannot avoid reference to the perceptual as concept, memory and imagination. In this way sonic art (as an art of sound that is aimed at listening) deals with the realm of the sonaural.

Ficto-critical modules (ii): *In_Listening_In* and (iii): *Surface Friction* are concerned with these ontological details. See Bridges (ii) and (iii) for more details.

In Chapter 3, "To Prick Up the Philosophical Ear", I explore arguments by Salomé Voegelin (2010), James A. Steintrager and Rey Chow (2019), Christoph Cox (2018), James Lavender (2017) and Deborah Kapchan (2017) that an "objective" authorial position that relies on critical distance is based on an inherently visual paradigm in which the "observer" must be separate from the object of study. Considering the proposal of sonaurality, in which subject and object are in complex interrelation, this mode may not be the most meaningful for studies of creative sound. To bring depth to the discussion I survey the way that objectivity and subjectivity have been positioned as binary opposites, and how that has played out in certain philosophies such as phenomenology and American pragmatism, before turning to the more open and pluralistic positions offered by post-structuralism and postmodernism.

These multiple perspectives are then pursued through the lens of contemporary feminist philosophers. Firstly, I explore feminist subjectivities through the development of discourses around the Other as proposed by Simone De Beauvoir (2011), pursued in more detail considering the writings of Hélène Cixous and her notion of an *écriture feminine* (1976)—a writing that comes from the body that exists outside a dominant system. I then move to Donna Haraway's "feminist objectivity" enacted through situated knowledges (1988), and Karen Barad's notions of intra-subjectivity that allows for the connected-cleaved notion of together-apart (2014). This complex relation offers an interesting model for considering the inter-intra-relation of sound and listening.

From this I then offer my own conception of a productive authorial position, which I call a tomographic approach. Inspired by Michel de Certeau's extended metaphor of mapping from above (1984), contrasted with the experience of being the maker of the paths on the ground, I suggest exploring the opposite of topography through tomography. A term from medical sciences, tomography uses multiple images from within a "body" that are then compiled into a

whole from without. I see parallels in this with Haraway's partial and situated knowledges and Barad's notion of the superposed positions that can be of multiple insides (Barad, 2014, p. 176).

The ficto-critical module (ii): *In_Listening_In* explores these epistemological positions. Module (vi): *In the Wolf Thicket* is also concerned with feminist perspectives in relation to sound making. See Bridge (ii) and (vi) for more detail.

(ii) Methodologies, Methods and Strategies

In Chapter 4, "Ficto-criticism as Performative Research", I offer a mediated ficto-critical approach to implementing tomographic ways of theorising sonaurality. Firstly, I position the research within an overall practice-based performative research paradigm as proposed by Brad Haseman (2007), in which creative materials enact the research, as illustrated by my online modules. The modules have been developed through a writing-as-research method proposed by Laurel Richardson and Elizabeth St Pierre (2005), and Anna Gibbs (2015). The research activities included ongoing creative-critical writing experiments; a practice journal exploring my language in response to my sound making using auto-ethnomethodology (Skains, 2018); and a field project, comprising listening sessions with 26 participants and transcriptions of their descriptions of sound. The responses and their analysis form the content of module (iv): *Listening Lingua*. Within these writing activities I have experimented with ficto-critical strategies that I discuss in more detail along with the history and potentials of ficto-criticism. In Chapter 4 I aim to justify my use of ficto-criticism for its ability to challenge the perceived authority of more formal theory, allowing a transparent, tomographic subjectivity to develop different ways of knowing and doing theory. Most importantly, ficto-critical strategies aim to nurture reflexivity in both reader and writer in a way that correlates to the reflexivity that arises around sound and listening in sonic art.

I conclude Chapter 4 with a brief survey of creative sound theory writing, establishing the field for my research. I focus on how these writers employ ficto-critical strategies and identify where their approaches vary. I offer a small selection, each of which exemplify different approaches, such as Voegelin (2019), Daniela Cascella (2015) and Joanna Demers (2015). I also look at the notion of sonic fiction as an element in creative writing in general and as a particular "uppercase" form, originating with Kodwo Eshun's *More Brilliant than the Sun* (1998) and currently being manifested by Steve Goodman (2009) and the AUDINT collective (2019). I explore the strategic and intentional similarities and differences of these

examples in relation to my own ficto-critical approach. The survey is also intended to highlight the quality and variety of current creative sound theory, making a case for its contribution to sound studies.

See Bridge (iv) for more introductory detail on module (iv): *Listening Lingua*, which complements Chapter 4. This module and the exegetical assessments included in Chapter 6 constitute the findings of this research.

My research also proposes that an alternate art-focused sound studies moves beyond the linear structures of print, engaging with the affordance of digital publishing. In Chapter 5, "Mediations: Digital Literature and Audiography", I offer a brief history of e-literature, focusing on the challenges that hypertextual and multicursal reading presents to universalist notions of interpretation, drawing on the writings of Espen Aarseth (1997), N. Katherine Hayles (2002), Jay D. Bolter (2001), James O'Sullivan (2019) and more. I focus on the confluences of concerns between e-literature and ficto-criticism, exploring how mediation may enhance both the reflexive writing and reading experience. Further addressing the affordances of digital publishing, I expand on the use of audio within a theoretical paradigm that is taking place within digital sound studies. I concentrate on critical discussions around audiography presented as podcasts and audio papers, discussing examples such as Jacob Smith's ten-part *ESC: Sonic Adventures in the Anthropocene* (2019). I also briefly look at two examples of "born digital" online sound journals, *Sounding Out!* (US) and *Disclaimer* (Aus.), highlighting the affordances that online publishing offers creative sound theory and how this may further establish the field.

Complementing Chapter 5 is module (v): *Memexical Machine Reading (MMR),* a remix/redux literature review that is introduced further in Bridge (v). Modules (vi), (vii) and (viii) also relate to the content of Chapters 4 and 5 in that they are enactions of mediated ficto-criticism in various forms. Their particular interrelations are discussed in detail in Bridges (vi), (vii) and (viii).

(iii) Findings and Exegetical Analysis

The bridging sections not only introduce the online modules but also explore exegetical reflection in terms of content and mediation. In Chapter 6, "Exegetical Congeries", I focus on evaluating each module in terms of how it has employed mediated ficto-critical strategies and what these have brought to the module's subject of concern. I reflect on how, as a complete

project, *Languages of Listening* online contributes to sonic art-focused sound studies. Considered with *Listening Lingua*, these elements constitute the findings of the research.

(iv) The End of the Beginning

Languages of Listening is a two-streamed exploration in which I offer traditional theoretical argument and an enaction of my proposals through the online ficto-critical modules. In working across sonic art, sound studies, digital literature and literary theory I believe I have developed an innovative cross-disciplinary approach. In my pursuit of alternative ways to explore sonic art-focused sound theory, my approach is deliberately associative rather than argumentative. This is particularly evident in the ficto-critical modules, but it also inflects the way I conduct my discussions in this theory document. I believe and will be "arguing" (by not arguing in the standard form) that when considering the very slippery nature of sonaurality that it is more productive to collect, associate and synthesise ideas in a way that creates generative thinking, rather than to insist on one 'true' path that minimises or dismisses others. I will also quote theorists' texts quite generously, as the very premise of this research is that the specific language that we use to describe sonaurality is revelatory of our perceptual and conceptual understanding. This exploration of the language we use to describe sound is the focus of module iv: *Listening Lingua*. My associative, less argumentative approach is not simply a matter of style, but is intended as way to "do" criticality differently. I concur with Susan Sontag who claims that style and content are inextricably entwined as "every style embodies an epistemological decision, an interpretation of how and what we perceive" (2009, p. 35). My mediated ficto-critical approach, evidenced in the online modules, but also in aspects of this theory document, grows out of my ontological and epistemological arguments, and in its performative writing-as-research approach proposes and develops methods and methodology that grow out of these epistemological concerns. In my proposal of a mediated ficto-critical approach to sonic art-focused sound theory I do not mean to deny the importance of more traditional modes of theorising, however, my mediated ficto-critical approach is intended to offer another perspective, one based in practice and sensorial engagement with the subject—my epistemological understanding of the world—which may be used by others as well, to enrich and expand existing art-focused sound studies.

Bridge
Module (i): Listening to My Listening

The introductory module, *Listening to My Listening,* is designed to complement the traditional theory introduction. It explains the background context of the research in terms of both my practice and the broader theoretical and psychological context. The initiating premise of the research comes from a fascination with what happens to us when we listen—in particular, how our thoughts move towards language. For me, I am most aware of this movement of thought to language when I am listening, thus my interest in endophasy or the inner voice, and in experiential descriptions of listening.

The module is structured around three streams of writing, arranged into four layers or stages accessible via the navigation map. The navigation system could be compared with choosing dishes from a four-course dinner menu, although all dishes are to eventually be consumed. Each lexia (the blocks of text that comprise each subsection)[1] can be read in any order, with the reading experience still offering an understanding of the key themes, however, there is a chronological sequence revealed when reading stage by stage. Within each stage the lexia may be read in any order, although a linear path has been provided to assist with choice fatigue or confusion.

The three streams explore three different styles and approaches to the topic. Endophasy comprises four prose poems in which I creatively document and analyse my processes of listening.

Practice Notes reflect on a number of my previous projects. "Listening in RealTime", and "Watch Me Type" provide historical, autoethnological background, describing the development of my practice in relation to the current cultural milieu. "Rope Making" and "We Are All Oscillators" are drawn from my practice journal that uses an auto-ethnomethodological approach (Skains, 2018), in which I write about my process while in process, rather than retrospectively, which Skains suggests allows for insights into creative cognitive processes (p. 87). It is also influenced by Kontturi's suggestion that writing about practice (both your own and others') requires a process of "following" (2018, p. 10). The pieces examine the way

[1] Roland Barthes used the term *lexia* to describe "a series of brief, contiguous fragments…units of meaning" (2022a, p. 13). It was adopted by early e-literature writers as the name for individual blocks of linked text (Landow, 1992, pp. 3–4).

language interacts with my listening while I am in the process of making sound. Each of these lexia include audiovisual material that exemplifies the works that are being discussed.

In the Frameworks section I delve into research around listening and the inner voice. These are concise explorations of concepts from psychology and cognitive science offering insight into notions of thought, language and listening.

The coda, "A Listening Consciousness", brings together the streams of thought explicating a conceptual framework for art as perceptual reorganisation, and listening to sonic art as an act of heightened awareness—core conceptual notions that underpin this research.

This module offers an alternate introduction, complementing Chapter 1.

For exegetical evaluation of this module see Chapter 6, "Exegetical Congeries".

Proceed to module (i): *Listening to My Listening*

Chapter 2
Sonaurality: Ontologies of Sound and Listening

As defined in chapter 1, sonic art is not simply about the medium of sound but is concerned with experiences and contexts in which sound and listening are explored. This section surveys significant philosophical and theoretical propositions that have been developed to explain what sounds themselves might be and what listening to sound entails. The aim is to draw together an account of what I propose is the *sonaural*—the combined mode of sound and listening that is the key concern of sonic art. It is my contention that the complex relation of sound and listening—object and subject—offers possibilities and potentials for rethinking the way we theorise, ways that do not rely on the separation required for traditional observational critique. In the following chapters I will unpack this idea in more detail and offer my alternate proposition of mediated ficto-criticism. In this chapter I will focus on developing my idea of sonaurality through a survey of current ontological debates around sound and listening, particularly as it relates to sonic art.

Drawing on an exploration of sound theory from the last ten years, I argue that the ontological debates fall into three categories (which are not necessarily mutually exclusive): the perceptual (phenomenal), material (realist) and cognitive (psychological/biological). Firstly, I look at perceptual ideas from Salomé Voegelin (2010) with reference to Edmund Husserl (1931), Maurice Merleau-Ponty (2012) and Pierre Schaeffer (2017); followed by the material perspectives of Christoph Cox (2011, 2018), Casey O'Callaghan (2007) and Tim Ingold (2011); and lastly, embodied cognition and enaction as proposed by Francisco Varela et. al (1991), which extends phenomenological theories into psychology—offering the beginnings of a transdisciplinary understanding of sound.[1] Ideas from embodied cognition culminate in a discussion of Mark Grimshaw and Tom Garner's proposal for sound as an *emergent perception* (2015) that goes someway to uniting all these previous notions. Like Voegelin (2010, 2014, 2016) and Byrne (2017) I conduct this literature review with the purpose of developing a pluralistic understanding of sound and listening. This is then encapsulated in the final section of this chapter, which details my proposal for sonaurality.

[1] A more detailed exploration of a transdisciplinary approach to sound that considers the neurological interpretations of sound and language are beyond the scope of this particular thesis. However, I will build on this introductory research in future projects, working with a more specific transdisciplinary approach.

Part 1: Phenomenal Relations

(i) Voegelin's Sonic Sensibility 1: Immersive Correlations

It was Voegelin's *Listening to Noise and Silence: Towards a Philosophy of Sound Art* (2010) that initially resonated with my intuitive understanding of sound, theory and the way I work within sonic art. While her approach is pluralist and draws on a range of theoretical notions, the phenomenological principles set out in *Listening to Noise and Silence* create its foundation. Voegelin makes several proposals about sound and listening that lend it to phenomenal understanding: it is immersive, relational, temporal, doubtful and generative. In this first section I will deal with the implications of the immersive and relational nature of sound, exploring the remaining proposals in section (iii).

The immersive nature of sound means we cannot be outside of or separate from the experience of sound. The complex relation of the sound and listener that arises through this immersion challenges fundamental assumptions around the independence of subjects and objects. Voegelin proposes that to listen is not only an engagement with the sound but through this intentional engagement "the world and myself within it are constituted" (2010, p. 3). This constitutive proposal is rooted in phenomenology as originally proposed by Husserl and further advanced by Merleau-Ponty.

The founding principles of Husserl's phenomenology is that there is the "noema", the object that is being perceived—sound, in Voegelin's case—and "noesis" or the "noetic act", the way in which something is experienced (Ihde, 2012, p. 25)—the act of listening. The noetic act utilises a bracketing of external assumptions and preconceptions, called an *epoché*, which allows us to experience the essence of an object as it is presented to us perceptually. Without this phenomenological approach, the world appears to us in a "natural", naïve way, the constancy of which makes it difficult to separate out our consciousness of the world—to be conscious of our consciousness. When we specifically turn our attention to something using the *epoché*, we become aware not of the thing itself, as we can never know the thing itself in its entirety, only our perceptual perspectives on it (Husserl, 1931/2017, p. 147–148; Käufer & Chemero, 2015, p. 38). Through the object and its bracketed contemplation, we become conscious of this act of consciousness. This resonates with the idea of "conscious awareness", or reflexivity, as proposed by Claparède, Vygotsky and Noë, which I discuss in the Chapter 1, arguing it to be fundamental to art and mediated ficto-criticism. While bracketing produces a

reduction of distractions and increased focus, the act of doing so introduces a degree of difficulty and a negotiation of these distractions. The result is a heightened perceptual awareness, a reflexive subjectivity.

Don Ihde describes the relation of noema and noesis as giving phenomenology a "characteristic shape" that allows the experience of the subject to be legitimately at the forefront.

> [A]ny object-in-itself and equally any subject-in-itself remains "outside" phenomenology. It is here that the Husserlian avoidance of "realism" and "idealism"—both of which are ultimately inverse sides of the same "metaphysics"—arises. "Objectivism" and "subjectivism" are both part of a "Cartesian," dualistic myth to which Husserlian phenomenology sees itself opposed as the radical alternative. (Ihde, 2007, p. 35)

According to Ihde's interpretation, Husserl's correlation of noema and noeisis provides an alternative to the subject-object dualism that dominates philosophy. It also allows for a first-person reflexive description of experience that is not to be dismissed as purely introspective.

Voegelin concurs that the correlation of object, subject, sound and listening cannot be captured by the simple notion of subjectivity; rather, the process of sound and listening is intersubjective, with the sound, although an object, equally exerting itself, in a materialist non-anthropomorphic sense, on the listener subject. (This proposition illustrates how Voegelin also incorporates materialist notions into her phenomenology, that will be discussed further in Part 2.) Sound is "made" in the listening: "the auditory is generated in the listening practice: in listening I am in sound, there can be no gap between the heard and hearing" (2010, p. 5). This employs Merleau-Ponty's proposal that we are not just directed towards an object, but that it is equally directed at us, drawing us towards it (Merleau-Ponty, 2012, p. 115). Merleau-Ponty brings the role of the body to the fore, suggesting not only that our intentions are "motor-intentional actions" directed at objects but that these motor intentions, which become skills and habits, are "drawn out from the body by the object" (Käufer and Chemero, 2015, p. 115). For example, the shape and nature of a cup draws the hand to grasp it. In this way the subject and the world are made by each other. It is impossible to conceive "of a subject without a world" (Merleau-Ponty, 2012, p. 343). Our engagement with the world has bi-directionality—it is a mutual and reciprocal relation of the subject (as mind-body) and the sensory object (world). From this Voegelin concludes that the relationship of sound and listening is a generative one involving an intersubjectivity of experiencer and world.

(ii) Schaeffer's Sonorous Objects and Listening Intentions

While the majority of phenomenology has used sight as the exemplar, preceding Voegelin's sonic exploration is Don Ihde's thorough methodological application of phenomenology to listening (2007), which I draw on at many points of this research. However, the earliest and most comprehensive engagement with sound and phenomenology can be found in Pierre Schaeffer's practice of *musique concrète*. Schaeffer's work and writings highlight a methodology of thinking through and with practice from an interior position of the maker. I contend that this embedded position is key to rethinking sonic theory. Through this chapter I will explore the different nuances of interiority and subjectivity finally offering the figure of tomography as way to consider a layered and reflexive understanding of theorising from within.

Through his work as a radio producer and engineer Schaeffer experimented with the technologies of phonography and reel-to-reel tape that emerged in the late 1940s, creating compositions from the sounds of the world around him. Documenting this process resulted in his *Treatise on Musical Objects: An Essay Across Disciplines* (2017), running to over 600 pages.[2] Within its detailed analysis there emerges a number of key concepts that evidence his application of phenomenology. Of relevance here are his notions of the acousmatic situation, listening intentions, the possibility of the sound object, and the correlation of this object and the listener's intention.

The acousmatic situation. Through his work manipulating real-world sounds with the mediating technology of phonography and reel-to-reel tape, Schaeffer became interested in how the separation of sounds from their sources affected the way they were perceived. Through this separation he proposed that we might be able to listen more specifically to the qualities of the sounds without recourse to a figurative cause. To describe this separation he adopted the term *acousmatic*.[3] The notion of the acousmatic dates back to Pythagoras, who chose to deliver his lectures behind a curtain so his students could concentrate on his message. Similarly, Schaeffer says, "[t]he dissociation of sight and hearing encourages another way of listening: listening to sound forms, without any other aim than to hear them better, so

[2] This text has only recently been fully translated into English, so while French speaking theorists and artists have been able to access the comprehensive nature of Schaeffer's thinking since its original publication in 1966, the English-speaking world has been making do with a small number of excerpts and summaries. A translation of Schaeffer's preceding text, *A la Recherche d'une Musique Concrète* (1952), or *In Search of a Concrete Music* (2012), is also relatively recent.
[3] Schaeffer credits his adoption of the term to the poet Jérôme Peignot, with whom he had collaborated.

that we can describe them through analysing the content of our perceptions" (2017, p. 66). However, the acousmatic situation alone does not bring about the sound object, with Schaeffer acknowledging that it "makes it possible—but not compulsory" (p. 111), given that being confronted by a sound without its visual origin can make one even more curious to uncover it. However, hearing without seeing can also encourage what Schaeffer describes as "the tuner's interest, 'tasting' the sound as one tastes a wine, not to tell the vintage but to identify its virtues" (p. 113). It is by adopting this second attitude, ignoring signification and semantics, that we can perceive the sound object.

Listening intentions. Schaeffer uses the term *reduced listening* to describe the attitude of ignoring signification and semantics. This contrasts with *natural listening*, the "primary and primitive tendency to use sound for information about the event" (Schaeffer, 2017, p. 86). He also specifies other listening intentions, such as *cultural* and *musical* listening, which engage more with contextual meanings and significations, and also *ordinary* and *specialised listening*, which work with different levels of focus. Schaeffer breaks down the purpose and functions of these listening intentions using a four-part system that considers listening modes in terms of abstract or concrete, and subjective and objective.[4]

	Abstract	Concrete
Objective	4) To understand (*comprendre*) the meaning of sound as signs	1) To listen (*écouter*) to events and causes of which the sound is an index
Subjective	3) To hear (*entendre*) the selected sound object by means of perception	2) To perceive aurally (*ouïr*) the raw sound objects, raw perception

Figure 2. My interpretation of Schaeffer's communication circuit, based on Schaeffer 2017, p. 83.

These modes are not exclusionary; rather, they operate as a "communication circuit" of changing flows. By analysing the combinations, Schaeffer hopes to find ways in which people

[4] The translation of the French verbs into English causes some potential confusion. Anglophones tend to simplify aural reception to two terms: the biological, mechanical, passive act, "hearing", and the attentional mode that seeks active engagement, "listening". This usage initially seems opposite to Schaeffer's proposition that *écouter*, translated in English as "to listen", is the concrete, objective state of being aware of a sound in a more general way, while *entendre*, "to hear", is the specific, subjective, abstract mode of attentional selection within sounds. This is justified in French by the fact that etymologically, *entendre* contains within it the notion of "tending toward, therefore intention" (Schaeffer, 2017, p. 103).

might be encouraged to appreciate musique concrète, a music made of real-world sounds. He wants this music to be heard not as narrative or meaning based on the source, but as musical expression itself. From this analysis he proposes the intention of reduced listening that focuses on the sounds of the sound without reference to cause (section 1 in Figure 2) or to meaning (section 4). What we then hear is what Schaeffer calls the *objet sonore,* the sound object or sonorous object (2017, p. 115–116).

Correlation of sound object and reduced listening. The sound object is neither the object that makes the sound nor the media that holds the sound (for example, a record, tape or digital file) but the sounding itself. However, the sounding can only become a sound object through its correlative intention of reduced listening:

> There is a sound object when I have achieved, both materially and mentally, an even more rigorous reduction than the acousmatic reduction: not only do I keep to the information given by my ear…but this information now only concerns the sound event itself: I no longer try, through it, to get information about something else (the speaker or his thought). It is the sound itself I target and identify. (Schaeffer, 2017, p. 211)

In this we see the phenomenological "shape" of which Ihde talks. It is a correlation of the object of consciousness, "acoustic action" and the intention towards the object by the subject, "a listening intention", which results in the emergence of the sound object (p. 213).

Schaeffer is at pains to present a very pragmatic system, defending his conception of the sound object against the criticism that it is subjectively in the mind of the perceiver. He suggests that the transcendence of the perceived object—in that it is "situated in the world I recognised as existing for all" and never "merges with the perception I have of it" (pp. 207–208)—ensures this is not the case. (This conception of the object that exists independent of us comes to the fore in the materialist approaches discussed shortly.) Like Husserl, Schaeffer suggests a reconsideration of the classic binary of objectivity and subjectivity as discrete modes, suggesting that in the sound object "objectivity [is] bound to subjectivity". This is the complex that Voegelin describes through her term *intersubjectivity*. Schaeffer continues that this blurring of boundaries should "surprise us only if we persist in seeing the workings of the mind and external realities as opposites" (p. 69). Schaeffer's propositions (informed by Merleau-Ponty) offer a cogent argument for the breakdown of discrete binaries of subject and object and also suggest a permeability between the interiorities of mind and exteriorities of environment that are the focus of embodied cognition discussed in Part 3. I have gone into

some depth here as I believe that, due to lack of English translations, the specificities of Schaeffer's arguments have been overly summarised (to the point of aphorism) in much sound commentary and that these details are actually highly productive in understanding a phenomenological ontology of sound and listening.

(iii) Voegelin's Sonic Sensibility 2: Temporal and Generative

Voegelin expands on Schaeffer's sound object (with its musical application) by proposing the *auditory object* (Voegelin, 2010, p. xii) or *sonic object* that is co-constituted by the listening intention, or more generally the listener. In this way, she says, "Listening discovers and generates the heard" (p. 4). It is the generative properties of sound and its relation to temporality that is the focus in this section.

In his sonic application of Husserl's visually-focused phenomenology, Ihde reworks concepts that relate to notions of spatiality, applying them instead to temporality. Husserl discusses temporality in terms of "protensions" and "retentions". Protensions are "futurally" focused "'empty intentions' that 'search' the coming into presence" (Ihde, 2007, p. 91). As the "now" passes, it results in retentions (p. 89). Sounds arrive from a temporal horizon, the future, and move through the field of focus, the present, into the past. In this way sound embodies the temporal flow.

> [W]hen I listen to auditory events there seems to be no way in which I can escape the sense of a "coming into being" and a "passing from being" in the modulated motions of sound. Here temporality is not a matter of "subjectivity" but a matter of the way the phenomenon presents itself. I cannot "fix" the note nor make it "come to stand" before me, and there is an objective like recalcitrance to its "motion." (Ihde, 2007, p. 94)

The idea that listening requires a searching forward for sonic presence with "empty intentions" (Ihde, 2007, p. 91) illustrates the activated and open nature of meeting sound through listening in a way that ushers in its presence, through what Voegelin calls "reciprocal inventive production" (2010, p. 5). Voegelin describes this through the metaphor of exploration:

> …listening is not a receptive mode but a method of exploration, a mode of 'walking' through the soundscape/the sound work. What I hear is discovered not received, and this discovery is generative, a fantasy: always different and subjective and continually, presently now. (2010, p. 4)

I embrace this notion of discovery as it preferences the experiential understanding of sound and listening that underpins my argument for the tomographic authorial position that I will elaborate on further. Voegelin suggests that a concentration on the temporal flow also

"renders the perceptual object unstable, fluid and ephemeral" (p. 12). This ephemerality and accompanying doubt are an integral part of sound and listening: "Between my heard and the sonic object/phenomenon I will never know its truth but can only invent it, producing a knowing for me" (p. 5). While Schaeffer attempts to deny the subjectiveness of the sound object, Voegelin's generative proposal embraces subjectivity, but tempers any potential insularity with the notion of an intersubjectivity that acknowledges the agency of the sound within this relationship.

In this section I have looked at how the philosophical framework of phenomenology, as proposed by Husserl and Merleau-Ponty has been applied to aurality by Voegelin, Schaeffer and Ihde, suggesting that sound and listening cannot be considered as separate activities. Sounds rely on the intentionality of listening to be manifested as "objects", conversely sounds make offers that solicit listening intentions. In this way a phenomenological approach to the aural realm challenges the dualities between subject-object and subjectivity-objectivity. To work with these blurred boundaries, Voegelin talks of sound and listening as intersubjective, reflecting the way in which sound and listening co-constitute each other. This co-constitution is temporally generative and ephemeral. I concur with Voegelin that these ontological elements are significantly different to visuality. They require epistemological approaches, such as phenomenology, which meet these specificities on their own terms, approaches that allow for an equally generative thinking and writing—what Voegelin calls a "sonic sensibility".

Part 2: Sound as Material, Flow and Medium

(i) Cox's Eternal Sonic Flux

I will now consider the materialist realist ontology presented by Christoph Cox as the contrast it offers in terms of the relation of sound and listening is constructive in developing my comprehensive notion of sonaurality. Cox proposes that sound is an independent, eternal flow, present as something unto itself, whether we attend to it or not. When we listen, we are momentarily tuning in to this "sonic flux" (Cox, 2018).

Cox's account is based on the theories of Arthur Schopenhauer and Friedrich Nietzsche, which suggest that the world around us comprises energies and material flows. Schopenhauer proposed that "the world is will: an undifferentiated, propulsive energy or force" that we

generally can only experience through representations (Cox, 2018, p. 19). Art generally deals in this representation but music, which is non-representational, is in fact a "copy" of this energetic force or "will" (p. 20). Nietzsche continues Schopenhauer's argument, proposing that music is "an audible expression of nature in all its dynamic power" (Cox, 2011, p. 150). Nietzsche collapses nature and culture together, asserting that nature itself is "creative" and that when humans create they are not representing nature but reiterating nature's impulses. In this way art and human culture can be subsumed into nature and all aspects form part of its flow (2011, p. 152).

Turning to contemporary examples, Cox draws on conceptions of noise as proposed by John Cage and Jacques Attali. These differ vastly in their arguments around its value and meaning, but share a common understanding that noise is an ongoing, underpinning continuity. Cox suggests that for Cage, there is a "ceaseless production of heterogeneous sonic matter" that "precedes and exceeds individual listeners". Music (made of sounds) is all around us all the time, and the act of composition is one of intermittently framing this flow by creating constructs that encourage us to listen to it in a way that makes composers "curators of this sonic flux" (Cox, 2011, p. 155). For Attali, noise is the background substance, both materially and metaphorically, from which sociocultural activity arises. Attali suggests that the disruptive force of noise is ever present and acts as the agent of change, causing shifts in territorialisation. Cox explains that for Attali "It's not that noise is too little, lacking form, sense, order, differentiation, and the like; rather, it's that it is too much, overwhelming the system with energy, information, and potentiality" (Cox, 2018, p. 47). This conception of noise preferences its ongoing existence and its realist and agential capacities in the absence of any listening relationship.

Cox's materialist argument also draws on Gilles Deleuze's notion of the interplay of "the virtual", which describes "real tendencies, capacities, and thresholds (boiling or melting points, for example)" that are part of matter, and "the intensive", which is "the engine that actualizes the virtual, the set of forces, powers, and differences that produce empirical beings" (Cox, 2018, pp. 27–28). Existing in a continuum, Deleuze proposes that artistic experiences are ones in which the virtual and the intensive are made available to the senses (Cox, 2018, p. 30). This is not a representation of the flow of materials but, as Deleuze says, a sampling. Sound art activities, Cox concludes, are projects that sample the flow and reveal the "'intensive' dimension of sound" (p. 5). The key point within the context of this research is that Cox presents a transcendental realist view in which sounds do not need a listener but listening needs sounds.

(ii) O'Callaghan's Sonic Event

Key to Cox's argument is the shift away from an ontology of objects to one of flows. In this he is guided by Casey O'Callaghan's reframing of sound as event (2007). According to O'Callaghan, an object, through some force, is set into vibration. This vibration creates a disturbance, and it is this disturbance which is the event of sound. The subsequent information of this disturbance is carried through a medium as a wave, which is then perceived as an auditory experience. O'Callaghan defines sound then as a *disturbance event* that occurs *between* the causal object and the resulting wave.

O'Callaghan's argument rests on the temporality of sound. Sound, when compared with vision, is often grouped with second-order qualities of an object, such as colour, taste and smell, rather than existing as a thing-in-itself. However, through its temporality, sound does not persist like the second-order qualities of the other senses, thus it is more aligned with the time-based nature of an event (2007, p. 11). While sounds are temporal events, O'Callaghan insist that this does not then mean that they are the pressure wave that carries the audible vibrations. He mobilises the locational nature of sound as justification, suggesting that we hear sound as located near its source rather than moving towards us in the way the longitudinal pressure wave carrying the audible information moves through the air. In this schema it is the waves that travel towards us, not the sound (p. 46).

While the insistence on an intermediary event between the vibration of the object and the vibrating medium may seem an extra complication, O'Callaghan's theory offers an interesting proposition for ways in which sound can exist, causally related to both production (object-focused) and reception (subject-focused), yet still conceived of as a thing-in-itself—an event as "thing".[5] As an event, sound operates in "causal relationships" (2007, p. 58) in which "[a]udible qualities of sounds thus are medium dependent. The medium is not the sole subject of sounds; neither is the object" (p. 56). While O'Callaghan's approach varies from the phenomenological and allows for sound to be a thing-in-itself, it maintains the productive "betweenness" and interdependencies of relations in the consideration of sound and listening.

[5] Although O'Callaghan does not refer to it, this classification of event as object has resonances with Graham Harman's expansive definition of objects as "anything that cannot be entirely reduced either to the components of which it is made or to the effects it has on other things" (Harman, 2018, p. 43). In fact, Harman's definition perfectly mirrors O'Callaghan's sound as event theory, as Harman's object and O'Callaghan's sound-as-event cannot be reduced to the object that vibrates, nor to any affect that the vibration has on the listener, but stands as a thing-in-itself between cause and effect.

(iii) Ingold's Perceptual Medium

Cultural anthropologist Tim Ingold also works with notions of a materialist flux and flow, but he makes a distinction between "objects" and "things". Based on the work of Martin Heidegger, Ingold suggests that objects are closed in on themselves and we can only interact with them rather than exchange and respond. In contrast, "things" are "a gathering of materials in movement" and we participate in their "ongoing process of formation" (Ingold, 2013, 47–50 min).

In regard to sound, Ingold says it "is neither mental nor material, but a phenomenon of experience—that is, of our immersion in, and commingling with, the world in which we find ourselves" (Ingold, 2011, p. 137). He proposes that sound cannot be an object, in the same way that light (which he classifies as the visual correlate of sound, rather than sight), cannot be an object. Rather, light and sound are the medium of our perception: sound "is what we hear in" (p. 138). In his criticism of the concept of the *soundscape*, Ingold suggests that the term implies an emphasis on surface and topology when in fact sound (and light) "are infusions of the medium in which we find our being and through which we move" (p. 138), rendering concepts of flow and flux more useful. (I pursue Ingold's concept of sound as medium in more detail in ficto-critical module (iii): *Surface Frictions* > Substance & Surfaces.)

With the notion that we perceive within and in relation to our environment, Ingold aligns his thinking with Merleau-Ponty's phenomenology in which the sensing and sensed are inevitably entwined in what Ingold calls a *meshwork*. This meshwork is not "an interactive convocation of existing entities" but instead describes the "co-responsive movement of the occurrences of things" in the process of becoming (Ingold, 2013, 50 min 35 sec). However, he is wary of the emphasis on embodiment and "emplacement" within phenomenology (Ingold, 2011), suggesting that this still conceals a duality that can potentially produce a split between mind-body and world. These notions erroneously trap and "coagulate" the possibilities for experience, separating them from the flow, when in fact the key quality of things (of which we are one), is that they "leak… interchanging materials" (Ingold, 2013, 57 min). Instead, Ingold proposes the term *ensounded* to describe the way in which a human is within sound:

> Sound flows, as wind blows, along irregular, winding paths, and the places it describes are like eddies, formed by a circular movement around rather than a fixed location within. To follow sound, that is to listen, is to wander the same paths. Attentive listening, as opposed to passive hearing, surely entails the very opposite of emplacement. (Ingold, 2011, p. 139)

Here we can see how Ingold brings together the shifting mobilities of a sonic materialism with the intrinsic relationality and intentionality of phenomenology to extend out from an anthropocentric notion of listening.

Similarly, Voegelin offers a formulation that combines materialist and phenomenological positions into an embodied materialism. In her essay "Sonic Materialism: A Philosophy of Digging" (2019), she presents a counter to the masculine materialist perspectives of theorists such as Quentin Meillasoux and Graham Harman, who absent the body in their attempt to dehumanise the material world. This, she proposes, is a position of a privileged body that has already "mattered" and so it seems unnecessary to keep it as part of the equation. (We will see in the next chapter how a feminist perspective challenges assumptions around the male presence as a given, coming at the expense of a repressed presence, or absenting of anything that is not male). Through the writings around embodiment and the Other by Luce Irigaray and Karen Barad (both of whom will be discussed in the next chapter) and Rosi Braidotti, Voegelin argues for a feminine materialism in which the body as matter should be considered as part of a materialist account. Voegelin exemplifies this embodied materialism through an account of Éliane Radigue's composition *Naldjorlak* 1 (2005/2017), focusing on the collaborative encounter of composer, sound maker, space, sound and listener. In Voegelin's account, the materialist perspective is still integrally one of relations—relations between matter that reflect the correlational shape of phenomenology. In the work of both Ingold and Voegelin we can see that when considering sound, materialist and phenomenological positions are not necessarily opposed and can inform and enrich each other. This evidences how entertaining multiple ontological accounts of sound can be more productive within sound theorising.

Part 3: Cognitive Collusions

(i) Gibson's Embodied Perceptions and Engaged Environments

In the following section I will explore developing thought in cognitive science and the psychology of perception, illustrating how it intersects with the philosophical positions around

sound discussed so far. Of particular interest is how cognitive approaches inform or are informed by phenomenological philosophical perspectives and how this may lead to a transdisciplinary ontological perspective on sound and listening that can be productively leveraged in the development alternative sound theory. Stephen Käufer and Anthony Chemero suggest that phenomenology actually "blurs the lines" between philosophy and psychology and cognitive science because they all "aspire to give an account of perception" (2015, p. 95). Merleau-Ponty's theories were certainly guided by research in psychology that was developing at the time. Similarly, psychologist James J. Gibson was aware of Merleau-Ponty's work, and both were influenced by Gestalt theory. Gibson's ecological psychology of perception was actually developed through functional psychology, radical empiricism and pragmatism as proposed by William James (Gibson, 2015; Käufer & Chemero, 2015). Regardless of its origins, Gibson's theories resonate with phenomenological concepts of correlation and serve to highlight constructive parallels between certain aspects of Continental phenomenology and North American pragmatism.

As is the case with most early studies of the senses and perception, Gibson focuses specifically on the visual, but his proposal for a "perceptual system" has relevance across all senses. Gibson challenges the externalised behaviourist notions that dominated psychology at the time, as well as the internalised cognitivism that focused on brain-based computation: "Why must we seek explanation in *either* Body or Mind? It is a false dichotomy" (Gibson, 2015, p. xii, emphasis in original). Like Merleau-Ponty, Gibson proposes that our perceptual engagement with the world is a whole-bodied activity: our eyes are in our heads, which are capable of swivelling; our heads are on a body with limbs to enable movement through the environment. We move through our environment in response to the stimuli it provides.

Also similar is Gibson and Merleau-Ponty's ordering of perceptual activities. Merleau-Ponty proposes that all consciousness is firstly a consciousness of perception which then becomes consciousness of the thing being perceived, a notion he calls the "primacy of perception" (Merleau-Ponty, 2012 p. 213). Gibson's model, though slightly different also places perception first. The previously held notion was that perception *follows* sensation; we sense something that then becomes perception through cognitive processes. He proposes "direct perception" that operates simultaneously with sensing. The senses involve receptors housed in an organ, which send information to our cognitive systems. The perceptual system enables the sense organs to engage with the environment through "its adjustments at any

given level of functioning" (Gibson, 2015, p. 234). Gibson argues, therefore, that perceiving is "a psychosomatic act, not of the mind or of the body but of a living observer" (p. 229). This exemplifies the development of Husserl's noesis, or intention towards, into Merleau-Ponty's notion of "motor-intentionality", whereby we respond to the offers of the world through our embodied actions (Merleau-Ponty, 2012). For Gibson, perceptual systems comprise both an embodied awareness of stimuli in the environment and a response to it, which forms a continuous active loop. The stimuli reflect the "affordances" of objects—the opportunities or invitations of objects in the environment that encourages certain modes of action.

> The theory of affordance implies that to see things is to see how to get among them and what to do or not do with them. If this is true, visual perception serves behaviour, and behaviour is controlled by perception… we must perceive in order to move, but we must also move in order to perceive. (Gibson, 2015, p. 213)

Thus, we see that there is an inseparable, cyclical relation of environment and perceiving body—object and subject.

Gibson's theory of affordances resonates with Merleau-Ponty's notion that the skills of the body are in response to the solicitations of the objects in the world in which "to move one's body is to aim at the things through it, or to allow one's body to respond to their solicitation, which is exerted upon the body without any representation" (Merleau-Ponty 2012, p. 140). The rejection of representation in the process of perception is also key to Gibson, who considers perceiving to be "an achievement of the individual, not an appearance in the theater of his consciousness" (2015, p. 229). For both Merleau-Ponty and Gibson the mind-body responds to direct invitations from the world rather than mediated by symbolic or representational pre-constructions. This is important to this research in that it reinforces the vital correlation of object and subject, sound and listener which I argue is the fundamental reason why sound theory requires an approach that challenges the distanced observational model.

(ii) Embodied Cognition and Enacted Worlds

Gibson's "ecological psychology" has fed into the developing areas of embodied cognition, embodied realism and enaction (Varela, Thompson, Rosch, 1991; Maturana & Varela, 1998; Lakoff & Johnson, 1999; Noë, 2009). These extend Gibson's embodied notions of perception to apply to cognition as a whole. Lakoff and Johnson explain,

> There is no fully autonomous faculty of reason separate from and independent of bodily capacities such as perception and movement. The evidence supports instead, an evolutionary view, in which reason uses and grows out of such bodily capacities. (1999, p. 17)

These bodily capacities are not independent but operate in relation to the world around them. A practical example offered by Lakoff and Johnson (from vision, of course) is the concept of colour, which is a result of "bodies, brains, the reflective properties of the object and electromagnetic radiation" (1999, p. 24) and uses a process that is "interactional, not objective nor subjective" (p. 26). With embodied cognition we see a fundamental challenge not just to the dichotomy of mind and body, but also to the duality of mind-body (one unit) and the world, which presents a subsequent complication of clear-cut notions of an active subject and passive object.

Through the work on enaction by Varela, Thompson and Rosch (1991), further explicated in Maturana and Varela (1998) and more recently Thompson (2007), Noë (2009), Stewart, Gapenne and Di Paolo (2010), the connection with Merleau-Ponty's phenomenology becomes explicit.[6] Varela et al. use the term *enactive*

> to emphasize the growing conviction that cognition is not the representation of a pregiven world by a pregiven mind but is rather the enactment of a world and a mind on the basis of a history of the variety of actions that a being in the world performs. (1991, p. 9)

Given that the world is enacted by the living being, these scientists seek the inclusion of first-person subjective experiences of consciousness into the third-person observational model of cognitive science. The emphasis on lived experience admits a cyclical reflexiveness in which any "scientific description, either of biological or mental phenomena, must itself be a product of the structure of our own cognitive system" (Varela et al., 1991, p. 11), leading to a recursive circularity. But rather than rejecting it, Varela et al. suggest this circularity is vital: "the fundamental insight of the enactive approach…is to be able to see our activities as reflections of a structure without losing sight of the directness of our own experience" (p. 12). As Noë discusses in his proposition for art as a strange tool (2016, discussed in Chapter 1), reflexivity as it is considered in embodied cognition and enactivism is an essential process in the perceptual reorganisation that art facilitates. It is this approach, based on experience yet still

[6] Varela et al. (1991) also used Buddhism as a model for how to lead us back "to the situation of one's experience itself" (p. 22), presenting the Buddhist emphasis of non-dualism and the "middle-way" as comparable to Merleau-Ponty's *entre-deux* or betweenness (p. 21–22).

offering contextual understanding, which I encapsulate in my tomographic authorial approach, that I argue is most productive for discussions of sonic art, explored further in Chapter 3.

A comprehensive survey of enaction is beyond the scope of this research, but for the purposes of this narrative, what is important is the development of Gibson's embodied *perception* into embodied *cognition*, which is extended, through an engagement with Merleau-Ponty, towards the notion that the world and subject enact each other such that "[e]very act of knowing brings forth a world" (Maturana & Varela, 1998, p. 26). Thompson finds there is a deep convergence between enactivism and phenomenology as

> both share a view of mind as having to constitute its objects. Here constitution does not mean fabrication or creation; the mind does not fabricate the world. "To constitute", in the technical phenomenological sense, means to bring to awareness, to present, or disclose… Things show up, as it were, having the features they do, because of how they are disclosed and brought to awareness by the intentional activities of our minds. Such constitution is not apparent to us in everyday life but requires systemic analysis to disclose. (2007, p. 15)

Thompson's description is useful as it makes explicit that the idea of co-constitution is not one of subjective whimsy or naïve idealism, but of a reflexive understanding of intention, and through this, context. Importantly we can use this notion to concretise Voegelin's proposal that listening generates sound, and sound generates listening.

Embodied perception, cognition, and enaction offer affirmation of concepts that are significant in phenomenology, such as embodiment, correlations, intentionality and reflexivity. These elements form the core of my ontological understanding of sound and listening that in turn informs my challenge to traditional epistemology based on observational and distanced critique. In the following section we explore one final proposal, that of Grimshaw and Garner, who bring together many of the aspects previously discussed to develop the concept of sound as an emergent perception that supports the multiplicity contained in my proposal of sonaurality.

(iii) Grimshaw and Garner's Sound as Emergent Perception

Working within the realm of sound design for computer games, Grimshaw and Garner have sought an ontological definition that can make sense of sound and listening in both real and virtual worlds. Sharing notions with O'Callaghan, embodied cognition, and informed by neuroscientific research into the emotional effect of sound in gaming, they propose that sound is an *emergent perception*. Their concise definition breaks down to four key points:

1) Sound is an emergent perception…

2) arising primarily in the auditory cortex…

3) formed through spatio-temporal processes…

4) in an embodied system… (Grimshaw & Garner, 2015, pp. 2–3).

The most controversial and compelling part of their proposition is that sound is actually located in the mind, as the act of perception, in response to a two-part "sonic aggregate" (p. 3). The first part is the *exosonus*, which includes the mechanical processes of the sound source causing vibration, and the resulting sound wave, as well as other "cross-modal" influences (p. 33) such as visual context. The second part is the *endosonus*, the mind-based, non-material processes—memories, emotions, prior conceptions—that allow us to understand and recognise sound as sound. While a sound perception can take place with both exosonic and endosonic elements, it can equally take place with *only* the endosonic, in the form of imagined or remembered sound (a proposal also made by Riddoch, 2012). Grimshaw and Garner justify this proposition with evidence from scientific experiments that illustrate that the secondary auditory cortex shows activity during imagined and remembered sound without input from the primary auditory cortex, which is responsible for receiving sound wave material. Citing Gibson, who separates out the source (object vibrating), stimuli (the sound wave) and perception that comprise cognition, Grimshaw and Garner say that this neural activity observed in the absence of source and stimulus illustrates that perception can occur independent of sensation. (I discuss sonic imaginary further in module (viii): *Bedtime Stories*.)

While positioning sound in the mind might seem like idealist reductionism, Grimshaw and Garner's conception of the mind follows Gibson's ideas of embodied cognition, and also those of enaction, in which the mind is not constrained to the biological brain. In their schema, the mind is "an enactive mind comprising brain, body, and environment" and sound is "wholly founded on the self, a conception of the self that includes the environment" (Grimshaw & Garner, 2015, p. 14). They acknowledge that their proposition is indebted to Merleau-Ponty and Ihde in that it "emphasizes the primacy of perception rather than sensation" (p. 21). Grimshaw and Garner justify their mind-based account through the notion that despite people hearing the same mechanical sound wave from the same sound source (the same exosonus), individuals will perceive this differently according to the endosonus, their specific memories, imaginings and reasonings. With this move Garner and Grimshaw collapse subjective interpretation into perception.

Another key feature of their account is their justification of the spatial and locational nature of sound. As part of a framework of an enactive mind that includes its body and environment, sound takes place in the mind, but we cognitively off-load the location of sound back onto its environment. So, while sound takes place in the mind it is "always somewhere because sound as a perception includes the location we place it in" (Grimshaw & Garner, p. 61). A clear example of this, as analysed by film theorist Michel Chion (1994), is how we automatically place sound sources in relation to images on screen. Similarly with ventriloquism, we allow for a shift of the location of sound from speaker to dummy. We do this, Grimshaw and Garner say, "as an aid to cognizing the environment" (2015, p. 62). Sound stimuli, in the form of sound waves, play out over time and it is the potentiality of these spatio-temporal relationships that are part of sound perception. This would appear to then relate to the exosonic elements of the sonic aggregate, but Grimshaw and Garner maintain that these relations are not sound until understood and processed endosonically.

Lying at the heart of Grimshaw and Garner's proposal for sound as an emergent perception is that sound is meaning, as suggested in the collapse of perception and interpretation outlined above.

> Sound waves are not sound; sound has meaning and sound waves are inherently meaningless. Meaning comes through the combination of that sound wave with endosonic components of the sonic aggregate and the potential of that endosonus to effect meaning comes with learning and the experience and memories we assemble as we make our way in the world. (Grimshaw & Garner, 2015, p. 37)

This clearly rejects the non-representational sound-in-itself notion of the materialists like Cox. But it also conflicts with the concept of the "primacy of perception" that they say they are indebted to, as both Gibson and Merleau-Ponty argue that perception is *not* mediated by symbolic or representational pre-constructions.

My primary issue with Grimshaw and Garner's theory is their dismissal of the exosonic as an equal part of the process. If sound is inextricable from meaning, their notion of sound as a perception that takes place endosonically is justifiable. But how do we gather our endosonic experiences and memories in the first place except through the exosonic? The endosonic can only gather its meaning-making capacity after experiences with the exosonic, even if subsequently it then no longer requires them. It could be said that the exosonic is always in play whether materially or referentiality. Like Derrida's *trace* (1997), the absent aspect is integrally part of what is present.

While there is an awkward chicken-and-egg aspect to their thinking, Grimshaw and Garner's account is interesting for its integration of phenomenology, neuroscience and embodied cognition. Of particular interest is how they place listening—or what they call the emergent perception of sound—as an individualised, subjective activity in active conversation with the environment. This would indicate that a theorising of sound needs to reflect on this correlation and the role of subjectivity in making sense of the listening experience.

Part 4: Sonaurality

At the core of this research is the argument that many modes of theorising that rely on the construct of critical distance are based on visual paradigms, making them ill-equipped to deal with sound and listening (argued further in Chapter 3). I have undertaken the preceding survey of ontological perspectives to build an account of sound and listening that illustrates its specificities in order to develop alternate strategies and approaches that are better suited to dealing with the complexities of the sonic realm. I have gone into some detail with each of these proposals to ensure the logics and motivations behind each approach is accorded integrity, before mounting the comparative summary that follows here. The irony is not lost on me that I am currently utilising a somewhat traditional theoretical format, but the accompanying online ficto-critical modules are presented to exemplify and enact mediated ficto-critical alternatives (for example the ontological and epistemological discussions explored in module ii: *In_Listening_In*, and module iii: *Surface Friction*). However, I am also intentionally offering some resistance to traditional criticality within this document as well, whereby I deliberately prioritise analytic association and comparison over declarative and definitive argumentation in order to bring out multiple resonances that are more useful for the ongoing generation of ideas—a kind of open analysis as opposed to closed critique. In the following comparative summary I explore a number of issues or sticking points, which despite being collectively acknowledged are interpreted differently by individual theorists: the role of temporality and spatiality; sound and signification; the objecthood of sound; and the nature of the sound-listening relationship. I then draw these arguments together to develop my position—what I am calling sonaurality—from which this research can proceed.

(i) Temporality and Spatiality

Time features strongly in both perceptualist/phenomenological and materialist approaches. In the perceptualist account, sound "embodies the sense of time" (Ihde, 2007, p. 85), as we can only experience sound through a succession of immediate temporal moments; it cannot be experienced as a whole. For Voegelin, this equates time with an unavoidable ephemerality and doubtfulness, which leads to a generative relationship in which sound and listening are made together, defining her relational argument for sound. Cox's analysis of sound, influenced by Nietzsche's notion of will, suggests that sound is always in the act of becoming, never being, and so is in constant flow, eternally shifting, as patterned energetic matter that comprises the world. We engage in a temporary tuning in and framing of this flow when we listen and create sound-based works. In this way, Cox's description of listening as tuning in concurs with that of phenomenological intention, while differing in his allowance for sound to be entirely unto itself. In O'Callaghan, the very premise of sound as an event weds it inextricably to temporal exposition, particularly his theories of how sound may move through variations, exemplified by the Doppler effect, but may still be identified as the same sound event (O'Callaghan, 2007, p. 103).

Spatiality and locality are grouped here with temporality because, as Ihde asserts, the spatiality or shape of sound can only be accessed through its playing out over time (Ihde, 2007, p. 96). For Voegelin, the importance of spatiality and locality of sound resides in the fact that when we listen, we are always within sound; we cannot be separate from it. In some ways this concurs with Grimshaw and Garner, who position the emergent perception of sound as within us, within the mind, particularly when we consider that their conception of mind incorporates the body and its environment. They engage with space actively by placing our inner perception back onto the location of the source of the sound in a form of cognitive offloading. We pinpoint this location via temporal understandings of the exosonic material. Cox engages with spatiality almost as a given, in that sound, as an ongoing flow of energy, is essentially everywhere, with listening being the conscious tuning in to the fact that we are within it. Ingold's proposition for a phenomenology of mobile flows could be seen to reflect a similar ambiguity to space, or a reluctance to "emplace" or "embody" the experience of sound, preferring an ongoing process of "ensounding" (Ingold, 2011, p. 139). O'Callaghan says sound is definitely outside us, at or near the location of the source, with our reception of this sound occurring in perception, creating a clear division between what is sound and what is listening.

In these accounts we see that how and where sound is located is significant and defining for each ontological proposal. However, if sound is considered within its correlation to listening, the locality shifts to being shared with and within the listener. In this way the sound and listening relationship is entangled and therefore immersive—neither the sound nor listener's location can be neatly extracted. This immersion is vital when considering if it could be useful or even possible to theorise sound from a position outside of it.

(ii) The Sound Object and Signification

The assertion as to whether sound signifies, or whether it can exist outside of and beyond signification, is intricately entwined with whether sound can be considered an object-in-itself. Schaeffer's proposition is that sounds do offer indicators about cause and can be understood semantically through learned and encultured meanings, but by applying a bracketed listening intention—that of reduced listening—a sound object manifests, which can be listened to for its sonorous, non-signifying properties. Here sound can only be an object when matched with a corelative listening intention. O'Callaghan's event proposition sidesteps the issue of meaning, proposing that sound does exists as a thing separate from hearing but in the form of a disturbance, and thus can have no meaning unto itself. Cox's position is similar in that sound that exists independently from our perception does not signify semantically. However, rather than suggesting it is entirely abstract, he says that sound is concrete, and needs to be read through a materialist rather than a formalist analysis (Cox, 2011, p. 152). Grimshaw and Garner's conception that sound is in the mind is based on its perceptual interpretation via memories, significations and reasonings, so for them sound is most definitely meaning. Finally, Voegelin offers a more ambiguous position in which sound is a relation of sounding and listening, and this *relation* is a thing-in-itself. However, this relation, due to its temporality, is full of doubt, and offers a personalised, subjective understanding of sound: "Between my heard and the sonic object/phenomenon I will never know its [sound's] truth but can only invent it, producing a knowing for me" (Voegelin, 2010, p. 5). As we can see from Voegelin, what is at stake with the arguments around sound as an object is actually a fundamental questioning of subjective and objective positions.

(iii) Sound and Listening Symmetries

The discussion so far has still not produced a conclusive account of sound and listening that this research can proceed from. A resolution can only come by making a decision about how to consider the relationship of sound and listening. The initial impetus for this research

was the phenomenological propositions of Voegelin, in which sound and listening are considered not as separate but rather as interdependent, only coming into their true potential through the existence of each other. This correlation of a subject that perceives and an object that is perceived is borne out in the phenomenology of Merleau-Ponty, which emphasises the "lived body" in active participation with an environment that solicits engagement. These ideas find justification in Gibson's proposition for an ecological psychology in which the mind-body and environment operate upon each other. Enaction goes further to say that these interactions actually *make* the world around us. These propositions present a symmetrical relationship between sound and listening in which object and subject equally act upon each other to make a composite relation.

Conversely, Cox proposes an asymmetrical relationship in which sound and listening are separate. Sound is an energetic flux that continues on regardless of us, and the act of listening is a conscious sampling of this flow. Similarly, O'Callaghan's event proposition does not regard the listener as necessary for a sound, but rather the sound event becomes the "object of auditory perception" when attention is turned to it. The emergent perception model initially seems symmetrical in its presentation of the sonic aggregate that offers the exosonic (material) and endosonic (mind-cognition based). However, in a desire to explore sonic virtuality, Grimshaw and Garner end up with an uneasy asymmetry, in which sound as emergent perception can occur purely through the endosonic with a lingering ghost of the exosonic. However, these asymmetrical accounts still involved listening as a tuning into, and also as an intention, and so the symmetry of phenomenology is arguably still present.

Despite Cox's suggestion that this materialist approach might be a way to theorise not only sound but art in general (2018, p. 15), I assert that the asymmetric nature of the materialist approach is too keen to remove the listener from the notion of sound. As Voegelin asserts, this can be seen as a position predicated on the assumption that the subject or body can be removed because it has already mattered, whereas from a feminist and othered perspective, this removal is yet another erasure—an issue I will explore in more detail in relation to feminist epistemologies (Chapter 3, part 3). On a pragmatic level, removing the subject gives us no recourse, no footing from which we can address sonic art as a practice in which we are asked to reorganise our understandings, which I have argued is the key feature of art, specifically here sonic art. Within the conceptual and theoretical framework that I have established concerning sonic art as an art that is concerned with the re-negotiation of sound

and listening, a more symmetrical approach in which sound and listener, object and subject have agency allows a more fruitful, productive way to consider sonic art, a position justified in the following proposition of sonaurality.

(iv) Sonic Art and Sonaurality

Considering sound in general it appears as though these arguments can continue to cycle around each other, but the aim here is to find a position that works best for sonic art as I have defined it. I have proposed that sonic art is a creative act that is focused on heightening our reflexive understanding of sound and listening. Note that this deliberately does not dictate whether perceptual, material or conceptual approaches are involved. Within this context the most useful account of sound and listening is primarily a symmetrical one, whereby sound and listening bring each other not so much into being but into significance for humans—this caveat acknowledges the anthropocentric bias that such a conception of sound and listening implies. This is not, however, to deny the material accounts that free sound from the anthropocentric. That is why Voegelin and Ingold's notions that offer combinations of phenomenology with material flows are useful as they incorporate flowing processes, both human and non-human, which avoid the "sedimentation" of objects and subjects (Ingold, 2011, p. 139).

To find some way of reconciling these phenomenological, material and cognitive accounts, a pluralist approach is offered that adapts them to specific conditions and circumstances. Considering the possibility of material frameworks, I propose that, as per Cox and O'Callaghan, there is the possibility of sound as event, material or vibration without the need for listening, but as subjects we can only consider this sound through our engagement with them. To clarify this correlated complex of listening and sound I propose the term *sonaural*. Sonaurality considers, as a whole, the relationship of entanglement of sound (both sensed and conceptual) and its perception through listening (in the real world or imagined). So, for the purposes of this research, what is being investigated is sound that is met with listening, to manifest as sonaurality. Sound that continues without being listened to is not discounted but it can only be considered through listening, whether that be in real time or remembered, or listening as felt vibration. In terms of sonic art, sound is not something that can be worked with in isolation; it can only be worked with, analysed and understood in its relation to its reception as listening (whether perceptual or conceptual). In this way sonic art—an art of sound that is aimed at listening—deals with the realm of the sonaural.

Schaeffer aptly summarises the journey that this survey has taken us on: “The concept of the sound object, apparently so simple, quite soon obliges us to refer to the theory of knowledge, and the relationships between man and world” (Schaeffer, 2017, p. 206). What is unearthed in this attempt to explicate the sonaural is the ongoing preoccupation that underpins all philosophy and theory: the relations between subject and object, and the subsequent perspectives of subjectivity and objectivity. The premise of phenomenology, and its pragmatic explications through embodied cognition, is that the subject and object are constantly in relation, co-constituting each other, rendering problematic any clear-cut notion of an object position and subject position. Grimshaw and Garner embrace the subjective as a key interpretive act of listening. Voegelin, while admitting the doubtful and generative position of subjectivity in listening, also proposes a reconsideration of subjectivity within the correlation of subject and object that she suggests manifests as an intersubjectivity in which she says “I am in the soundscape through my listening to it and in turn the soundscape is what I listen to, perpetually in the present” (2014, p. 83). This intersubjectivity allows the object a certain subjectivity, albeit non-human, as is described in materialist understandings of matter having its own existence and agency. This intersubjectivity acknowledges fluidity in which there is an active and reciprocal correlation of subject as object and object as subject. So within the framework of this research, I will move forward using the notion that sound and listening are always in a reciprocal relation of sonaurality. The ethical implications of intersubjectivity between both the human and non-human as proposed by Hélène Cixous, Donna Haraway and Karen Barad will be discussed further in Chapter 3, part 3.

In this chapter I have undertaken a thorough review of the leading and relevant theoretical positions on the ontology of sound, particularly those concerned with sonic art, that I have initially grouped into the phenomenological, material and cognitive. There are, of course, a range of other sound theory texts dealing with ontological issues with sociological, historical and political foci. I have selected the texts used here for their clear focus on exploring the ontology of sound with an implicit application within creative practice and because of the influence they currently exert over sound theory. Through a comparison of these I have highlighted key areas of debate that revolve around temporality, spatiality, signification; objecthood, and the sound-listening relationship. Considering the aims of this research, in which I am seeking alternate strategies of theorising sonic art—an art I have defined as being concerned with reorganising our understanding of the aural realm—I have developed the ontological proposition of sonaurality that considers sound and listening as a

correlate. This is primarily a phenomenological approach but it is reinforced by embodied cognition, and does not discount what material considerations can bring, rather it insists that the material must still be considered through the sonaural relationship. Based on this ontological understanding of sonaurality and how this manifests in sonic art, I contend that we need to further investigate whether traditional theory, with its preference for critical distance that separates subject and object offers the most productive strategies for exploring this complex object-subject interdependence. In the following chapter I explore the proposition that there is an embedded visual bias in the authorial position of critical distance and present a number of alternative epistemological approaches based on feminist theory that may be better suited to sonaurality.

Chapter 3
To Prick Up the Philosophical Ear

The aim of the *Languages of Listening* research is to explore alternate approaches to theorising that are sympathetic to the experiential specificities of sonaurality, which I contend are the concern sonic art. These approaches seek to move away from theoretical practices in which the concept of critical distance dominates. The relational, temporal and spatial nature of sound and listening present the opportunity to explore theoretical paradigms that work in a more nuanced way with subject-object relations, and authorial positions of subjectivity and objectivity, than those that are based on the notion of critical distance. As a result, in the previous chapter I developed the concept of sonaurality as a way to capture the interplay of the perceptual, conceptual and material concerns of sonic art.

Proceeding from this assertion of the sonaural, as the complex subject-object relation that is the concern of sonic art, in this chapter I will argue that there is an inherently visual paradigm that exists within theory based on critical distance. I will then briefly explore the idea that objectivity and subjectivity are oppositional within the history of philosophy and theory. Looking for non-binary options, I then explore the pluralities introduced by postmodernism and a selection of feminist theories. These make explicit the potentials and possibilities of plural, wilfully destabilising ways of approaching theoretical writing through authorial voices that preference experience, embodiment, reflexivity and partial perspective.

From this analysis I develop the proposal for a tomographic approach. Tomography, a term from the medical sciences, is a process of taking multiple images from within a body/solid form and then compiling these multiples into a version of a whole. Using Michel de Certeau's allegory of the wanderers of a city, whose practice of walking creates the topography viewed from above, I offer tomography as an alternative that allows practice and experience to be foregrounded, while still nurturing reflexive and contextualised understanding. A tomographic approach allows for a complex subjectivity that has elements of inside and outside but is always grounded in self-aware partiality. I propose that a tomographic authorial approach, rather than one of critical distance, is well suited to exploring the experiential and relational nature of sonaurality. My intention here is not an outright rejection of traditional critical approaches. Rather, I want to explore alternate authorial frameworks that may be used to develop a mediated ficto-critical approach to sonic art-focused sound theory.

The title of this chapter comes from Jean-Luc Nancy's *Listening* (2007). Nancy is critical of the way in which a philosopher "hears" everything but "neutralizes listening within himself, so that he can philosophize" (2007, p. 1). He suggests that the dominant philosophical mode that

values objectivity ceases to listen, both to the world and its own sensibility.[1] The following section attempts to identify what it is within theory that makes it difficult for sound to be listened to and reflected on in its own terms as a sonaural complex. Is there an inherent visual bias to theory based on critical distancing, and what needs to shift in the practice of theorising in order to better approach the specificities of sonaurality as it is explored in sonic art?

Part 1: Testing Theory's Hearing

> *Critical discourse does badly in dealing with sound as it assumes and insists on the gap between that which it describes and its description—it is the very opposite of sound, which is always the heard, immersive and present*
>
> (Voegelin, 2010, p. xiv)

(i) Observable Gaps

The word "theory" comes from the Greek *theōríā,* developing into the late Latin *theoria*, "to look at, or to see", with roots in the Greek *theoros*, "spectator", and *thea*, "sight" (Merriam-Webster, n.d.; Williams, 1985, p. 223–224; Nancy, 2007, p. 10). From this etymology there is an embedded implication of the visual. Within the ancient Greek usage, the notion of "looking at" became abstracted from direct visual observation to form the idea of speculative reason, which maintains an etymological link to vision through the Latin *specere* meaning "to look at" (Merriam-Webster, n.d.; Williams, 1985, p. 223). As noted in the introduction, basing an argument entirely on etymologies is too simplistic; however, the resonances of meanings, and their shifts, is not insignificant. In terms of sonaurality, a number of theorists suggest there are ramifications from this alliance with visuality. The act of observation and looking *at* requires the distance and spatial relation of a subject that is distanced from an object (Horta, 2016; Lavendar, 2017; Kapchan, 2017; Steintrager & Chow, 2019). Voegelin offers the following:

> The ideology of a pragmatic visuality is the desire for the whole: to achieve the convenience of comprehension and knowledge through the distance and stability of the object. Such a visuality provides us with maps, traces, borders, certainties, whose consequence are communication and a sense of objectivity. The auditory… pursues a different engagement. Left in the dark, I need to explore what I hear. Listening discovers and generates the heard. (Voegelin, 2010, p. 4)

[1] Nancy is working with the implied sense of understanding that exists in the French verb *entendre*, "to hear or understand".

The instability of the subject-object relation, and the role of being "a listener" to sound's solicitation, calls for a reassessment of philosophical and theoretical paradigms that preference distance and separation from the object of study.

In his introduction to the 2017 "Sounding/Thinking" edition of *Parallax*, James Lavendar suggests there is a "fundamental mismatch between the nature of sound qua object and the conditions of possibility for knowledge that are rooted in the intellectual traditions of the West" (p. 245). The unfixable and relational nature of sound makes it a different kind of object, which calls for a reconfiguration of the "relationship between thought and its object" when compared to traditional theory (p. 249). In fact, Lavendar suggests that the complexities of this relationship offer the perfect opportunity to rethink thinking. Sound theory, he says, is potentially a "meta-discipline… in which the status of theory itself is at stake" (p. 246). To think through and with sound offers an opportunity to radically challenge theoretical thought.

James A. Steintrager and Rey Chow, in the introduction to their edited anthology, *Sound Objects* (2017) also suggest that to work with the specificities of sound and hearing requires a "disentangling" from "theory (as seeing)" (p. 4) that is implied by its etymological roots.

> [S]ound objects are not contemplated at all; they are apprehended in ways other than the visual. This suggests that the very framework and rhetorical resonances of "theory" are potentially misleading and inadequate—and that theory itself must also proceed otherwise, with sound. (Steintrager & Chow, 2017, p. 6)

Steintrager and Chow provide a brief survey of the ways in which sound has been largely ignored in theory and philosophy to date. Where the early phenomenologists predominantly deal with "appearances and images in relation to an intending consciousness qua observer" (p. 1), the structuralists and post-structuralists, in a "rebellion against phenomenology" (p. 2), turned to text, reading the image in relation to semiotics. They also suggest that when sound is factored into theory it is frequently in the form of noise, which is proposed as an interesting "emancipatory or ultimately constructive disruption" to reasoning—as seen in Jacques Attali's *Noise: The Political Economy of Music* (1985)—rather than having a reason unto itself (p. 10). For the purposes of the anthology they refuse to offer a conclusive ontology of sound, and propose that opting for either a materialist sound-in-itself—in which sound exists without listener—or an idealist conception of sound made *only* through the listener is not productive. Instead, they defend the importance of the "the entanglement of subjectivity and objectivity" that "makes sound such an elusive and inexhaustible topic, and one that can be approached in

various ways" (p. 12). Steintrager and Chow's pluralistic approach affirms the aim of my research to seek alternate, wilfully non-conclusive theoretical positions.

Ethnomusicologist Deborah Kapchan also demands a new approach in her introduction to the edited anthology *Theorizing Sound Writing* (2017): "The call for new theoretical forms arises from the knowledge that subject and object can no longer be held apart, even conceptually" (p. 2). Her concern is that sound cannot be approached in a purely "intellective" manner. She too cites Attali, who proclaims "no theorizing accomplished through language or mathematics can suffice any longer; it is incapable of accounting for what is essential in time—the qualitative and the fluid" (cited in Kapchan, 2017, p. 2). For Kapchan, the qualitative and fluid is the *affective* dimension experienced through sensation. While the study of these sensorial knowledges separates them from the flow of time and renders them "objects of memory", she says:

> On the other hand, to raise these nonintellective modes of sensory knowledge to consciousness (as when the hand feels itself touching) is to employ intuition. And intuition is inseparable from the speculative.[2] (Kapchan, 2017, p. 2)

Kapchan believes that affective, intuitive knowing can be leveraged to better understand sound and listening through experiential and practice-based methodologies.

Christoph Cox also has issues with a critical distance between subject and object implied by vision because in his materialist conception "sound is immersive and proximal, surrounding and passing through the body" (Cox, 2011, p. 147). However, Cox's complaint is not so much due to the phenomenological implications but with the way in which theory occurs as text and images that preference representation and signification, which intensified with the development of "semiotics, psychoanalysis, poststructuralism, and deconstruction" (p. 146). While he concedes the importance of these movements in that they challenge modernist universalist agendas of meaning, their emphasis on "textuality or discursivity" maintains a split between culture (inherently anthropocentric) and nature, which is thus rendered "inert, dumb, matter" (p. 147). For Cox, sound, as a transcendental material flow encompassing both nature and culture, is prelinguistic and therefore requires other modes of consideration. Any theory that emphasises signification and representation continues to reinforce not only the dualism of Kant's phenomenal (human symbolic) and noumenal (natural, non-intelligible) complex but, as

[2] As will be seen through this research, despite any etymological misgivings, it is very hard to avoid the visual metaphors inherent to much language around knowledge.

Voegelin (discussing Cox) explains, it perpetuates the "prioritizing [of] mind over matter, soul over body, and culture over nature that can be found in modernist as well as post-modernist cultural theories" (Voegelin, 2019a, Loc 3656). So, for Cox, it is not simply the subject-object relations but a number of theoretical binary oppositions that are affected by a visually focused theory. Along with the previous theorists discussed, Cox believes that thinking through sound allows for a reconfiguring of theory and thinking itself. He proposes that a materialist theory of sound and sonic art allows us to move beyond a consideration of the world via symbolic and representational paradigms, with their attendant binaries of mind and matter, culture and nature, to considering the world as flows and forces.

Nancy's argument around hard-of-hearing philosophers is also concerned with the way in which signification and meaning can too easily dominate listening, believing that philosophy "superimposes" the need to "understand" before listening can be established (2007, p. 1). He suggests that "vision" is compatible with the "goal of contemplation" (2007, p. 2) whereas the sonorous is hard to contemplate because it "outweighs form" and doesn't persist like vision. Instead, listening exists on the edge of meaning with sound being "precisely nothing else than this edge" (p. 7). Sonorousness, therefore, is sensorial not representational. Nancy's solution as to how we can philosophise something that escapes meaning comes through paying attention to resonance through the self, through the subject who is listening: "to be listening will always then, be to be straining toward or in an approach to the self… when one is listening, one is always on the lookout for a subject" (p. 9). In Nancy's philosophy of listening, the subject cannot be removed from the equation. It is through the subject that the meaning of sound and listening resonates (as posited by Grimshaw & Garner, 2015). However, this is an understanding that is beyond simple signification.

This survey of criticisms establishes how theorising that is based on the construct of a critical distance of subject to object is constrained in its ability to consider the ambiguities of flow, temporality and non-representation (or multiple possible representations) that occur in sonaurality. Given the selection of issues raised by these sonic thinkers it is evident that there is an opportunity to develop alternate authorial positions and strategies that can better deal with the complex interrelation of sound and listening in sonic art.

(ii) Navigating Audio-visual Antipathies

While I am arguing that the complex of sonaurality can benefit from alternate ways of theorising based on the visual paradigm of critical distance, I do not want to enforce an all too easy dichotomisation of sound and vision (or other senses). No sense exists in isolation, so how valuable is it to talk of sound as special and separate from vision or any of the other senses?

There is some merit in Jonathan Sterne's audiovisual litany (2003), in which he cautions against the "transhistorical" spiritualisation of sound due to its spatial and ephemeral properties. Sterne suggests this comes from the "longstanding spirit/letter distinction in Christian spiritualism" (2003, p. 16) developed by Jesuit priest and theorist Walter Ong, which emphasises the interiority of sound as a reflection of the internalised divine. (For more on sound and interiors see module (iii): *Surface Friction* > Inside Out). As a historian, Sterne argues for a contextual approach, exploring what sound and its technological manifestations *do* to culture.

Steven Connor (2015) adds to this argument, suggesting there is tendency towards "acousmania"—an indulgent magical thinking about sound, creating a "sonorous utopia" that stands in contrast to "every kind of ill" that can be attributed to the "hypertrophy of vision" (Connor, 2015, ¶ 4). However, after railing against sound studies that approach poesy and fantasy, Connor concludes that sound thinking really does suffer when approached via critical reduction because it removes what he now has conceded is the essential element of the "hallucinatory" and the "dreamwork" of sound.

Sterne and Connor's scepticism (even if Connor eventually capitulates to sound and listening's irrational possibilities) is included here to illustrate the dangers of un- or under-contextualised versions of sound, and indulgent, unreflective dualities. To consider sound and listening as the content of sound studies is not to falsely separate it from vision, or to adopt what can seem like a besieged or "victim" mentality that overcompensates by elevating sound above vision. Rather, my intention is to explore modes of thinking that work with the specificities of sonaurality, which may also be applicable beyond sound-focused theory when a more experiential approach is required. As has been defined, the key issue that arises with sonaurality is the inextricable relation between sound and listening, subject and object, the entanglement of one with the other. Rather than being viewed as a problem, this can be seen as an opportunity to explore new ways of theorising not reliant on the distance implied in

observation; a theorising that acknowledges relation in action and the inextricability of experience from within rather than observation from without.

It is important to note, as the early phenomenologists did, that our visual relationship with objects—any of our perceptual engagements with the world—are also co-constitutive. This argument arose in reaction to the traditional Western paradigms of critical distance, rationalism and empiricism that do not take our interaction with the world into account. I do not mean to suggest that I am the first working in this way. However, by focusing this research on sound and listening in which this co-constitution is explicit, I am intending to consolidate previous arguments and develop new approaches by which this critique of theory may continue. In order to justify this position, I will now step back from sound for a moment to consider how arguments of critical distance in the form of objectivity, and lived experience classified as subjectivity, have played out across a brief and inevitably incomplete history of philosophy, in order to inform a productive way forward utilising suitable epistemological and authorial positions for alternate sonic theory.

Part 2: Historic Truth Pursuits

(i) Knowledge Systems and Objectivity

> To be objective is to aspire to knowledge that bears no trace of the knower—knowledge unmarked by prejudice or skill, fantasy or judgment, wishing or striving. (Daston & Galison, 2007, p. 17)

> The criterion may be emotional detachment in one case; automatic procedures for registering data in another; recourse to quantification in still another; belief in a bedrock reality independent of human observers in yet another. (Daston & Galison, 2007, p. 29)

In their monograph on objectivity, Lorraine Daston and Peter Galison argue that the term and practice as we know it does not emerge until the mid-nineteenth century, specifically in the field of science (p. 27). To confuse matters, ancient understandings of the terms objectivity and subjectivity were exactly opposite to their contemporary usage (p. 29).[3] It is with Kant and the following German Idealists that we begin to move towards our contemporary understanding. Daston and Galison reveal that around the 1820s and 1830s the

[3] An interesting etymological suitcase that there is no room to unpack here.

terms develop into "*objektiv* as a 'relation to an external object' and *subjektiv* as 'personal, inner, inhering in us, in opposition to objective'" (p. 31).

The relatively late emergence of contemporary objectivity is not to say that there were not epistemologies that pursued similar or aligned agendas. The pursuit of knowledge by the Ancient Greeks was, according to Plato, a pursuit of "justified true belief" (Gaukroger, 2012, p. 7). As philosophers continued to search for the truth about the world, the role or attitude of our existence in it was always a burning a question. From the seventeenth to the twentieth century there was ongoing debate between the epistemic models of realism (empiricism) proposed by British philosophers such as Locke, Berkeley and Hume, and the German Idealists (rationalist) such as Kant and Hegel, with both schools claiming to be seeking true and justifiable accounts of existence. The realist/empiricists argue that this is achievable through distanced observation, in which the observer disconnects from their involvement in the act. The idealist position acknowledges our inevitable role as we cannot experience the world directly, only through our experience of it. However, the idealists often still employ distancing devices that allow the resulting idea to be considered an independent "truth" about existence.

> There is a leap made by metaphysics. When the limits of sense are reached, it posits an unsensed sense; when the limits of consciousness are reached, it posits an unconscious-consciousness; when the chain of causes threatens to proceed to infinity, it posits an uncaused-cause. And in this leap that has had such a varied history in Western philosophy as the posit becomes "mind," "matter," "the Absolute," "the unconscious," and so forth; reality is thought of as other than what is found in experience. (Ihde, 2007, p. 104).

Ihde suggests that there is always some kind of explanatory leap, invention or intervention that diminishes or explains away individual human involvement in order to claim universal truth.

By the twentieth century there are instances where there is more communion between the ideas. With both phenomenology and pragmatism, we begin to see a blurring of the hard binary of subject-object, and the potential for the admission of the subject's existence in, and possible influence on objectivity. While Husserl studies our experience of objects in the world, his rigorous methodology of bracketing seeks a way to create a reflexive or "transparent" distance within subjective experience. The North American pragmatists (Charles Sanders Peirce, William James and John Dewey) seek answers in empirical observation, but they believe experiences are contextual, refusing to clearly separate sense-data and conceptual understanding and cognition. Knowing the world is "inseparable from agency within it" (Legg &

Hookway, 2021, ¶ 1). While there are significant differences, the pragmatists' emphasis on the relations inherent in experience and the interplay of the subject in knowledge inquiry has strong resonances with relational understandings of phenomenology that we see come together in the work of James J. Gibson and the enactivists.[4]

It is beyond the scope of this research to undertake a detailed historical overview of philosophical paradigms, but with the mid-nineteenth century development of objectivity within science, a more generalised conception of objectivity "as elimination of prejudice or bias" (Gaukroger, 2012, p. 65) develops within society as a whole. In an unnuanced way, this leads to the "absolutist view of objectivity" or the "the view from nowhere" (Nagel, 1989), in which there is an attempt to eliminate any trace of individual experience. Additionally, the rapid acceleration of scientific and technological development has put the two siblings of science and philosophy, which once operated together, in direct competition. The sheer volume of science's empirical explanations threatens the relevance of philosophy that deals in subtleties and ambiguities.

While not agreeing with the absolutist view, Daston and Galison do argue that subjectivity and objectivity exist in a "convex/concave" (2007, Loc 167) relation to each other.

> First and foremost, objectivity is the suppression of some aspect of the self, the countering of subjectivity. Objectivity and subjectivity define each other, like left and right or up and down. One cannot be understood, even conceived, without the other. (2007, pp. 36–37)

Alternately, Stephen Gaukroger suggests that if we separate truth, which is an absolute end point, from objectivity, which is a beginning, then there is the possibility of objectivity having degrees (2010, p. 66). For example, a theory is either true or not, but one theory can be more objective than another. Similarly, Nagel talks of the process of objectivity involving a "gradual detachment" from subjectivity (1989, p. 5).[5]

It is also important to note that the objective/subjective binary is a construct of European (and later American), patriarchal origin. Empire expansion, invasion and colonisation involving the repression and forced conversion of indigenous cultures, the maintenance of class structures, as well as the development of patriarchal systems aimed at keeping females

[4] Peirce's proposal of "phanerscopy" was initially called phenomenology, illustrating a confluence in the thinking (Peirce, 1998, p. 145; Kim Cohen, 2007, p. 64).

[5] It may seem like an omission that I have not discussed Nagel in more detail, as *View from Nowhere* (1989) tries to reconcile objectivity and subjectivity. However, I feel he is intent on developing a more nuanced objectivity, one that still offers truths about certain contexts, while I am interested in exploring the complexities of pluralistic subjectivities that preference experience.

dependent and intellectually invisible are the results of the assertion of rational objectivity as the correct path to enlightenment—a path only open to educated Western males.[6] This construct has also been remarkably hard to shake, permeating the very fabric of power structures and culture, evidenced by universal expectations of modernism. It is only in the latter half of the twentieth century that the assumption of objectivity as the rational and moral position to adopt began to come under attack. In the following section I will explore how late twentieth century philosophical positions of postmodernism and certain feminist epistemological theories have challenged the privileged assumption of singular and universal truths through interrogating the objective-subjective binary, as well as the very notion of "binary" itself. Through this I intend build a case for how the subjective experience can be incorporated reflexively into theory in a way that does not diminish, rather enhances its depth and rigor. By developing a theoretical authorial position that can reflexively communicate from inside, we will be able to move forward with finding alternate approaches to sonic art-focused sound studies.

(ii) Postmodern Pluralities

Postmodern theory, developed in the 1960s and 1970s, is an attempt to explain the postmodern cultural condition in which the values, aesthetics and cultural structures of modernism (which have been developing since the Renaissance according to Charles Jencks, 1992, p. 6) are directly challenged. Cultural modernism was defined by a succession of avant-garde movements across art and architecture, each proclaiming their superiority in establishing the "new". In each of these successions, ideas of a general objectivity have translated into belief in the singular and universal, accompanied by attendant notions of utopianism, purism, elitism and objectivism (Jencks, 1992, p. 34). However, postmodernism is not simply a rejection of modernism but a reaction to, reinterpretation of, and in some arguments, a radical continuation of modernism. This is evidenced by exploring the relationship of post-structuralism to modernism and postmodernism. I enter into this brief analysis here as it informs the subsequent discussion around the influence these movements exert on ficto-criticism and e-literature, as discussed in Chapters 4 and 5.

[6] As a white female making a case for experiential theorising, I am focusing on feminist perspectives as the critical lens here, however this argument can be equally made from a post-colonial perspective as is being done by theorists of colour and indigenous theorists such as Julien Henriques (2011) and Dylan Robinson (2020), with the *Sound Out!* Journal (discussed further in Chapter 5) also offering key examples.

French post-structuralism resonates strongly with the postmodern rejection of objectivity and universality. Roland Barthes (1977a) directly questions the assumptions of the "modernist" authorial position, proclaiming the "death of the author" and handing power of interpretation over to the reader. Gilles Deleuze and Félix Guattari (1987) radically decentre the idea of singular perspective, grand narratives and hierarchical arboreal structures with their notion of the rhizomatic webs of connection and association.[7] Jacques Derrida's notion of *différance*, in which meaning is always in relation to that from which it differs (i.e., signs in relation to signs, rather than signs to signifiers) leads to a process of deconstruction in which oppositional binaries and their attendant hierarchies are reconsidered. This not intended to eliminate duality completely, as it is the basis of how meaning is made. Rather, it is a process undertaken to become aware of the dynamics at play and provide the opportunity for other relationships to emerge (Derrida, 1997).

While postmodernism and post-structuralism have significant overlaps, Andreas Huyssen maintains that French post-structuralism is still preoccupied with modernism "at the stage of its exhaustion" (1992, p. 61). So, while postmodernism is actively concerned with post-structuralism and mobilises its arguments extensively, post-structuralism is not directly concerned with postmodernism. However, the postmodern preoccupation with citation and borrowing affords a re-examination of previous forms that Jencks describes as a double-voicing, or a double-coding (1992, p. 12). Within this context, post-structuralism is not a rejection of modernism but a "retrospective reading which, in some cases is fully aware of modernism's limitations and failed political ambitions" (Huyssen, 1992, p. 61). This allows for postmodernism to easily embrace and mobilise the arguments of post-structuralism, along with other previous forms, as both reactions to and extensions of modernism. This double voicing and hyper awareness are indicative of how reflexivity is embedded in the fluid and questioning nature of post-modernism and is why post-modernism informs the theoretical framework of this research.

The agenda of multiplicity and plurality that emerges within postmodernism actively undermines notions of universality and objective truth that are embedded in the hierarchical and linear structures of Western cultural dominance, male dominance, heterosexual norms, elite high art, and anthropocentrism. Given its attack on hierarchical power structures,

[7] This proposition will have particular potency for mediated writing, which will be discussed in Chapter 5 and Ficto-critical module (v): *Memexical Machine Reading*.

Western imperialism and the dominance of white Western male perspectives, it is not surprising that postmodernism attracts criticism from conservative thinkers (e.g. Roger Scruton, Stephen Hicks). Beyond politics, the general criticism is that postmodernism's pluralism and denial of an objective truth leads to relativism (both moral and cultural), which leaves no room for any kind of judgement. Jürgen Habermas takes issue with the self-referential logic of postmodernism, which he says relies upon concepts that it seeks to refute (1990). Frederic Jameson's neo-Marxist perspective sees postmodernism as a collusion with late capitalism (1991).

Despite critics of postmodernism decrying that its refusal of a universal, objective, authoritative position results in non-committal ambiguity and flaccid relativism, Huyssen suggests that postmodernist concerns have, in fact, mobilised a number of significant resistance movements. The erosion of what he calls the "triple dogma modernism/modernity/avantgardisms" allows for the "emergence of the problematic of 'otherness'" (Huyssen, 1992, p. 68). In particular Huyssen identifies the growing movements around ecology and the environment, increasing awareness and consideration of non-Western cultures and the women's movement as pertinent examples. In the following section, I explore the epistemic paradigms of a number of feminist perspectives that have grown out of post-structural and postmodern thinking and that offer alternate authorial positions within theory. Employing aspects of these paradigms I will then draw together my proposal for a tomographic authorial position that is both sympathetic to sonaurality and can be employed ficto-critically.

Part 3: Feminist Fluid Perspectives

Within the spirit of plurality, the feminist approaches discussed below vary significantly from each other but each offers a productive rethinking of objectivity and subjectivity that inform my search for alternate approaches to sonic art-focused sound theory. The psychoanalytic feminists offer a problematisation of the notion of the "subject" and subjectivity theorised through psychoanalysis and post-structuralism. Donna Haraway, in her feminist philosophy of science, continues the critique of the legitimacy of male subjectivity transposed to a universal objectivity, but rather than embracing "subjectivity" she offers a situated feminist objectivity that operates contextually and partially. In doing so, Haraway considers the relations that act upon the "reality" that science attempts to explain. Karen

Barad, also from within feminist philosophies of science, extends Haraway's arguments into quantum field theory to propose a notion of intra-subjectivity, in which we hold the potentiality of multiple "others" within us. Through the notion of "superpositions" there is the possibility for simultaneous understandings from inside that nullify any notion of single universals and finite "objectivities". Drawing on aspects of these perspectives I have developed a model for a reflexive authorial position that I describe as tomographic, which allows for slices of experience from within but contextualised from without, which I propose is well-suited to the discussion of sonaurality.

(i) Feminist Subjectivities: De Beauvoir, Irigaray, Cixous

One of the core issues for psychoanalytic feminism, which emerged in the 1960s and 1970s in parallel with postmodernism, is the nature of subjectivity. Based on the pioneering thinking of Simone de Beauvoir in *The Second Sex* (1949/2011), the psychoanalytic feminists propose that before subjectivity can be embraced it must be reclaimed from an assumed universal subjectivity that is implicitly male.

De Beauvoir states that within a patriarchal, modernist paradigm, "He is the Subject; he is the Absolute. She is the Other" (2011, Loc 463). The issue is not one of a masculine objectivity that trumps a female subjectivity, rather that there is only one capital "S" Subjectivity, which is universally accepted as male. A woman cannot make a claim to this Subjectivity, only to Otherness. Woman as Other is denied any sense of subjectivity, or power of self. To be a subject would indicate a sense of individuated equality, but woman is only ever defined in relation to man, as lesser—as lack in Freudian terms. Man, as the fundamental form, does not need to define himself in relation to her.

It is not that de Beauvoir has a problem with alterity or the oppositions of otherness in general, which she believes is a "fundamental category of human thought. No group ever defines itself as One without immediately setting up the Other opposite itself" (Loc 475). With non-gender based social oppositions, such as between cultural groups or the bourgeois and proletariat, there is dominance of the one over the other, but the other "has an opposing reciprocal claim… individuals and groups have no choice but to recognise the reciprocity of their relation" (Loc 489). However, women have no sense of reciprocity because the man has been "asserted as the only essential one, denying any relativity in regard to its correlative, defining the latter as pure alterity" (Loc 490). As an existential phenomenologist, De Beauvoir's

solution is to analyse the lived experience of the female in a way that allows for a re-evaluation of forces behind its power dynamics. She concludes that a woman must fight her conditioning and adopt an "existential morality" that prizes freedom over the unquantifiability of happiness. By transcending the self through action and responsibility, by "accomplish[ing] herself" (Loc 683), a woman can move towards her own self as subject not Other, and without denying her difference assert herself as equal to man.

However, Luce Irigaray interprets De Beauvoir's proposal as a rejection of the Other. She believes the best approach to reach self-understanding and personal power is to fully embrace the notion of the Other: "Instead of refusing to be the other gender [*autre genre*], the other sex, what I ask is to be considered as actually an/other woman [*une autre*], irreducible to the masculine subject" (1995, p. 9). In this way she gives an agency, a significant subjectivity, back to the female, who does not need to be evaluated in any way via the Absolute Subjectivity of the male. For Irigaray, this difference is everything: "the exploitation of woman takes place in the difference between the genders [genres] and therefore must be resolved within difference rather than by abolishing it" (p. 10). Through this move, Irigaray attempts to free herself from the biased construct that has been built around her, escaping the notion of a first and second sex by proposing simply a "two" in which neither precedes the other. The Other is neither regarded or constructed in relation to subjectivity; it is something distinctly and consciously other.

Among the psychoanalytic feminists, it is Hélène Cixous who is the main focus here due to her notion of an *écriture feminine*, "women's writing" or "female writing", which can be seen as an epistemological approach of writing through the experience of the body in order to positively claim subjectivity. It is worth noting here that all the French psychoanalytic feminists write in ways that blur the categories of theory, autobiography and creative writing and interrogate the textuality and structures of writing, something that will be discussed further in relation to *fiction théorique*, fiction-theory and ficto-criticism in Chapter 4. Cixous works from the belief that she is the Other, shut out from the world of writing that is the domain of men, a world that prizes rationality over embodied understanding: "Nearly the entire history of writing is confounded with the history of reason, of which it is at once the effect, the support, and one of the privileged alibis. It has been one with the phallocentric tradition" (1976, p. 879). Cixous calls this tradition an "enormous machine" that has systematically silenced

women's voices and "confiscated" their bodies. To combat this a woman must write her self, from her self, through her body. For Cixous, the body and writing are inseparable.

While Cixous proposes a personal, embodied approach she defends her position from insularity and solipsism by making a case that the singular voice joins a blend of voices: "personal history blends together with the history of all women, as well as national and world history. As a militant, she is an integral part of all liberation" (p. 992). A contemporary intersectional feminist approach could take issue with her conception of all women and her placement of the feminist struggle as "fundamental" before other issues of race and class, but it would seem her motivation is that the power of disruption the personal, embodied female position offers can provide a model for challenging other forms of repression.

> If woman has always functioned "within" the discourse of man, a signifier that has always referred back to the opposite signifier which annihilates its specific energy and diminishes or stifles its very different sounds, it is time for her to dislocate this "within," to explode it, turn it around, and seize it; to make it hers. (Cixous, 1976, p. 887)

A woman's insights from within can allow her to redefine her position such that within is no longer subordinate but a differentiated other, which makes no attempt to seek meaning from the dominant. Importantly, while Cixous calls for a woman's writing she does not equate this with a singular and universal "feminine practice" as she respects the difference that each body will bring. She admits that this lack of cohesion will mean that this writing cannot be theorised, it will always exist outside, "in areas other than those subordinated to philosophico-theoretical domination" (p. 883). This is necessary if a woman is to cease to define herself by the senses of relation with a male dominant. Importantly, Cixous' *écriture feminine* is not simply a women's writing by women, tied to biological gender but a writing that taps into qualities that she suggests are female-as-other; writing that comes from an outsider, or an othered state, experienced and expressed through embodied existence. This allows her to embrace male writers such as Jean Genet, Franz Kafka and James Joyce. Interestingly, Voegelin (2016) uses Cixous' notion of embodied writing of the outsider or other to frame a discussion of Kodwo Eshun's *More Brilliant than the Sun: Adventures in Sonic Fiction* (1998), an exploration of the alien otherness embraced in Afrofuturism, which will be discussed further in Chapter 4. I will pick up on the importance and potentials of writing and disrupting from within in my discussion of tomography and topography in Part 4 of this chapter.

As a woman of Jewish, German and French heritage who witnessed the effects of French colonialism in Algeria, Cixous is highly sensitive to other "others" subjugated by a dominant culture. Birgit Mara Kaiser (2012) identifies a development within Cixous' writing that moves from a male/female duality to one of self/other in order to engage with a "human" subjectivity. This is a dynamic process of the human "being", taking responsibility for one's doing and creating (similar to de Beauvoir's notion of existential freedom). This is a transformational process aimed at taking us beyond the self/other dialectic to a "corporeally and contextually embedded existence that is permanently in the making and constitutively entangled with a multiplicity of others" (Kaiser, 2012, p. 479). In this way Cixous makes a case for an intersubjectivity of shared corporealities that can exist between humans but also potentially with other species, too. Karen Barad also takes up the concept of intersubjective entanglement that I will discuss in more detail in section (iii).

While I have only touched on these philosophers, the various interpretations of subjectivity proposed by the psychoanalytical feminists illustrate how subjectivity can be wielded as a critical tool by the "other" (not simply women) to challenge a system of privileged "Subjectivity" that is afforded the dominant culture, be that gendered or racial. In particular, Cixous' *écriture feminine* works to bring bodily experience, both singular and shared, into the realm of knowledge. As Voegelin (2016) proposes, this writing through the body is of particular interest to a writing about sound, where the body is immersed in the object of experience. What is particularly interesting in these feminist thinkers is how objectivity and a capitalised Subjectivity are not regarded as opposites but as part of a system of domination. It is not simply that there should be a space for subjectivity in considering the world but that this subjectivity must be reclaimed by the "other", and that this struggle takes place through acknowledging the role of the body. It is the reclamation of the body, the experience, the within-ness that is critical to developing alternate strategies that can theorise the complex of sonaurality as it manifests in sonic art.

(ii) Feminist Objectivities: Haraway

In contrast to Cixous' rally against what she sees as a phallocentric and oppressive rationalism, Donna Haraway, a biologist and feminist philosopher of science, does not reject rationalism and objectivity; rather, she proposes to radically reconfigure these notions. Haraway calls the objective position as it has been conceived in Western science, with its singularity and universality, as the "god trick" (1988, p. 581), and this god is male. In her 1997

essay, “Modest_Witness@Second_Millennium”, Haraway explores the notion proposed by seventeenth century scientist Robert Boyle of the scientist as a “modest witness”. The male modest witness is endowed with a particular “self-invisibility” that allows him to see the facts as they are. From this position he can report the results of experiments through a “naked way of writing,” in which he can speak,

> adding nothing from his mere opinions, from his biasing embodiment. And so he is endowed with the remarkable power to establish the facts. He bears witness: he is objective; he guarantees the clarity and purity of objects. His subjectivity is his objectivity. (Haraway, 1997/2004, p. 224)

This accords with de Beauvoir’s capital “S” male Subjectivity that is so “Absolute” that it is no longer considered subjective. This mode of witnessing and writing is considered free of any traces of history, society, culture, class or gender.

Haraway (inspired by other feminist thinkers such as Sandra Harding and Deborah Heath) challenges the objectivity of the “modest” male witness with that of a “critical reflexivity, or strong objectivity” (Haraway, 1997/2004, p. 237) in which both the objects and the subjects of knowledge-making practices must be located. This allows for consideration of gender, race and class, not as taxonomical labels but as dynamic situations in which science is pursued. Situatedness reunites the body, which exists in a specific place, with the mind, and offers a partial, but therefore located and locatable perspective. By doing so she offers a “feminist objectivity” that provides “situated knowledges” (Haraway, 1988, p. 583). However, allowing critical subjective input back into the objective does not immediately then give in to unquantifiable and unjustifiable relativism. Haraway is equally sceptical of objectivism and relativism, suggesting that where traditional objectivity offers the god position of “everything from nowhere”, relativism offers “nowhere while claiming to be everywhere equally” (p. 588). Both “deny the stakes in location, embodiment and partial perspective; both make it impossible to see well” (p. 584). Only partial perspectives that allow located subjectivities as part of objectivity can offer contestable, rational knowledges.

For Haraway, partial knowledges also create “unexpected openings” that make way for webs of connection between knowledges and communities. It is these webs of connection that can allow for “solidarity in politics and shared conversations in epistemology” (p. 584). Through combining knowledges that acknowledge their situatedness, larger perspectives can be considered. No one person’s situated knowledge can express a whole, but by combining knowledges a more comprehensive understanding may be developed. This point is significant

when considering my notion of tomography which, I will argue, offers slices of knowledge compiled to create a version of a whole, discussed in more detail shortly.

Like Cixous, Haraway believes the body is integral to this located and partial perspective. The view is always from the body, "always a complex, contradictory, structuring, and structured body" not a "view from above, from nowhere, from simplicity" (1998, p. 589). The body of the researcher is always in relation to the world they are studying. For Haraway this extends beyond the realm of experimental science to consider more generally how we are always in relation to the world and its "critters", as she calls them. Haraway proposes a techno-biological intersubjectivity that she believes is vital for the ecological future of the planet. Just as Cixous considers intersubjectivity through the human "being", through responsible action, so Haraway proposes that "To be one is always to *become* with many" (Haraway, 2007, p. 4, emphasis in original). In Haraway's notion of intersubjectivity, and the proposal for how located situated knowledges seek connection within a web of knowledges, we see how a situated knowledge incorporates the relations of which it is part. This is particularly relevant to this research which is based on a relational understanding of sound and listening, seeking alternate strategies that can consider this within the epistemological approach.

Given the previous discussion criticising the visual bias of theory, no irony is lost in the fact that Haraway's main material and metaphor within her 1988 essay on situated knowledges is visual. Her argument is that as technologies that augment and enhance vision have been developed, the "objectivity" of the technologies themselves has become the core of scientific rationalism. Haraway's feminist objectivity brings the extended eye back into the body, proposing that embodiment is not limited to the purely organic but can incorporate the technological. Through the particularity and specificity of the augmented body Haraway believes a "true" objective vision can be achieved. As pointed out by Annie Goh (2017, p. 289), Haraway does allude to "tones", "vibrations" and "tuning in" to "reasonances" (p. 588),[8] but I would suggest that her call for "cacophonous visions and visionary voices" (p. 590) still deals with the aural on a textual, semantic level. However, my aim is not to wage war on visually influenced theory but to explore ways in which it can be tweaked and tuned to the sonaural.

[8] There is the possibility that "reasonances", which appears twice in the article as it is printed in the *Feminist Studies* journal, is not a deliberate neologism but a typographical error as Haraway does not go on to discuss the term further here or continue its use in subsequent texts.

What Haraway's situated knowledges adds to my argument is the acknowledgement of the body and its locatedness in the generation of "objective" knowledge, and while this knowledge is openly partial, it can be connected to other discoveries in order to build understandings that are far richer and more complex than a disembodied singular proposition. In terms of writing about the sonaural, it opens up the possibility that simply because this writing explores the embodied, immersed experience of an individual, it does not immediately render it purely subjective and relativistic. Haraway's located and partial "objectivity" describes the transparency and self-awareness that I suggest can be incorporated into a "reflexive" understanding of subjectivity that I will outline in Part 4 using the metaphor of tomography.

(iii) Superpositions and Intra-subjectivities: Barad

There is one final feminist perspective on subjectivity and objectivity that extends from Haraway's thinking, which is that of Karen Barad. A quantum physicist and theorist, Barad's concepts are fascinating and more complex than can be adequately dealt with here, but there are two aspects I consider as particularly productive thought figures as they challenge subjective-objective binaries in a way that is useful in developing alternate authorial approaches to sonaurality.

A key postulate of quantum physics is that light behaves both as wave and particle, with the process of observation and measurement effecting the outcome. Barad explains:

> Difference isn't given. It isn't fixed. Subject and object, wave and particle, position and momentum do not exist outside of specific intra-actions that enact cuts that make separations—not absolute separations, but only contingent separations—within phenomena. (Barad, 2014, p. 175).

Quantum field theory allows for multiple potentials for behaviour, the outcome of which are unresolved until that potential is collapsed by being measured or observed. In terms of my application of this theory I propose that it is empirical observation—critical measurement from outside a system—that causes the collapse of its pluralistic potentials. In the case of sonaurality this system comprises the relations between sound object, listening subject and environment. Within the system there are still a range of possibilities to be explored. But does this simply amount to an unhelpful indeterminacy and relativism? And doesn't the acknowledgement of one's presence within the system still amount to an observation of some form resulting in a collapse of potentialities?

One way of considering the effect of being within a system can be developed if we look at Barad's (2012) explanation of what happens in a vacuum. According to Newtonian physics, a vacuum is a void, a space of nothing. In quantum field theory "particles no longer take their place in the void; rather, they are constitutively entangled with it. As for the void, it is no longer vacuous. It is a living, breathing indeterminacy of non/being" (Barad, 2012, p. 210). A particle entangled in a void includes its virtual particles, the "infinite plethora of alterities given by the play of quantum in/determinacies" (p. 214). Particles, and by Barad's extension individuals, include within them possible *intra-actions*. In this way, the individual is already "threaded through" with the other: we hold others within ourselves, so that we are never separate from difference but instead comprise difference. This dramatically alters previous notions of self-other (subject-object) relations. Just as in quantum physics particles can be superposed—in two positions at once until measured—one's perspective can be multiple places within the inside. Using this thought figure, I am not separate from the sonaural, but am an integral part of the potentials of it as a system. When I acknowledge my experience it is an *agential cut*, what Barad calls a "cutting together-apart", in which we can understand the collapse that occurs with our entanglement with the system without losing the understanding of other potentials. Agential cuts don't erase difference but entail differentiatings (p. 176). In relation to sonaurality this "cutting together-apart" is an acknowledgement of my role within the relationship, allowing this to be but one of the potentials of the sonaural.

Voegelin also applies Barad's ideas to sonic thinking. Barad contrasts the notion of reflection with diffraction: reflection shows sameness whereas diffraction maps difference. (Barad picks up on this thought figure, originally posed by Trinh T. Minh-ha (1986/1991) and further pursued by Haraway (1992/2004).) For Voegelin, "Diffraction entangles the object and the subject… It brings us to the notion of objectivity not as distance and detachment but as a practice of difference to which we are held accountable" (2019a, Loc 3818). This interpretation highlight's Barad's recasting of objectivity as responsibility, in which to critically explore is to be entangled with the subject in shared possibilities. While I cannot claim to fully comprehend the complexity of quantum field theory, or the depth of Barad's poetic interpretations, in the spirit of potentials and possibilities I find the metaphors to be useful in reassessing the supposed binary of subjectivity and objectivity as an evolving entanglement.

The above feminist perspectives have been explored as they articulate ways in which subjectivity and objectivity can be considered differently, and how difference can be

considered differently. The psychoanalytic feminists Irigaray and Cixous embrace an othered subjectivity and *apposition* of difference highlighting the importance of the lived, embodied experience. Haraway reclaims and redefines the very notion of objectivity, proposing that rather than ignoring what was previously thought to be prejudicial context, it is vital that it incorporate the sited, partial and located context of the observer. Barad reconfigures the notion of an inside-outside duality altogether by proposing that we hold all the potentials of the other within us so that we are "threaded" through with difference, which allows us a multiplicity of perspectives and their potentials. It is from these notions that I draw together my proposition of a tomographic approach, an authorial and epistemological approach that writes reflexively and rigorously from within the sonaural relationship. It is from this authorial position, which considers the specificities of sound and listening, that alternate approaches to sonic art-focused studies can be developed.

Part 4: A Tomographic Approach

(i) Above and Below: De Certeau

In *Sonic Possible Worlds: Hearing the Continuum of Sound* (2014, p. 23), Voegelin discusses sound geographies, which she says require a different approach to topographical mapping. In doing so she references Michel de Certeau's seminal essay, "Walking in the City" (1984). De Certeau contrasts the perspectives of viewing from above (in this instance, from the top of the World Trade Centre in Manhattan) and the experience of being part of the city below. The view from above satisfies a "scopic and gnostic drive" that freezes the city turning it into a "text" to be read (p. 91). Meanwhile it is the activities of the *Wandersmänner* or wanderers below, who through their bodies, movements and experiences are creating this "text" without being able to read it (p. 93). In his scenario the view from above allows for a mapping from a distance that cannot offer details and contexts of what is happening on the ground: "Surveys of routes miss what was: the act itself passing by. These fixations constitute procedures for forgetting. The trace left behind is substituted for the practice" (p. 97). I draw on de Certeau's analogy as it aptly highlights the resulting limitations that a sense of distance offers with his position advocating for the importance of practice as a place of active subjectivity. While de Certeau does not explore the issue further, his metaphor does still imply that those on the ground, those who practice, cannot get a sense of the big picture.

Conversely, the whole point of this chapter (and research) is to find a way to explore from a place of experience that can still offer some “authority” within an authorial position.

Voegelin invokes de Certeau to argue that mapping is intrinsically a visual way of thinking. She proposes that sound “slices through the visual frame and organization” (2014, p. 21) in a way that personal sonic experience is “one slice of many slices of what the real could be” (2014, p. 35). Voegelin uses this logic to enter into discussion of sound as offering access to possible worlds—an argument I am not entering into in this research. However, her notions of mapping and slicing have inspired the development of my proposal of tomography as a productive metaphor to work through in the pursuit of an authorial position that can work reflexively and contextually from within.

(ii) Tomography: Slices from Within

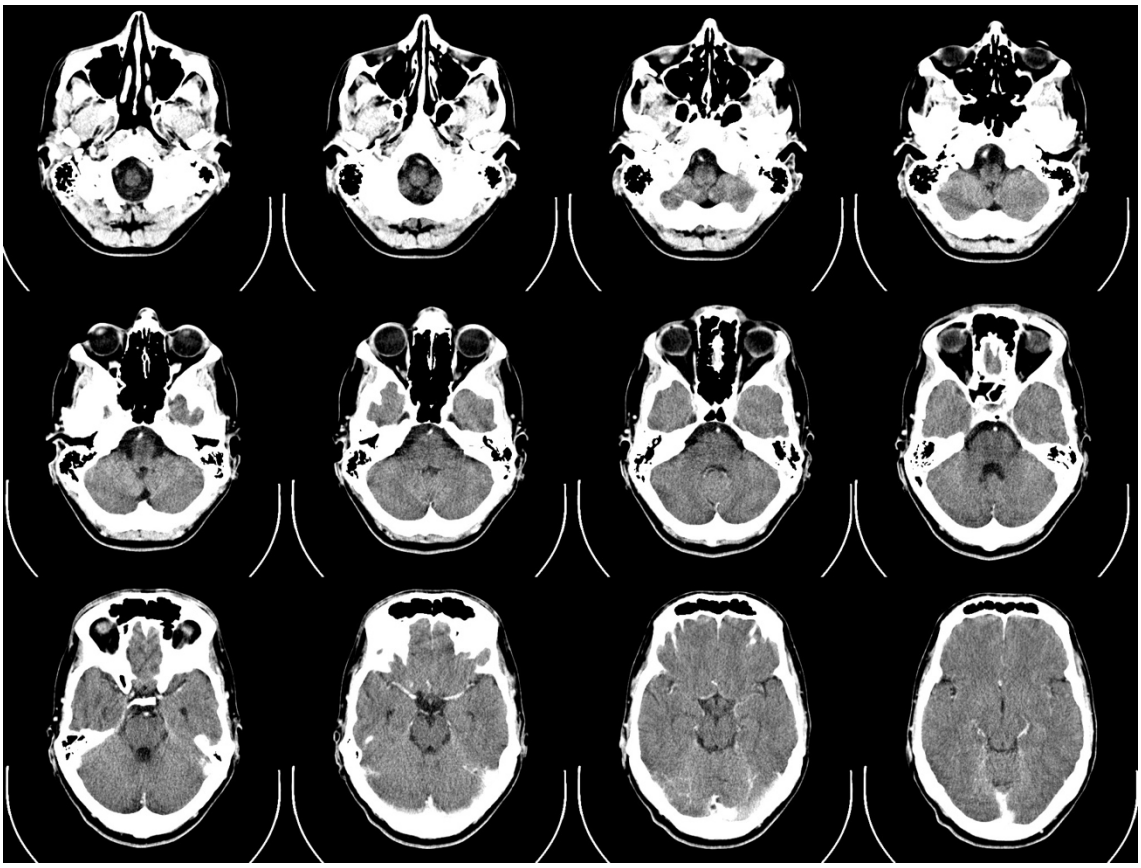


Figure 3. Computed tomography of human brain. CC0 1.0 Universal Public Domain. Click for animated version.

Borrowed from the medical sciences, tomography is the process whereby something of volume can be imaged by taking slices or sections via a penetrating wave, for example x-ray,

magnetic resonance imaging (MRI) or ultrasound imaging (internal echolocation by high frequency sound waves). From these slices a composite understanding of the whole can be built. For my purposes, the tomographic approach is offered as a contrast to a topographic one. Prevalent in music journalism, criticism and academic writings, the topographic approach focuses on history, lineage, taxonomy and critical connections rather than the experience of the work. Such approaches are important in establishing sonic art as something different to music and visual art, tracing lineages and arguing for legitimacy. Significant mapping work has been undertaken by art historians and theorists such as Douglas Kahn (1992, 2001, 2013), Jonathan Sterne (2003), Alan Licht (2007), Seth Kim-Cohen (2007), Caleb Kelly (2009, 2017), David Toop (1995, 2011, 2016) Brandon LaBelle (2010) and Tara Rodgers (2010) (with her much-needed integration of females into the history). However, as a relatively new area of practice and theory, there is the opportunity to develop alternative ways to theorise sonic art that deal more closely with its complex subject-object challenges; that theorises sonic art from within the sonaural relation.[9]

As an alternative to historic mapping, boundary drawing and territorial marking, a tomographic approach employs an experiential, embedded, immersed position. As an account of the subjective experience of a sonaural activity, it offers a cross-section of a sonic act, a detailed slice of the listening experience, developed from the inside. In the recompiling of slices of experience from the inside, micro and macro contexts are "diffracted", presented as possible positions rather than being singular and definitive, tempering the danger of indulgence and solipsism that can happen with unreflective personal accounts. Accounts from within draw on embodied experience as advocated by Cixous, but in the compilation of slices there is an acknowledgement of relations in action, experience in relation to other internal and external factors. This reflexive acknowledgement draws on Haraway's situated and consciously partial knowledges, in which the theorising provides context and specificity that allows it to have a rigor, rather than a relativism. The acknowledgement of differences, and an acceptance of responsibility for the account, along with the understanding that there are multiple "superposed" positions that can be expressed, draws on the thinking of Barad. The tomographic compilation is inevitably incomplete, but consciously so—no grand claims of universality can be made. Rather, the incompleteness opens up possibilities for connection

[9] I first presented my notion of tomography in the paper "The Now of History: Tomographic and Ficto-Critical Approaches to Writing About Sonic Art" as part of RE:SOUND 2019 – 8th International Conference on Media Art, Science, and Technology.

with others in the manner of Haraway's web of situated knowledges (1988), such that knowledge is in connection with the experiences and knowledge of others.

I propose the figure of tomography as an alternate authorial position from which to approach a sonic art-focused sound theory. A tomographic authorial position is one in which the writer preferences the experience of the work, over predetermined taxonomical and theoretically interpretive explanations. From this position within the work, the writer offers slices of experience, thick description in the way of Geerzt (1973). These are not simple subjective experiences, that might result in a kind of indulgent poesy (the type of quasi spiritual magical thinking which Connor and Sterne criticise). It is not an inward-looking interiority but an outward-looking one. Through a self-aware and reflexive acknowledgement of the self and the writer's positioning (theoretically, socially, culturally), and an active experiential engagement with the work's context, a layered account is built up. Negotiating these nuances and layers requires the reader to actively engage in the meaning making, in a way that also asks for a reflexiveness, in which the reader appreciates their own position within and towards the work and its contexts. This analysis of the reader's experience mirrors that proposed by Gerrit Haas in his discussion of the effects of ficto-criticality that I will discuss in more detail in the Chapter 4. I propose that it is by using the strategies developed in ficto-criticism, as it was developed in 1980s and 1990s, that the tomographic authorial position can find a productive format.

The irony is not lost on me that tomography within the medical sphere is still a translation of unseeable interiors into a format for visual contemplation (even if some of those methods do use sound wave technologies). It uses a visual paradigm and is still a process of mapping.[10] Coming from a perspective that embraces pluralism, it is not mapping in itself that is the issue, it is where the writer is positioned within the mapmaking process. As I discuss in more detail in the ficto-critical ambisonic essay *In_Listening_In,* there is mapping from above but there is also the concept of the *periplus* (Spanos in Connor, 1997, pp. 124-125), which is a mapping from the perspective of the sailor on the sea—an account of the journey from within. With the tomographic authorial position, I am proposing a writing that documents the experiential journey from within, but in its documentation, it offers a contextual

[10] Much as I try, it is difficult to write without using visual metaphors and figures of speech. Visuality is currently inevitably embedded in our structures and lexicon. However, this doesn't mean that we should not seek to expand our metaphors and, as Haraway says, reconfigure our figures. She proposes (riffing on Mary Strathern) "It matters what matters we use to think other matters with… what descriptions describe descriptions" (Haraway, 2016, p. 12).

understanding for the reader, who inevitably starts as without but enters the tomographic "map" by exploring its layers. Tomography offers a spatial challenge to the horizontalism of topography, allowing for the consideration of vertical and interior dimensions. It offers a particular whole developed out of slices and fragments, where the parts are still allowed their difference. It is a particular whole because there is no pretence of it being the only one, the definitive; rather, its reconstruction is generated responsively and reflexively from within the experience.

The tomographic approach may not always be the appropriate mode. There are times when either the distance of topographic mapping from above or a combination of topographic and tomographic approaches is required (my approach to the history of objectivity and subjectivity in philosophy arguably offered a sketch of the lay of the land.) What I offer with the tomographic approach is another option, one that allows subjectivity the room and capacity for interrelation and critical reflexivity that draws on ideas of the role of the body and experience in critical thinking. The tomographic position is deliberately unresolved and cannot be defined as either entirely subjective or objective.

At the conclusion of Chapter 2 I offered the ontological concept of sonaurality to describe the complex interrelation of sound and listener that I propose is the concern of sonic art. I conclude this chapter with the epistemological position of tomography, an authorial position that I offer as an alternative approach to critical distance, one that I believe can work constructively with the complexities of sonaurality as it is explored through sonic art. In the following chapters I will be expanding on how this tomographic approach can be implemented through a mediated ficto-critical writing, allowing for multi-faceted theorising that enriches sonic art-focused sound studies.

Bridge
Module (ii): *In_Listening_In*

In_Listening_In is an ambisonic essay that uses the technology of 360VR to deliver an immersive and spatially dynamic audio experience, intended to sensorially reinforce the arguments it puts forward. This work condenses the theoretical research discussed in Chapters 2 and 3, covering the ontology of sound and listening and alternate epistemological positions that may better deal with the complex relations of sound and listening that I call sonaurality.

The text is written for aural delivery rather than textual reading and thus employs poetic reduction and attention to pace and rhythm. It combines poetic fragments, personal anecdotes and concise summaries of theoretical concepts. The piece has four sections that, are marked by audio transitions (the section titles are unannounced and only appear in the transcript). Part 1, “Locus”, positions sound and listening as immersive, embodied, relational. Part 2, “Above and Below”, is an exploration of objectivity and subjectivity in relation to theory and listening, focusing on Michel de Certeau’s notion of “walking the city” (1984). Part 3, “Periplus”, pursues the possibilities of temporal rather than topographic mapping. Part 4, “Tomography”, presents my notion of tomography, an alternative to topography, proposing it as a pluralistic understanding compiled from slices of experience from within. I propose that tomography provides a useful thought figure from which to develop a complex authorial position that blurs the hard binary notions of subjectivity and objectivity.

The concepts put forward are exemplified and augmented audiovisually to create a 360VR ambisonic experience. The 360VR format allows for ambisonic audio in which the listener is fully immersed in sound, with the spatialisation dynamically responding to the viewer/listener’s head movements. In this way the mediation actually enables a tomographic positioning within the ideas of the essay. As the content focuses on journeying, I used field sounds from my archive, gathered from a range of research trips to Europe and Asia. Many of these are recorded using binaural microphones—matching stereo microphones that are placed in or around the ears in order to record the sound from the exact perspective of the recordist. These binaural recordings can then be adapted to an ambisonic environment, which provides the addition of height and depth to the intense binaural stereo field.

The piece is also underscored with soundscapes composed for spatial delivery. The opening soundscape is adapted from material I composed for the Tanks Project in 2018–19, an eight-channel surround concert and installation presented in a decommissioned circular oil tank at Middle Head, in Sydney Harbour.[1] Other sonic material is composed specifically for this piece using sounds that optimise spatialisation, such as drone sounds that swirl and enshroud and close-proximity spatial shifts. The intention is to create atmospheric underscoring and embodied immersion that sensorially and affectively illustrates the concepts being discussed.

For the visual environment I developed a visual atmosphere or "wallpaper", constructed from the text of the piece collaged with photographic material of branching root structures. The text and images move slowly across each other, producing shifting opacities that make the visual space shimmer and breathe ever so slightly. There are also colour gradient shifts that coincide with each of the four parts, culminating in a more celebratory sense of pace and movement at the conclusion. When a writer is being cited their names appear as glowing orbs, spatially matching the audio placement. This allows the participant to see the spelling, which is helpful when discovering new writers, and invites the participant to explore the space more dynamically. As I narrate the piece, I also use effects on the citations to sonically differentiate them from my original text.

A convention I have adopted for all modules involving audiographic pieces is to include time-coded notes and a full time-coded transcript with descriptions of sonic samples, as well as short prefaces that can also double as abstracts. This illustrates how the audiographic form can still fulfill the demands of academic publishing.

This module explores the ontological aspects of sound and listening discussed in Chapter 2, and the search for alternative epistemological and authorial approaches discussed in Chapter 3.

For exegetical evaluation of this module see Chapter 6, "Exegetical Congeries".

Proceed to module (ii): *In_Listening_In*

[1] Initiated by Chris Caines, a project of Mosman Art Gallery, with support from the University of Technology Sydney, the University of Sydney, the Australia Council for the Arts and Sydney Festival.

Bridge
Module (iii): *Surface Friction*

Surface Friction is a "constellated" essay, delivered through creative researched writing, prose poems and sound. It is structured as a collection of interrelated ideas that can be read in any order, with the intention not to construct a watertight linear argument, but to let ideas reverberate and resonate. This module explores the notion of surface both in relation to various ontologies of sound and also in relation to literary criticism around the prevalence of surfaces (rather than depth) in postmodernist writing (Hebdige in King, 1994, p. 269).[1] While all the lexia are thematically related to surfaces, they do not construct a linear argument.

The participant chooses texts via a diagram that lists all the lexia. Those that contain sound content are purple, and those that are purely text are grey. The visual material is drawn from a number sandpaper grades that form the basis of the *2 minutes from Home* audiovisual commission "6 Grades of Grain", included as one of the lexia. The commission occurred contemporaneously with me developing this module, and draws upon its research. The sandpapers, captured directly from a flatbed scanner, offer the notion of a "haptic image" (Marks, 2000) that is discussed in the "Sensing Surfaces" lexia, exploring how touch mediates between the other senses.

At the centre of the diagram are the "Sound" and "Words" lexias. The "Sound" lexia offers a number of audio samples, drawn from close-miked recordings of interactions with the surfaces of various objects. The listener may sample them singularly or simultaneously, shaping their own soundscape. Below each sound, in a collapsible block, is a brief poetic description of the sound. In this way the sound comes first but may be further understood or explored textually. The "Words" lexia presents the opposite, with the sounds in the collapsible block and the texts listed sequentially to form a poem. This presentation allows the reader/listener to explore the different ways words and text are primed by each other.

The raw sound samples are subsequently manipulated to create the compositions that accompany other lexia, exploring metaphoric associations and sensorial understandings. These

[1] Just as I was concluding this research I came across the *Surface Colloquium (*2003), organised by prominent Australian e-literature writer Teri Hoskin, exploring surface across literature, media, sound and architecture. http://ensemble.va.com.au/surface_col/archive.html

may be listened to while reading as a themed soundtrack, however, to encourage close attention, the sound is presented first with the text accessible through a collapsible block.

There are a number of poetic texts, such as "Fricatives", and "Composing Surfaces", but on the whole the texts explore theoretical issues, expressed with a looser tone that focuses on questions rather than answers, with many of the lexia ending on a musing or query. As well as exemplification and sensorial affect, the sonic material can be considered as an alternate, personalised, subjective voice, the compositions expressing my own relation to the sounds of surfaces.

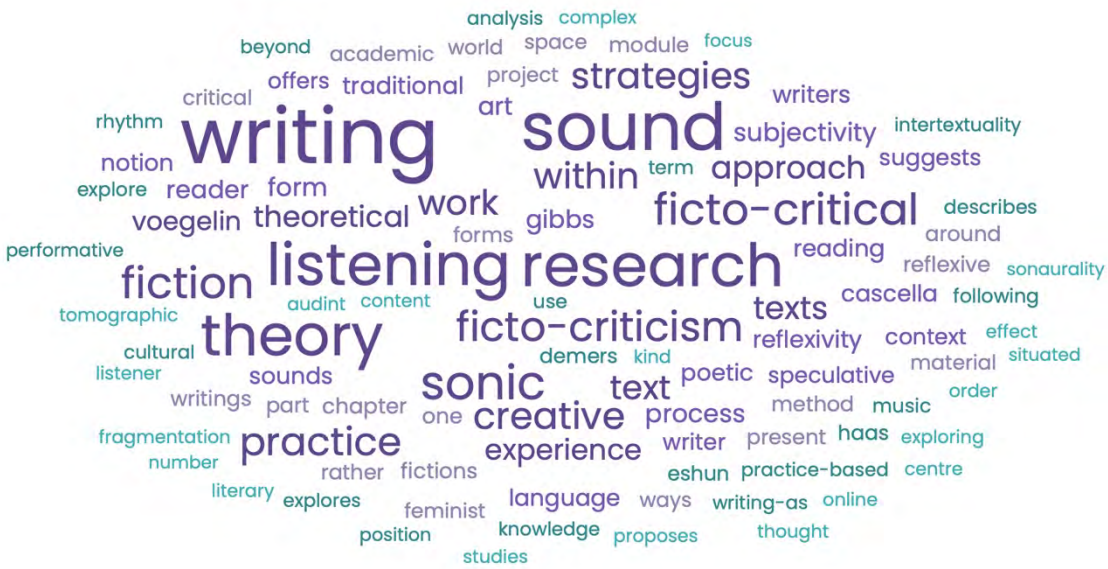
The focus on surfaces could initially seem contradictory both to my primarily phenomenological rather than material ontological position of sonaurality, and my epistemological focus on depth and verticality proposed in the tomographic authorial position. However, I am keen to reiterate that I do not discount the material nature of sound, but I consider this through the correlation of sound and listening. In this module I illustrate the benefits of plural understandings, exploring the materiality of surfaces through the experience of listening, and as a complex figure within postmodern literary criticism.

This module relates to the ontological concerns of Chapter 2, the discussions around aspects of postmodernism in Chapter 3, postmodernism in literature in Chapter 4, and the ways in which digital literature can manifest postmodern and post-structuralist qualities in Chapter 5.

For exegetical evaluation of this module see Chapter 6, "Exegetical Congeries".

Proceed to module (iii): *Surface Friction*

Chapter 4
Ficto-criticism as Performative Research



Sonaurality, the interrelation and entanglement of subject and object that occurs with sound and listening, poses challenges to traditional theoretical approaches that focus on critical distance, objectivity, universality and singular perspectives. In the previous chapter I put forward a number of pluralistic epistemologies that work reflexively with subjectivity. These include the feminist approaches of Helen Cixous' embodied intersubjectivity, Donna Haraway's situated knowledges and Karen Barad's together-apart intra-subjectivity. From these epistemologies I have developed the concept of tomography, which offers a way to position the authorial voice so that it engages with embodied, embedded experience reflexively, exploring a flow from inside and outside perspectives, transparently acknowledging points of view, context and partiality. Armed with this positional proposal, the aim is then to find a methodological approach and set of methods and strategies that manifest the tomographic authorial positions in order to illustrate the productive contribution it can make to creatively focused sound theory.

Given the preoccupation with experience that runs through my argument, it is vital that my research be conducted within a practice-based research methodology, which allows for my experience as a practicing artist to constructively inform the theory. The research is thus delivered in two parts: a theoretical analysis presented as a hyperlinked PDF and a set of online modules that practice and enact the arguments raised in the theoretical document. In this way my project exemplifies the methodology of performative research proposed by Brad Haseman (2007), in that I engage with the method of writing-as-research in collusion with my sound compositional practice. Within the writing-as-research method I focus on ficto-critical writing strategies—an intertwining of creative and theoretical writing with an emphasis on reflexive writing and reading. These texts are mediated—delivered via digital interactive technologies—informing and initiating structures in a cyclical flow between form and content.

In the first part of this chapter I provide context for practice-based performative research as a methodology, and writing-as-research as a method. I then explain the activities that I have undertaken using these tools. In the second part I go into more detail about ficto-criticism as both a practice and a set of strategies. I then undertake a brief survey of existing creative sound theory writing and identify ways they may employ ficto-critical methods, establishing a field for my research.

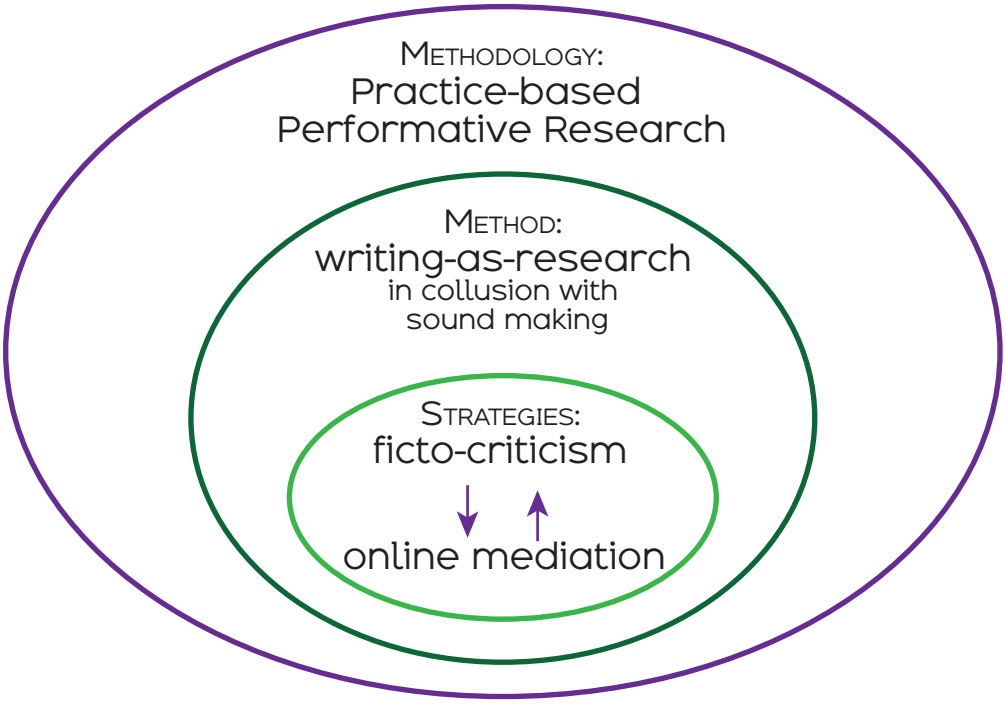


Figure 4. Diagram illustrating the relationship of methodology, method and strategies in the *Languages of Listening* research.

Part 1: Languages of Listening as Practice-based Performative Research

(i) Practice + Research: Terms and Conditions

The value and relevance of practice-based research has been comprehensively argued, particularly within the Australian and UK academic context (Smith & Dean 2009; Barrett & Bolt, 2007; Candy, 2006; Batty & Kerrigan, 2017; Candy & Edmonds, 2018; Hilevaara & Orley, 2018). What emerges from these different explications is a fluidity in terms of order of action and quantifiable weightings (how much theory, how much practice) such that a combined practice and research methodology resists any singular definition. This is evidenced by the numerous variations on the "practice + research" nomenclature and their attendant justifications: practice-*led* (Smith & Dean, 2009); practice *as* research (Barrett & Bolt, 2007); and practice-*based* research (Candy, 2006; Batty & Kerrigan, 2017) (emphasis added). These variations along with other permutations attempt to clarify the interactions between practice and

theory, but as this changes with each research agenda, the specific variations can seem both confusing and semantically pedantic.

Linda Candy (2006) offers clarity by dividing the field into those activities that manifest their research in creative forms, generally accompanied by an exegesis, called "practice-based", and those that are projects *about* practice, called "practice-led", which lead "to new knowledge that has operational significance for that practice" (p. 1). Batty and Kerrigan concur, suggesting that practice-*based* research (and *research-led* practice) is when the creative work "performs the research findings" (2017, p. 7).

The notion of performance in Craig Batty and Susan Kerrigan's definition resonates with Brad Haseman's proposition for performative research. This applies to all practice-based research that presents the creative product as the research findings. He suggests that "in the double articulation involved in creative arts research, practice brings into being what, for want of a better word, it names… It not only expresses the research, but in that expression becomes the research itself" (Haseman, 2007, p. 150). Performative research, with its "inventive methods of collecting and analysing data, alternative forms of reporting research and feedback loops" stands as a new "paradigm", independent of the qualitative/quantitative binary (Haseman, 2007, p. 149). Haseman's notion resonates with my research, where the "performativity" of text is present across the discussions around ficto-criticism, electronic literature and sound-based study. In the case of my research, the mediated ficto-critical modules "perform" the alternative mode of theorising that the theoretical document proposes.

Estelle Barrett and Barbara Bolt suggest that the power of practice as research lies in the fact that it is "subjective, interdisciplinary and emergent" (2007, p. 1). As has been argued in previous chapters, reinstating the value of subjective perspectives is a key aim in this project. They suggest that artistic practice produces knowledge and is "philosophy in action" (p. 1) and places making firmly at the centre of research.[1] This knowledge gained through practice is reflected on via the exegesis, which should move beyond the "solipsistic" (Bolt in Barrett & Bolt, 2007, p. 33) to a reflexive "double articulation" (p. 29) in which theory informs practice and practice informs theory. Gibson reiterates the importance of reflexivity in the process, suggesting it requires a "doubled mentality, a means of being fully attentive both inside and

[1] Alva Noë also suggests that art and philosophy are intimately connected: "both art and philosophy—superficially so different—are really species of a common genus whose preoccupation is with the ways we are organized and with the possibilities of reorganizing ourselves" (2016, p. xiii).

outside the unfolding phenomena" (in Batty & Kerrigan, 2017, p. xiii). This inside/outside interplay resonates with my tomographic notion proposed in Chapter 3, in which I describe the writer positioned within the experience, reflecting outward, expressed in slices of description that acknowledge context and relations. The reflexive and iterative relationship of theory and practice is exactly what a ficto-critical approach involves, initially in relation to writing but also extendable to other media forms.

(ii) Writing as Method: Situated Subjectivities and Poetic Rhythms

Languages of Listening focuses on writing about sound and listening, informed by my practice as a sound maker, a listener and a commentator on sound and media art, attempting to bring those elements into closer communion. Consequently, I have employed a writing-as-research method that is in response to my sound making and listening. Within this method I have used strategies of ficto-criticality, which, it will be argued, work towards heightened reflexivity (for both writer and reader). The ficto-critical writing-as-research has been undertaken via journaling of my sound making and listening practices through experimental writing activities informed by theoretical research and studies of existing creative sound writings, and through *Listening Lingua*, a field research project that examines and responds to listening encounter interviews with volunteers. The *Listening Lingua* project is undertaken to ensure that the ideas around thick description of sound are informed by more than my own experience, while still preferencing experience as the model. Each of these activities has directly fed into the development of a body of ficto-critical writing that is delivered via digitally mediated methods—the online modules—with the intention of enacting the research and its findings.

The method of writing-as-research within art, cultural and social contexts has been strongly promoted as a valuable qualitative tool (Richardson & St Pierre, 2005; Gibbs, 2015; Stewart, 2005; Kapchan, 2017). Drawing on post-structuralist thinking, Laurel Richardson suggests that "language is a constitutive force, creating a particular view of reality and of the Self" (2005, p. 960). In Elizabeth St Pierre's section of the same article, she proposes that postmodernism has delivered us to a place that is "postrepresentation" and "postinterpretation" (p. 968). Given these conditions, one authentic response is to approach commentary on cultural contexts through the position of a situated researcher, in the manner of Haraway's situated knowledges (1988). This situated writing process "put[s] meaning in its place", shifting the attention from what things mean to how meanings emerge, change and

become dominant (Richardson & St Pierre, 2005, p. 969). The writing of the situated researcher is a writing that values process as much as product.

Anna Gibbs proposes that writing as a research method is valuable for the way in which subjectivity and affect allow poetic language a particular interrogatory and revelatory power. The writer/researcher must attune themselves to the affect revealed through the rhythm and flow of experience. While some affect theory turns away from text due to its supposed inability to capture embodiment, Gibbs invokes Henri Meschonnic's theories of rhythm in poetry to argue for poetic language as affective research tool. In poetry, "rhythm represents a departure from the theory of the sign with its splitting of signifier and signified" (Gibbs, 2015, p. 232). Meschonnic proposes that the flow and rhythms of orality remain in the written in a way that manifests a transfer from writer to reader (p. 232). Beyond writer and reader, rhythm and subjectivity are in a reciprocal relationship:

> subjectivity produces rhythm, but rhythm in turn acts on subjectivity. Produced out of the tension between sound and sense, rhythm opens an aspect of writing anterior to meaning but to which we respond corporeally before we have understood what is being 'said'." (Gibbs, 2015, p. 233)

Gibbs suggests that Meschonnic's theory of rhythm allows for a "'non-instrumentalist' writing pulled closer, perhaps, to poetry than to the traditional modes of writing in the social sciences" (p. 233). The connection of orality, aurality, rhythm, embodiment and subjectivity in Gibbs' version of poetic writing-as-research provides affirmation for my ficto-critical explorations of sonaurality as well as the implementation of these affective rhythms through audio material both textural and sensorial.

(iii) Practice-process Journaling

Katve-Kaisa Kontturi (2018) talks of writing about art in terms of "ways of following" suggesting that

> the foregrounding of art's processual emergence through following is inseparable from the practice of writing… This is the domain of intensities and flows that trickle up in the cracks of signification and representation. Writing is the practice through which these intensities can be harnessed and passed on. (p. 10)

By undertaking process-focused journaling[2] I have intended to *follow* the role language plays in my composition and artwork creation—from the tomographic position of listener-maker. Kontturi suggests this is "where language is used to enter into the swell of art in the making" (p. 10). The question for me was: What role does language play in the process of sound composition? The journaling of practice and process is not about finding a definitive answer but finding the opportunities that such a line of questioning reveals for sounding and writing.

The practice of journaling draws on auto-ethnomethodology as proposed by Lyle Skains (2018). Where autoethnography operates retrospectively exploring "epiphanies" that arise from being part of a culture (even if temporarily) (Ellis et al., 2010, para 8), auto-ethnomethodology attempts self-observation and reflection on one's own practice while *in* process, which has the potential to offer "insights into the cognitive process of creation" (Skains, 2018, p. 87). Skains draws parallels with Richardson's "Creative Analytical Processes (CAP) ethnography" (Richardson & St Pierre, 2005), in which both creative and analytical process and products are "deeply intertwined, offering opportunity for insight and nuance into the creative practice through a necessarily subjective record" (Skains, 2018, p. 87). This journaling of context and process within my practice narrates my language of listening as it occurs as a maker of sonic art. The content of the journal has acted as a source of raw creative materials that have been developed, in combination with theoretical analysis, to become key texts in the ficto-critical creative outcome, as seen in module (i)*: Listening to My Listening* and module (vii): *Tonotopia*.

(iv) Field Project: *Listening Lingua* Interviews

To ensure that the research is not only an inward-looking venture, I devised the *Listening Lingua* interview project.[3] I conducted semi-structured interviews with 26 participants (22 general public volunteers and four practicing sound artists). The participants were guided to listen to three sets of sound samples (recorded/created by me) using different listening modes. The first two modes—natural listening and reduced listening—are based on notions proposed by Pierre Schaeffer (2017), as discussed in Chapter 2. The third mode—reflexive listening—explores how art potentially reorganises our understanding to make us more aware of our perceptual operations in the world. (See module (i): *Listening to My*

[2] Ethics Approval No: ETH19-3840.
[3] Ethics Approval No: ETH18-2817.

Listening > A Listening Consciousness.) These listening modes were used to create an optimal listening context encouraging a verbal narration that captures some sense of inner speech as proposed by Lev Vygotsky (1986). (See module (i): *Listening to My Listening* – Talking to Yourself.) The interviews employed a performance research methodology (Haseman, 2007), where the intention was not to gather quantitative data or develop definitive conclusions; rather, the process operated as a relational performance in which the participants' responses were exchanged for the guided listening experience and conversation.

The participant's responses were recorded, and then transcribed using a method of "poetic transcription" proposed by Timothy McKenna-Buchannan (2018). This entails editing and condensing the responses to highlight their immanent poetics while still allowing the voice of the participant to be present. These responses, accompanied by the sample sounds, form the main body of module (iv): *Listening Lingua*. I also analysed the responses, creating codes based around listening modalities, elements identified, literary strategies employed and analysis of basic grammatical forms. However, the grammatical analysis was not undertaken to create definitive systems. Rather, I am following the lead of Voegelin in using grammar as a metaphorical and interpretive tool with which to explore the complex subject-object relations of sonaurality. The *Listening Lingua* module presents detailed introduction and reflection essays analysing the process and the responses. In the manner of performative research, the module represents the research findings (in addition to the exegetical material), as well as enacting the argument of alternative sound theory presentation.

(v) Weaving it All Together

The premise of writing-as-research is that the act of writing is both the vehicle of thought and the outcome, which also makes it performative research. Gibbs describes this as a "process of making sense of that research in and through a writing that does not come afterward as a 'writing up'" but, as in auto-ethnomethodology, is a continuous process that is not "after effect… but forms its very fabric" (Gibbs, 2015, p. 222). St Pierre suggests that writing operates equally as data collection and analysis in an interlinked way, and that this can sometimes only be revealed through the act of writing: "[data is] always already in my mind and body… these data may have escaped entirely if I had not written; they were collected only in the writing." (2005, p. 970). The writing-as-research method is conducted within the context of my sound making and listening practice. It is in active collusion in a way that allows me to bring together my practices of writing through and about my sonic art. Both the practice

journal and the interview project produce data and material that feeds directly into generating ficto-critical writing about sonic art and listening, and provides reflection and insight into my sound making, that then manifests as sonic material within the modules. Given the iterative cycles of practice-based research (Barrett & Bolt, 2007; Smith & Dean, 2009), these writing experiments have been informed by my theoretical reading about ficto-criticism, digital literature and sound theory texts both in traditional form and those that are seeking alternative styles and formats.

In symbiotic relation to the writing practice, the ongoing sound composition and audiovisual explorations are used to drive, illustrate and test notions explored textually. These compositional experiments naturally overlap with the practice elements covered in the journaling component and comprise key elements of the multimedia content of the mediated ficto-critical publication. Some of these are experiments in "audiography" in which the arguments around sound are made through sound (Smith, 2019, ¶ 1), expanding to audiovisual pieces and a 360 VR ambisonic essay. These sound and textural materials are conceived and structured for online delivery following strategies from e-literature and digital sound studies, with the intention of enhancing key aspects of ficto-criticality to create sonaurally focused and reader-agential reflexive sound theory. (This will be discussed further in Chapter 5.)

Part 2: A Ficto-critical Approach

Within the overarching method of writing-as-research I am focusing on ficto-critical strategies as I believe they are sympathetic to tomographic and reflexive sound theory. There is a direct connection between writing-as-research and ficto-criticism acknowledged by Gibbs (2015, p. 222), who highlights that the writing taking place in Australia in 1980s and 1990s under the descriptor of ficto-criticism was being conducted within the research paradigm and was "constantly invented anew" in relation to what was being researched (Gibbs, 2005 ¶ 5). In the following section I survey the development of ficto-critical writing as it developed in the Australian context, how it reflects post-structuralist, postmodern and feminist theories, and how it manifests a reflexivity in both writer and reader. I will argue that the reflexive effects for both writer and reader that are nurtured by ficto-critical strategies are well suited to discussing sonaurality and therefore can manifest alternate sonic art-focused sound theory. In this way I offer a repatriation and reinvention of ficto-criticism as mode for sonic theorising.

To recap Gibbs's definition of ficto-criticism from the Introduction, she says the term describes writing that "uses fictional and poetic strategies to stage theoretical questions [and that] reads theoretical texts in any discipline in the light of their rhetorical strategies and figures" (2003, p. 309). Gibbs's choice of the verb "staged" is significant in light of the discussion around performative research. Importantly, ficto-critical writings are not those that simply entwine creative and poetic techniques with theory and critique, but through their strategies they generate a liminal space, a "space between" (Kerr & Nettelbeck, 1998) in which the binary configurations of subject/object, subjective/objective and doubt/truth are questioned. Through strategies of transparent subjectivity, ethical positioning, intertextuality, fragmentation and formal play, ficto-critical texts not only require a reflexivity of the writer but also the reader, who is encouraged into a self-consciousness about the "text", the self, and the world (Brewster, 1995; Gibbs, 2005; Haas, 2017). The following overview focuses on these strategies and their effects in order to assemble a ficto-critical method that is useful for producing tomographic writing that explores sonaurality.

(i) Ficto-critical Histories: Lines of Flight and Fight

An understanding of ficto-criticism benefits from an analysis of its lineage and history. In the 1980s it began to be tentatively applied to writings within literary and cultural studies that were blurring the lines between critical/academic/theoretical writing and creative writing, (Krauss, 1986; Muecke, 1991, 1997, 2002; Brewster, 1995; Kerr, 1995, 2001; Kerr & Nettelbeck 1998; Haas, 2017). This kind of blurring was not necessarily new, with similar strategies having been employed by the purported first essayist, Michel de Montaigne. Naming his writings after the French verb *essayer*, "to try", Montaigne "tried out" his thoughts on a significant variety of topics, from the philosophical to the quotidian, employing both personal anecdote and borrowed material (1877/2006). Montaigne is cited as influential to many other creative essayists, such as Walter Benjamin, Susan Sontag and W. G. Sebald, who variously combined the personal, reflective, philosophical and theoretical. However, the need for a more specific name arose with the increasing influence of post-structuralist theorists, such as Roland Barthes, Gilles Deleuze, Felix Guattari and Jacques Derrida. Rosalind Krauss calls these writings "paraliterary" texts that present their "theories in operation" and explore their "own strategies of construction…[their] own linguistic operations, [their] own revelation of convention, [their] own surface"" (1986, p. 293). (For further discussion of the surface in postmodern literary theory see module (iii): *Surface Friction.*) While these writings were influential across the

globe, the interest in pursuing and studying these strategies under the title ficto-criticism occurred mostly in Australia and Canada.

The discussion around ficto-criticism in Australia began in the early 1990s in the academic disciplines of literary studies, creative writing, historiography, and social and cultural studies. The term gains currency through an oft-cited article, "On Ficto-criticism" (1991) by ethnographer Stephen Muecke and film/literary theorist Noel King. According to Muecke and King it is Frederic Jameson who bestows the term on writing that is a "flowing together of theory and criticism" in such a way that theory tells "little narrative stories" (Jameson, 1987, in Muecke & King, 1991, p. 13). Helen Flavell (2004, 2009) argues that this framing, and its subsequent reiteration, positions the ficto-critical primarily as part of a post-structuralist and postmodern project, ignoring the contribution of feminist theory to its development.

Flavell's research reveals that ficto-criticism had been in use as a descriptor in Canada since the 1980s, particularly in reference to the work of art critic and psychiatrist Jeanne Randolph (Flavell, 2004, 2009). Little known outside Canada, Randolph was an influential critical figure in the Toronto art scene. There were also a number of Canadian female writers—both English and French speaking—experimenting with hybrid creative-critical writing across the 1970s and 1980s. Aritha van Herk described her approach as ficto-criticism (Flavell 2004, pp. 203–215), whereas Quebecoise writer Nicole Brossard called her writing *fiction théorique,* "fiction-theory", exploring narratives that are consciously underpinned by feminist theory (pp. 215–225). The editorial collective, Tessera (Barbara Godard, Daphne Marlatt, Kathy Mezei and Gail Scott), interrogated the impulse to combine fiction and theory that was prevalent in Canadian female writers in "Theorising Fiction Theory" (1986). These genre-defying writing practices were heavily informed by feminist philosopher/writers, such as Hélène Cixous, Luce Irigaray, Julia Kristeva and Monique Wittig, each of whom employed personal narrative, subjective positioning and expanded intertextuality to question the assumed universal (male) position of critical authority (see Chapter 3). Godard describes this writing as "feminism allied with post-modernism to provide the impetus for understanding the negotiable meaning of the text" (Godard et al., 1986, p. 5). Gibbs reaffirms the influence of feminist theory and the Canadian manifestations of ficto-criticism when she suggests that ficto-criticism is a resistance to "the policing of the academic discipline" and a listening in to the "tones and styles" that manifest authority. She also suggests that it is not "by chance" that the writers informed by feminist theory were "prolific in devising new fictocritical forms" (2005, ¶ 3).

Flavell's extensive research reveals Jameson's use of "fictocriticism" was actually a repetition of the term, initially put to him in a question by interviewer Andrea Ward in the Canadian magazine *Impulse*. This publication was a frequent home to Randolph's writings and that of other feminist authors. Given this contextual information, the "naming rights" attributed to Jameson are erroneous. Flavell highlights this omission as she believes that focusing solely on the post-structuralist and postmodern concerns of ficto-criticism denies its radical challenge to dominant critical positions, as evidenced by feminist ficto-criticism (2004). Instead, Flavell believes one key factor of ficto-criticality is that it "must constantly and self-consciously undermine the will to power of the traditional critical act" (2009, p. 8). It is in this disruptive spirit that I seek to employ the strategies of ficto-criticism within sound theory, proposing that it is deeply sympathetic with the tomographic authorial position that I have outlined in Chapter 3, inspired by the feminist epistemologies of Cixous, Haraway and Barad. In this way the lineage of feminist theoretical enquiry is explicitly influential in my alternate approaches to sonic art-focused sound studies.

Following the initial intensity of ficto-critical commentary within Australia in the 1990s and early 2000s, critical discussion is now less evident. This is not to say that the practice no longer exists. The strategies are prevalent in ethnography, with the term used to describe texts by Muecke (2016), Michael Taussig (2010) and Kathleen Stewart (2007). Katrina Schlunke, working across cultural studies and history, also identifies her work with ficto-criticality (2005). There are also anthologies and journal features covering creative writing and cultural studies (with a high proportion of female writers and editors) that continue to employ the term (Costello et al., 2013). However, critical commentary focusing specifically on ficto-criticism remains a predominantly Australian phenomenon, and within Australia the intensity of commentary about the form noticeably diminishes after the first decade of the 2000s. What is interesting about this diminution of commentary is that it coincides with the increase in discussion around creative and practice-based research, as detailed above affirming its relevance to the forms of creative practice focused theory. [4]

Of course, creative writing utilised within theoretical research or theoretical research within creative writing can have a range of text outputs, which might be variously described as creative non-fiction, literary fiction, literary essays or research fiction. There is also the term

[4] Hazel Smith, Anne Brewster and Anna Gibbs in particular have written extensively about both ficto-criticism and practice-based research.

theory-fiction, coined by the UK-based Centre for Cybernetic Research Unit, which offers a similar approach laced with some specific ideology (to be discussed in Part 3). Creative writers such as Ali Smith (2012, 2014) and Anne Carson (1995, 2005) deftly combine fiction and theory in wonderful ways. More recently, "autotheory", explored in the texts of Maggie Nelson (2009, 2015), is a form that offers intensely personal biography with theoretical exploration in the lineage of earlier theoretically engaged "autofiction" exemplified by Chris Kraus (1997, 2000, 2006). It could be argued that these forms have taken over from the ficto-critical, particularly as they share the similar feminist agendas to destabilise theory's male universalist dominance. Robyn Wiegman suggests autotheory texts might constitute a post-post-structuralist approach, which, rather than rejoicing in the supposed "exhaustion" of post-structuralism, are offering "an invitation, prompting new efforts of writing and thinking that stand in the wake of poststructuralism's foundational lessons" (2020, p. 7). What is interesting is that there appears to be little acknowledgment of the prior theorising that took place around ficto-criticism. While there is overlap with ficto-criticism in terms of the integration of biography, fiction, the poetic and non-fiction, not all of these forms seek "the space between" (Haas, 2017; Kerr, 2001).

Not all works combining fiction and theory work towards destabilising theoretical and critical notions, intentions that are at the core of ficto-criticality as it is defined within this research. It is this destabilising space between that triggers reflexivity for writer and reader, explained further below. In the following section I establish what strategies are prevalent in ficto-criticism and how they operate in order to generate the ficto-critical effect of reflexivity.

(ii) Ficto-critical Strategies

While there is no "blueprint" for ficto-criticism (Gibbs, 2005, ¶ 5), the following summary, based on the recent analysis of Gerrit Haas (2017), explores a number of key strategies that may be present in ficto-critical writing and the effects they may generate.

Subjective perspectives. Ficto-critical writing challenges traditional theory and academic norms through the personalisation of the speaking/writing position. This is not simply through the use of the first person as second and third person writing positions may also play with expectations of the objective perspective, exemplified in texts by N. Katherine Hayles (2002) and Kathleen Stewart (2007) reflexively written in the third person (Haas, 2017, p. 26), where subjectivity is explored as complex, shifting and multiple. Roslyn Prosser suggests writers, through the act of writing, are asking "what kind of subject am I?" (2009, p. 6). However, it is

not a purely inward-looking, indulgent subjectivity; rather, as Gibbs suggests, "[i]t requires us to be alert to our position, and to be capable of self-reflection" (2015, p. 224). Amanda Nettelbeck describes it as a "powerful subjectivity" in which the "'distance' of theorist/critic collides with the 'interiority' of the author", where the notion of "identity" declares itself not just as autobiography but "as a politic to be viewed, reviewed, contested, and above all engaged with" (1998, p. 12). This highlights the role of self-reflection and transparency in this subjectivity in a way that resonates with Haraway's situated knowledge epistemology and Barad's diffracted superposition of both inside and outside. The attempt to evaluate one's own subjectivity in this way exemplifies my proposal for a tomographic approach in which the slices and fragments of experience, which diffract context, are compiled to provide a version (perhaps one of many) of an account. The subjectivity of ficto-criticism is therefore comparable to and compatible with a tomographic approach.

Ethical questioning. The declared "politic", transparency and reflexivity of subjectivity has direct bearing on the ethical dimension of ficto-criticism. This manifests most clearly in the work that takes place within cultural studies, such as the ethnographic work of Muecke, Taussig and Stewart. Kerr, citing Laurel Richardson, summarises: "How to address the problem of 'realising the other', even when 'desires to speak "for" others are suspect'?" (2001, p. 107). Frequently, the response to this dilemma is the autobiographical, in the form of anecdote and memory (Prosser, 2009). Even within ficto-critical writing outside of cultural studies, the notion of the ethical is present in the ongoing questioning of the transparent writer-self that is made explicit within the subjectivity of the writing, and the reader-self who is asked to read reflexively, as will be expanded upon in section (iii). This ethical dimension echoes the emphasis on taking responsibility for one's subjective positioning, as proposed variously by de Beauvoir, Cixous, Haraway and Barad. Within my ficto-critical writing it manifests as acknowledgement of my personal position, and the context in which I am offering my commentary and my resistance to singular authoritative solutions. In this way the reader has greater access to my motivations and can read my reasoning with context, allowing them greater agency in their understanding.

Intertextuality. The citation of other texts occurs in many forms of theoretical writing. In fact, re-iteration could be seen as a core feature of theory. However, the use of intertextuality in ficto-criticism challenges the way in which borrowed texts are used to reinforce arguments by offsetting the subjective/ficto text and the theoretical/critical in ways

that undermine the assumed hierarchy of authoritative knowledge. Barthes talks of reference as "not authoritative but amical [friendly]: I am not invoking guarantees, merely recalling, by a kind of salute given in passing" (2002b, p. 9). Citations are often ambiguously integrated without explanatory linkage and may refuse to conform to "proper" academic procedures like immediate referencing. Other texts may be incorporated into the creative rhetoric as re-readings rather than exemplifications, such as Irigaray's re-readings of Sigmund Freud (Gibbs, 2005; Flavell, 2004). Randolph says that her approach to theory is as "a found object meant to be toyed with" (in Grenville, 1991, p. 15). In my ficto-critical writing this can be seen in my reliance on texts as provocations for musing, and in the way in which I work with connective discourse rather than argumentative declaration. While not to the same extent, I also use the associative within this theory document whereby I operate more in the way of finding connections between ideas from across a range of disciplines, constructing a web of propositions in an additive way, rather than critically carving into ideas to reduce my argument to definitive declarations. In the next chapter I will also explore how digital delivery methods from e-literature allow even further creative play with intertextuality. This is enacted in my online module (v): *Memexical Machine Reading,* which offers a set of 25 citations, their order randomly generated to create chance encounters between texts and their concepts.

Fragmentation. Fragmentation and intertextuality are formally related in ficto-criticism, resulting in structures such as montage or assemblage (Prosser, 2009, p. 4; Haas, 2017, p. 27). The fragment is powerful for its implied interruption and because it "resists totality as well as closure" (Gibbs, 2005, ¶ 9). Haas contends that negotiating the fragmentary heightens one's awareness of the reading experience: "Our readerly work is, after all, not fundamentally different between a flowing and a fragmentary text—only the latter makes our workings perceptible while in progress" (2017, p. 27). The effort required in navigating the absences and gaps of fragmentation offers an example of Claparède and Vygotsky's law of conscious awareness, whereby learning through obstacles and difficulties enhances our awareness (Vygotsky, 1986). Within the online modules I use short fragments in different writing modes. This enables me to explore content from a range of perspectives but also asks the reader to actively switch between these modes. Through this negotiation "spaces between" manifest, allowing for resonances (and dissonances) to arise, arguably encouraging a more engaged and reflexive reading experience.

Experiments with form and/as content. With the collapse of formal distinctions and hierarchies between fiction and theory, opportunities arise to experiment with form and with the relationship of form and content, one in which "writing becomes the subject matter" and the text is "exemplary of its own contention" (Haas, 2017, pp. 26–29). Gibbs puts this quite simply, suggesting that ficto-criticism "focuses as much on the saying as the said, on how things are said and what kind of difference that in turn makes to 'things'" (2005, ¶ 7). This requires a reflexivity in the writing that draws attention to itself as a meta-text. Haas suggests that this in turn triggers a meta-reading or a reflexivity (2017, p. 29). As discussed above, the "code" switching that I employ, heightened by mediation that allows for hypertextual and multimedia "reading" (discussed in the next chapter), is a strategy aimed at exploring interactions between form and content in ways that encourage reflexive reading.

Ambiguity (Haas, 2017, p. 29), **Uncertainty** (Prosser, 2009, p. 7), **Doubt** (Kerr, 1995), and **Non-referentiality, contradiction… inconclusiveness and ambivalence** (Brewster, 1995, p. 90). The "space between" of the ficto-critical is one of wilful ambiguity and doubt, with uncertainty both a feature and an intended effect. Anne Brewster suggests that the open-ended effects of ficto-criticism, often the result of formal experimentation, serve to "expose the underbelly of intellectual endeavour, namely the inadequacy of language as a site of knowledge" (1995, p. 9). Brewster cites Gayatri Chakravorty Spivak's notion that what we know exceeds what is classified as knowledge. She proposes that the space that hovers between the ficto and the critical manifests this extra knowing, existing beyond stable empirical knowledge. Michael Polanyi calls this extra knowing the *tacit* (1966). The uncertainty of the space made by ficto-criticism encourages the writer/reader to seek the often hidden, tacit knowledge about and within texts. Once again, negotiating our relation to the unresolved encourages a reflexivity in the reader in which they become more aware of their processes of interpretation.

(iii) Complex Reflexivities

The above strategies clearly respond to the post-structural, postmodern and feminist critiques of traditional theory. There is no complete set of techniques that must appear in writings attempting ficto-criticality, nor does their presence in a written work guarantee the generation of reader/writer reflexivity that manifests in Nettelbeck's "space between". Muecke draws on Deleuze to suggests that criticism uses "concepts" and fiction uses "percepts" (Muecke, 2002, p. 109). Within ficto-critical writing attempts to hold the perceptual and the conceptual in the same frame requires of the reader an intensive negotiation—

Claparède and Vygotsky's negotiating of obstacles (1986), Noë's art as perceptual reorganisation (2016)—resulting in a heightened level of self-consciousness (Kerr, 2001, p. 111). In the *Languages of Listening* online modules, beyond the code switching between different modes of writing, I also use the sensorial, perceptual qualities of sound as another authorial voice that works both with and in contrast to the textual material, pushing the strategies of ficto-criticism beyond typographic textuality and engaging the reader in quite direct negotiation of the perceptual and conceptual.

Haas's proposal offers even greater detail about the effects of ficto-criticism, pivoting around a reflexivity that explores "meaning, the other and self-formation" (the subtitle of his thesis). For Haas, the ficto element is not so concerned with the untruth or fantasy of fiction but the creative strategies of text formation, experimentation with, and examination of, the text as a manufacturer of meanings. The critical component is the "discursive formation of self, other and the world" (p. 39) through which theory operates as the "ethical" questioning of how we position ourselves in relation to the world. In the process of reflexively contemplating the text we contemplate ourselves in relation to it, and through this we approach the world with a new level of understanding.

Focusing on the reading experience allows ficto-criticality to be positioned as an effect that arises from a set of strategies enacted in particular ways. Consequently, a demarcation of the ficto-critical as a genre per se becomes of less importance, as ficto-critical effects may occur at certain points within a text that may not have the overall intention of being ficto-critical. Conversely, a text that does have the intention of being ficto-critical may end up a collection of fiction and non-fiction without the necessary "space between" or without a complex reflexivity being enacted. In this way, texts may be regarded as having degrees of ficto-criticality.

Within the specific context of my research—sonic art and sound theory—I propose that the effect of ficto-critical writing, the self-consciousness and reflexivity required to dwell in the space-between, asks the reader to engage in a way that is similar to the in-betweenness generated by the entanglement of sound and listener, object and subject, that is sonaurality. The ficto-critical approach to multiple subjectivities and intertextuality also offers potential for expressing the situated and layered experiential approach of tomography. The ambiguity, openness and playing with form reflect the ephemeral and doubtful experiences of sonaurality and provide ways in which to push language in order to better express them. As an overall strategy, ficto-critical writing activates a reflexive reader, while sonic art activates a reflexive

listener. My research explores how these reflexivities may operate together to create a theory that reflects the complex interrelation of sound and listener. In the next section I will briefly survey a number of extant sound theory writings that I believe are working with ficto-critical strategies to provide a context for, and points of differentiation from, my own research.

Part 3: Creative Sonic Theory

The mediated ficto-critical approach to sound theory that my research uses is intended to add to and extend out from the body of extant work that strains at the bonds of traditional theorising. My interest in this area arose after coming across texts that resonated with my desire to explore theory more creatively. These writings range from texts that may still sit comfortably within traditional theoretical environments to those that are predominantly creative writing practices that are theoretically engaged. Below I survey the work of a small selection of writers, including Salomé Voegelin, Daniela Cascella and Joanna Demers. I also look at writers operating within the specific realm of sonic fiction, such as Kodwo Eshun, Steve Goodman and the AUDINT collective. My aim here is to identify how these writers may be employing ficto-critical strategies along with other writing strategies they may use, and to examine how their intentions parallel or diverge from ficto-criticism. This survey illustrates that there is a growing body of writing challenging traditional forms, providing context for my research as well as recognition and legitimacy for these alternate practices. It is also intended to illustrate that there is further room for experimentation in the field of “extra-textual” sound writing, a term I use in the same way that “extra-musical” is used to describe sounds and noises from the real world and from instruments played non-traditionally. My mediated ficto-critical approach seeks to explore this extra-textual realm in both creative and rigorous ways.

(i) Salomé Voegelin: Writing the Experience of Sound

Voegelin’s ontological analysis and phenomenological approach outlined in *Listening to Noise and Silence* is foundational to this research. As I have covered in Chapter 2, Voegelin argues for sound and listening as co-constitutive, foregrounding sound’s temporal, doubtful and generative ways. To develop a writing that meets this listening, she suggests that the writer must focus on the experience of sound (as listening) in sonic art by way of a contextual *epoché* that suspends notions of genre and historical legacy in order to listen to “the material heard” (2010, p. 3). This does not reject artistic context but allows it to be discerned through

listening. Rather than a rush to categorisation and canonisation, she believes the writer must "build the work subjectively, intersubjectively, in one's contingent experience" (p. 26). The result is "fragile and uncertain", but the sense of experience offers its own strength and grounding. Voegelin puts this into practice, offering plentiful experiential analyses of the work of artists such as Christina Kubisch, Chris Watson, Francisco Lopez, Janet Cardiff and George Bures Miller, Élaine Radigue, Jana Winderen and Pamela Z. Voegelin has made a significant contribution to sonic art theory by considering it on its own terms as both practice and sensorial experience.

Despite Voegelin's intention to expand beyond traditional forms she admits her early texts still conform to "a more conventional shape" (2019, Loc 163). In *The Political Possibility of Sound: Fragments of Listening* (2019), she endeavours to break this tendency, creating a book of "essays"—invoking Montaigne's idea of *essayer* as a trying out—that are thematically linked but do not offer a continuous argument. While most of essays still have a strong theoretical form, Voegelin interweaves more poetic and generative texts. She also does this in previous books but here the notion of fragmentation seems more designed and integral to the form.

Placed in the centre of the reading journey of *The Political Possibility of Sound* (if reading sequentially, which she says is not compulsory) is the piece "Morality of the Invisible, Ethics of the Inaudible", which Voegelin calls an essay score, developed from one of her many performance lectures. It comprises a series of actions, texts to be read over the actions, citations of poetry, direct address questions, and fragments of theoretical inquisition.

> Action 5: Listen to the murmur of an internet hub. Read "Ethics of Listening" (edited excerpt):
>
> *Ethics of Listening*
>
> Recently I was away, in another country. It looked and sounded not unlike this one, with streets, trees, houses, people and their dogs. […] Their focus was on process and the notion of existence as doing, which meant that what was described was the motion, the present doing of being, not its material totality nor the conglomeration of past occurrences and achievements. This focus on process privileged and was privileged by the ear, which steered the eye away from the material onto its thinging: onto the possibilities it proposes as a thing, as an object existing in time. (Voegelin, 2019, Loc 2607–2619)

This piece serves as an excellent example of ficto-critical strategies at work. The fragmented elements that ask for different responses—actions, introspection, analysis—mean the reader is constantly in modes of adjustment and feedback, encouraging a greater

awareness of the textuality of the text and demanding a reaction to it in a way that requires the reader to perform what Haas describes as a "self-text" in relation to the "other/world" (2017, p. 41). The element of ethics—a ficto-critical strategy—is at the heart of the content and within the relational nature of provocations that highlight empathetic subjectivities. The excerpt from the nested text "Ethics of Listening" offers a speculative travelogue in which Voegelin describes a society that lives "in process", in the verb—qualities that she ascribes to a sonic sensibility in which there is no stable visual object. Voegelin uses the expansive and imaginative properties of fiction—a *sonic fiction*, a term I will discuss in detail shortly—to explore a broader understanding of how we relate to our environments, objects and matter.

Voegelin is a prolific writer and this brief analysis cannot do justice to the variety and depth of exploration she undertakes including alternate presentation forms, such as her *SoundWords* blog (2010–present). At its inception it featured short descriptive texts of moments of embodied listening that in their gradual accumulation show Voegelin tuning in to her everyday domestic existence. It has also become a platform for collaborative writing ventures and workshops. Using the form of a blog also engages with the affordances of online reading, most notably quick response, DIY publishing (which I will discuss in the next chapter). A particular form she explores is that of poetic sounding and listening "scores", some of which she then uses in her more formal texts, such as *The Political Possibility of Sound*. Voegelin has also used her text scores as the source material of a recent audio release, *Paint your lips while singing your favourite pop song* (Flaming Pines, 2022), inviting a number of sound artists to interpret them. (Alas, lack of space doesn't allow me to cover this further.)

Voegelin's writing is deeply engaged in historical and current philosophy while attempting to dissolve previously impervious epistemological borders. In this dissolution she embraces an ambiguity crafted from poetic extrapolation based on embodied experiences with sound (drawing on Cixous' notion of "writing from the body" (1976)). Assessing Voegelin's work within the framework of ficto-criticism, her writing offers complex subjectivity, ambiguity, fragmentation and ethical intentions. Voegelin's account of sonaurality favours the listening aspect, which is of course how we receive sounds. In order to avoid objectivising sound through noun and adjective, and in keeping with her notion of sound as verb, Voegelin concentrates on how we receive sounds filtered through the poetics of the listener's body. This creates a strong sense of the experience from the inside, which I have defined as a key element of a tomographic approach. However, I do not want to abandon the poetic potentials

that arise from the experience of trying to describe the sounds themselves, acknowledging their filtered reception through me, but still allowing the sounds more textual presence. This is the impetus behind collecting and analysing the listening responses in module (iv): *Listening Lingua.* I am interested in how I can express both my experience of listening and also attempt to give the sounds a "voice", even if this shifts the grammar away from verbs to descriptive nouns and their adjectives. As we will see in the writing of Daniela Cascella, this is a pursuit that will always fail, but in the attempt, language can be encouraged to transform.

(ii) Daniela Cascella: At the Edge of Language

Italian-UK writer Daniela Cascella is a colleague of Voegelin's at the Centre for Creative Research into Sound Arts Practice (CRiSAP), University of Arts London. While her work is no less rigorous, Cascella's writing does not sit as comfortably within the academic realm, finding itself positioned more naturally in the area of creative writing, poetry and literary non-fiction. Cascella works from an equal focus on the word and the sound, exploring ways in which sound and listening can extract something more from the acts of writing and reading, and how reading and writing can extract more from sound and listening. Here I will focus on *F.M.R.L.: Footnotes, Mirages, Refrains and Leftovers of Writing Sound* (2015) as it has an auto-ethnomethodological approach whereby she attempts to write about her processes "writing sound". Cascella's poetics of process has been influential in my practice journaling and creative writing, evidenced in the Endophasy pieces and Practice Notes in module (i): *Listening to My Listening*, and the prose poems of module (vii): *Tonotopia.*

Like Voegelin, Cascella wants to emphasise the experience of sound and listening and is critical of the institutionalisation she sees in sound culture. For Cascella, the clarity and precision that some approaches to theory promote is antithetical to the ephemeral and slippery associative logic of sounds, which instead ask of us "to cease being clear and distinct" (2015, p. 120). Instead, through the compression of the poetic, the fragmentary, referential and associative, Cascella develops a writing that does not come before or after listening but sits alongside. Her process is also one in which failure and failings are an inevitable part. She goes so far as to suggest that writing sound amounts to a thanatography—a written account of a death.

> To write sounds does not mean to document them, to preserve them as intact entities, but to contribute to their decay… to write a history of dissolving and dying, a tanatography [sic]. Every word is a rubato, stolen from each sound as it expires—stealing a piece of time… Listen and then

> write, and you'll know you're being framed by this sense of vanishing and there is no big explanatory sign at the end. (Cascella, 2015, p. 43)

Rather than this being a defeatist position, it allows for a parallel creative process that is born of the struggle to write about the ephemerality of sounds. To talk of sounds that resist capture, language approaches "the edge, dispossessed words against a horizon of void" (p. 27), words fall "out of their borders" and expire, just like sound (p. 23). Faced with this void of the present absence of sound, Cascella throws everything at it, pushing language and association to the limit to perform this active struggle with the impossible:

> For every nail in the wood, a pierce in the ears and a sharpened insight, inhear. The inner sides of Suzuki's hammering thump are darker than their outer part and softer at the edges than the centre. Hammering in this room, softer at the edges than the centre. Days hammered upon, *think of what you are doing*. Against these odds you can only hold a feather and hammer nails of resolution and persistence, softer at the edges […]
>
> It is stifling hot in the room, somebody opens the door, a siren enters and wails. Recollect your Oto sirens. The siren that cut a slit into the muddy grumbling bass slabs of Ambarchi/Csihar/ O'Malley… The siren that haloed around the sharp geometric arrangements of Asmus Tietchens until you no longer knew if it was imagined or bounced off the crystalline formation of frequencies so beautiful and enclosed. (p. 51–52)

Here Cascella describes the sounds of various artists with evocative poesy: a hammering "softer at the edges than the centre" that turns into a thought figure of a feather; "a slit" into "grumbling" bass; "geometric" and "crystalline" frequencies. Cascella is not afraid to allow sounds their nouns and adjectives with her descriptions implying the effect on the listener, one in which a textual correlation is a strategy to think through listening. For Cascella, sounds have their own agency that liberates something within the listener/writer.

Cascella's writing is firmly rooted in the literary, with generous references to writers such as Charles Baudelaire, Rainer Maria Rilke, Vladimir Nabokov and Italo Calvino. She also adds recollections of films, artworks, personal anecdotes, dreams and imaginings. Cascella desires to "reclaim references inside my writing, to make them part of it and not just footnotes: to dismiss frameworks of legitimisation and give words meanings inside the text" (p. 87). Disrupting the understanding of what is thought to be central—the core text—and what is thought to be on the margins and edges, Cascella's writing exemplifies the ficto-critical approach to intertextuality in which all types of text have equal value. The title *Footnotes, Mirages, Refrains, Leftovers of Writing Sound* evidences an embrace of fragmentary structures

that allow for association and resonance, ambiguity and uncertainty, rather than decisive argument. The ficto-critical fragmentation leaves gaps and spaces to be filled by the reader, thoughts branching in both explicit and more obscure connective logics. The hallucinatory swirl of association radiates out like the pressure waves of sound, shaped and affected by interaction with other textual objects and surfaces. Cascella's work is inspirational for its use of ficto-critical strategies, resulting in a highly reflexive reading experience that offers both the intensity of a personalised account and a multiplicity of tangled pathways, allowing us to listen through writing and write through listening.

(iii) Joanna Demers: Listening to the Apocalypse

US musicologist Joanna Demers's earlier books are in traditional formats, but with *Drone and Apocalypse: An Exhibit Catalog for the End of the World* (2015), she opts for a creative approach of nested narratives and multiple levels of speculation that frame her academic discourse. Besides the preface, written by Demers as herself, the remainder of text is in two fictional authorial voices. The overarching one is that of the curators from the Centre for Humanistic Study in 2213. The text is said to be a catalogue for an exhibition of the little-known twenty-first century artist and philosopher Cynthia Wey. The majority of the catalogue is in the voice of Wey in the form of essays exploring particular aspects of drone music, including examples from artists such as Celer, Low and William Basinski. The curators also include speculative artworks proposed by Wey—text sketches of ideas—who then explain how they have manifested these artworks in the exhibition, creating double layers of speculation. These nested narratives open portals to possible worlds and plural approaches to the subject matter that are forever on the edge of doubt as we negotiate the cognitive switching between the real and the fictive.

Demers believes her fictive strategy "answers Jankélévitch's call for a definitive action that acknowledges the ineffability of music through doing rather than just writing" (2015, p.4). She proposes that drone music, in its maximalist play with duration—"liminal, a straight line of sound that marks the edge between the present and future, presence and absence, essential and incidental" (p.22)—and minimalist approach to melody and harmony, quickly exhausts language, thwarting attempts at a description that meets it adequately and defies interpretation.

This constructively nihilist approach is evident in a description of Éliane Radigue's tape work *Adnos I–III* (1973–1980):

> Radigue's music seeks out emptiness, not to fill it with chatter or rail against its injustice. Radigue's music is the sound of the void, the emptiness that resounds. Take her leviathan work *Adnos I–III* (1973–1980), a sprawling aquifer of drone lasting over three hours that sets into motion several periodically occurring events: throbbing tones, beating frequencies, and episodic pings. The instrument of this recording, the ARP synthesizer, contains a warmth and depth like raindrops dripping into flower pots and steel drums. Any description of a Radigue work will walk up to the edge where words may go no further. A listener either jumps off the cliff, throwing herself into the wash of sound that shuns any credible justification, or she backs off, perhaps regretting the time she wasted flirting with such sparseness. (Demers, 2015, p. 66–67)

Wey's description focuses firstly on the sounds themselves using adjectival present participles ("throbbing tones, beating frequencies"), descriptive metaphors ("a sprawling aquifer of drone") and similes ("like raindrops dripping into flowerpots"). However, she soon admits to how this music exhausts language, acknowledging the impossibility of writing of such things. The passage acts as a summary of the intentions of text as a whole, in that while the act of describing sounds and music is a task set to fail, it is one she continues nonetheless, in a futile attempt to be able to capture the ineffable. This resonates with Cascella's admission of failure to capture sounds, but also the embrace of how language manifests in the effort. Demers enacts how we are incapable of giving up and giving in to nothingness, and continue to try to make sense, organising and naming even in the knowledge of our inevitable failure.

Wey's metaphor of a leap of faith also describes the attitude required to accept Demers's fictional premise. You may suspend disbelief or continually question the artifice of inserting the fictional Wey between Demers and her subject matter. This echoes the suspension of disbelief implied in Gibbs's definition of ficto-criticism: a "staging" of fictional and theoretical strategies (Gibbs, 2003, p. 309). It is through the curators' introduction and the speculative artworks that the fiction manifests. In the speculative artworks we also see the strategy of fragmentation that is deployed as a destabilising thought probe (although I would argue the artworks are underwhelmingly explored by the future curators). While Wey's writing style doesn't move far from that of a practicing academic like Demers, I believe the fictional pretence of Wey offers Demers permission to explore her ideas more widely, associatively and interdisciplinarily than she may have felt capable of in a standard format. Ironically, under the guise of Wey she can allow her first person perspective and passion more import, resisting the need to temper her enthusiasm and emotional engagement within the writing.

Demers ventures into creative theory (she has another text in this vein: *Anatomy of a Thought Fiction: CHS Report, April 2214* (2017)) are interesting examples of collisions of fiction and theory in which the overall construct is reconfigured. However, the actual structures and styles of her academic arguments remain relatively unchallenged. The provision of future scenarios remains an underdeveloped framing device and an untapped imaginative resource. The meta nature of her propositions encourages a certain level of reflexivity, however, to explore more potent ficto-critical effects, a more expansive interrogation of textuality—an extra-textuality—is needed. Nevertheless, Demers's texts are bold and brave challenges to traditional theorising.

Demer's move into narrative speculative fiction is something that I too have been exploring since my 2015 project, *Sounding the Future*. In this project I use speculative narratives that are developed into sound pieces to explore what sonic art in the future might be, and what this may tell us about how we understand sound and listening now. I use one piece from this project as the seed for an expanded ficto-critical essay in module (vi): *In the Wolf Thickets*. In Demers work, and in my own, the speculative meets the generative nature of sound and listening as Voegelin describes it, opening up potentials for alternate theorising. This flight to the speculative is also what drives the writers who self-identify as writers of sonic fiction.

(iv) Eshun, Goodman, AUDINT: Sonic Fictions

While Demers' context is speculative, can the text then be understood as a kind of sonic fiction? Voegelin's poetic flights into potentialities and possibilities also work with fictionality and shift into other worlds, so, do these present sonic fictions? I pursue this line of questioning because there are a number of writers—Kodwo Eshun, Steve Goodman and the AUDINT collective—who self-consciously declare their work to be examples of sonic fiction. In this final section I will explore what I am calling upper- and lower-case S/sonic F/fictions, how they contribute to sound theory, and how these relate to ficto-criticism—what we can take from the mode and how it might be pushed further as an alternate mode of sonic art-focused theorising.

In a general sense, sonic fictions manifest when imagination about the aural is allowed to play out in the pursuit of a deeper understanding of sound and listening. Holger Schulze describes this general tendency to sonic fiction as "just there. As soon as you listen,

experience, digest or anticipate a given sound event, there are some germs of a sonic fiction planted in your sensory imagination, your reflection and desires." (2020, Loc 74). Expressions of sonic imagination manifest in description, poetics, metaphor, story, personal anecdote, memory and speculation based on current or historical information. When sonic imaginings are sustained and are the main focus of a text, I suggest they become sonic fictions. These fictions reveal the writer's relationship to listening—how they approach listening, what they are listening for, why they are listening. They are reflexive expressions of reflexive listening.

There is also a more specific version of sonic fiction, which I propose is a capitalised Sonic Fiction—one that is a more specific and targeted approach to disrupting traditional theory. This originates with Kodwo Eshun's ground-breaking book on Afrofuturisms and diasporic African musics*, More Brilliant than the Sun: Adventures in Sonic Fiction* (1998). While the subtitle coins the term *sonic fiction*, Eshun enacts rather than defines it. His psychedelic, hyperbolic style matches the ecstatic rhythms and flights of fancy of the jazz, breakbeat and hip-hop that is his concern. The writing is wilfully poetic, a rapid BPM riffing that jumps the rails between minutely detailed descriptions of tracks, sleeve artwork, liner notes and wild speculations entangled with science fiction and high velocity cyberculture theory. Science fictional content is also drawn from the music itself: Sun Ra's Ancient Africans are "alien Gods from a despotic future" (p. 155); Kool Keith's Dr Octagon is an "offworld xenobiologist" (p. 38); and Alice Coltrane is a spirit medium summoning the ghost of her husband. To this raw material Eshun adds comparisons to the fictions of William S. Burroughs, J. G. Ballard, William Gibson, Bruce Sterling and Samuel R. Delaney; the thought shards of Paul Virilio and Marshall McLuhan; and pockets of sound theory from Pierre Schaeffer, R. Murray Schafer and Michel Chion. The relentless pace and density of texts literally leaves you winded.

> In *Paranormal,* rhythm is a heatseeking break which goes awol [sic], reorganizing sound into an aerodynamic epic. Each break branches, the rattlesnake break in the right speaker travels around your head, fading behind your neck, swallowing its tail. The left-Side break fades away behind your head, intersecting with the right in a subsonic turbulence, reemerging so close it grazes your head while the right is far off, subaudible. (Eshun, 1998, p. 69)

There is an exuberant physicality in Eshun's writing that solidifies the liquidity of the sonic in the flesh of body, making explicit the embodied nature of listening as noted by Voegelin (2016). While avoiding the first person, the expressiveness of Eshun's style enacts his particular subjectivity. However, there is also a direct appeal to the reader's subjectivity through the use of the second person pronoun and a shared kinaesthesia as Eshun directly addresses "you",

calling “you” to arms—or full-bodied ears. The writing also exemplifies the power of fragmentation, with each brief section subtitled with punning aphorisms and neologisms that allow each text to stand on its own like a microclimate. These aspects of the text align with ficto-critical strategies that are seeking to engage the reader in embodied, ambiguous and meta-textual reading.

Holger Schulze, in his monograph *Sonic Fiction* (2020), proposes that Eshun offers us three neologistic strategies—*mythsciences*, *mixillogics* and *mutanttextures*—which taken together amount to a sonic epistemology. Mythsciences “burst the edge of improbability” (Eshun, 1998, p. -004), taking place when science and theory meet speculative fictions, creating new avenues of potential in a way that may seem like a “non-academic overreach into an originally academic area” (Schulze, 2020, Loc 571). Eshun’s mythscience concurs with Virilio’s notion that science is about unknowns, not the rational. Mixillogics is “A mixture of approaches and sources, technologies and skills, practices and experiences…[a] purposefully ill-advised logic of mixture” (Schulze, 2020, Loc 528). These two strategies illustrate an irreverence towards disciplinary boundaries and high-low art categories, reflecting postmodern provocations of traditional theory. Schulze proposes that “Practising mixillogics on the ground of mythscience will generate diffracting artefacts also–differing kinds of sound pieces, different specimen of texts” (Loc 660). The mutanttextures of sonic fiction allow for experimentation with form and the expansion of theory into practice, or of practice into theory.

There are evident similarities between these strategies and those of ficto-criticism. Mythsciences resonates with the ficto-critical strategies of creative speculation, complex subjectivities, and an ambivalence to disciplinary boundaries. Mixillogics illustrates similarities in the prevalence of fragment and intertextuality, stylistic juxtapositions and ambiguities. Mutanttextures parallels the overall challenge to traditional structures and embraces the enactment of theory through practice that can manifest in a range of styles, formats and meta-textual experiments. However, something that both Eshun’s and other writers’ subsequent upper-case Sonic Fictions exhibit that is not necessarily as evident in a more general lower-case sonic fiction and ficto-criticism is an obsession with the futuristic, machinic, the conspiratorial, and the post-human. This is due in part to its association with the intellectual culture that developed around the Centre for Cybernetic Research Unit

(Ccru) at Warwick University,[5] and their exploration of the form they called *theory-fiction* (Holt, 2020 p. 329; Schulze, 2020).

While a thorough examination of Ccru's activities and philosophy moves beyond the remit of this research, the notion of theory-fiction is worth exploring briefly for its similarity to ficto-criticism, and the subsequent sonic theory that has emerged using this notion. Theory-fiction and ficto-criticism both share the notion of deterritorialising, or as Brewster calls it, "defamiliarising" theory (1995, p. 90). Ccru's non-denominational approach to all texts giving theory and fiction equal weight (Reynolds, 1999) resonates with ficto-criticism's approach to reading theory texts as fictions and fiction texts as sources of theory (Gibbs, 2003, p. 309). It is in the engagement with ethics and a transparent reflexiveness that Ccru's theory fiction differs from ficto-criticism. Ccru's fervent thematic preoccupation with cybernetics, science fiction, Marxism, post-structuralism, accelerationism, the occult and hauntology (Reynolds, 1999) align it not just with the 1990s developing media cyberculture, but with post/anti-humanist, anti-postmodern, and in the case of Ccru founder, Nick Land, extreme right-wing agendas. Reynolds suggests that their political position, which intertwines the pro-market rhetoric of capitalism with "natural phenomena (chaos theory, non-linear dynamics)", results in "a kind of post-Deleuzian version of Social Darwinism" (1998). This manifesto-like commitment to ideology gives the theory-fiction of Ccru a particular flavour that is stridently political and sometimes ethically challenging. Of interest here is how Ccru's passion for the machinic and futuristic meshes with an active engagement with electronic music. Ccru member Steve Goodman (also known as Kode9, founder of the record label Hyperdub) was the in-house DJ and it is with his subsequent collective, AUDINT, that the notion of Sonic Fiction continues.

Goodman's *Sonic Warfare* (2009) explores the vibrational and affective nature of sound through the narratives of past, present and potential sonic weaponry, something Schulze identifies as a clear example of mythscience (2020). Dispersed throughout the text are poetic fragments where Goodman describes the effect of the sonic phenomenon under discussion. Goodman's essays are shorter form propositions that we are encouraged to read in any order, but the arguments themselves are deeply embedded in traditional theoretical constructs and rhetorical forms. The speculative floats through this text in way that is perhaps more a form of speculative theory, with small outbursts of speculative fiction.

[5] Eshun studied at the University of Oxford but was an associate of the group.

The spirit of an Eshun-inspired Sonic Fiction is more evident in the AUDINT project, a collective that includes Goodman, Toby Heys, Eleni Ikoniadou, Souzanna Zamfe, and Patrick Defasten. AUDINT claims to continue the work of a rogue secret military operation from 1945. Goodman's preoccupations have interbred with those of his colleagues to create a kind of vibrational mythology around warfare and the military entertainment complex where international conspiracy theories are encouraged. The group plays out these fictions both in publishing outcomes and expanded exhibition formats. In the anthology *Unsound: Undead* (2019), AUDINT invites others to join their conspiracy with contributors such as Jonathan Sterne, Erik Davies, Kristin Gallerneaux,[6] Julien Henriques and the original oracle Eshun. Where the AUDINT team—particularly Heys and Goodman—delve unabashedly into fiction, the majority of contributions are short-form essays focusing on curios and mysteries around sounding and listening technological histories. The accumulation of these anecdotes attempts to reroute and rewire the techno-history of listening as it is currently told. The result is speculative history with ramifications for a real present rather than a speculative future, with discussion focused on contexts within which sounds are produced. It is the potency and self-consciousness of this oeuvre that leads me to propose that this writing be understood as capitalised Sonic Fiction.

The strategies of mythscience, mixillogics and mutanttextures, considered for their effect on destabilising and deterritorialising theory, certainly have similarities to those of ficto-criticism, but the writing of Eshun, Goodman, AUDINT and associates has a defined universe and rules of engagement. In these works there is "an alternative motive that extends beyond musical immediacy. Some kind of orientation towards a future world the author/listener wants to bring into being" (Holt, 2020b, ¶ 7). The purpose of speculation works beyond the purely sonic, or musical, to explore revolutionary societal and cultural aims. Holt also suggests that Eshun's work, with its basis in Afrofuturism and accelerationism, has particular imperatives that are not necessarily as transferrable to other sonic explorations, in that it is foremostly about "music and music cultures. Sound art is something related but it is something else, at least as a discourse, and thus requires a different sonic fiction" (2020, p. 331). Schulze's extensive commentary tries to leaven this out, pursuing arguments for ways in which Voegelin and Cox's work is also sonic fiction. Voegelin herself uses the notion of sonic fictions to

[6] Gallerneaux's book *High Static, Dead Lines: Sonic Spectres and the Object Hereafter* (2018) is also an intriguing example, following a similar interest in the development of technologies interspersed with personal accounts of historical curios. Its occult and hauntological preoccupations move it close to the territory of upper-case Sonic Fiction, but, unfortunately, I don't have space to cover it here.

describe aspects of her work. Holt pinpoints the subtle difference by suggesting that Voegelin explores not so much a "fiction *in* the world"—the realm of what I am calling upper-case Sonic Fiction—but a "fiction *of* the world" (2020, p. 332, emphasis added). Backed by Holt, I argue that there is a productive difference between lower-case sonic fiction that allows a range of speculations, worlds and atmospheres and explores the interiorities of sound and their effect on the exteriorities, and an upper-case "genrefied" Sonic Fiction that concerns itself with the exteriorities of sound in the world (with optional consideration of their effect on private interiorities).

As thought probes upper- and lower-case sonic fictions each penetrate the cultural imagination differently. This distinction is not undertaken taxonomically but in the spirit of embracing difference rather than trying to glue less congruous things together. Regardless of the difference, there are strategies at work in these writings that offer inspiration and context for a mediated ficto-critical approach to sound theory. Both upper- and lower-case sonic fictions expand the theoretical palette and offer strategies that can be used within ficto-criticism. Within my practice, I embrace speculation grounded in or spurred on by theoretical and scientific propositions. This is evidenced in module (viii): *Bedtime Stories*, and module (vi): *In the Wolf Thickets,* the latter of which comes closest to a Sonic Fiction in its future focus and conspiratorial agenda. However, on the whole, it is the experience of sound and listening that drives these speculations, preferencing the perceptual over the overtly political or ideological. Consequently, I align my work more with the sonic imaginings of a lower-case rather than upper-case sonic fiction.

(v) Conclusion: To the Next Level

In addition to the writers that I have featured here, there are more whose work could be considered within a framework of creative sound theory. David Toop, for example, has inspired Eshun, Cascella and Voegelin. Subjectivity and intertextuality are strong features in Toop's work, meta-textuality and reflexivity less so, and while he is considered a leading figure within sound commentary, I have not included a close reading of his work for the pragmatic reasons of space, choosing instead to highlight the work of more recent theorists, particularly female writers, redressing the predominance of male voices in sound theory.

Many of the writers discussed here are from the UK and associated with the Writing Sound research group at CRiSAP, led by Cathy Lane,[7] so there is definitely a growing interest there in the intersection of text and sound, and the implications this has for practice and theory. There have also been a number of recent anthologies collecting creative sound-centred writings, such as *What Matters Now? (What Can't You Hear)* (2013) edited by Cascella and Paolo Inverni; and *Listening and Its Not* (2017) edited by Patrick Farmer. Budhadityay Chattopadhyay's *The Nomadic Listener* (2020) also explores listening as poetic language generator. The Dirty Ear Forum, co-initiated by Brandon LaBelle, produces *The Dirty Ear Report (2016–2020)*, showcasing writing that emerges from international collaborative exchanges. These last two examples are published by the Berlin-based Errant Bodies Press (associated with the Errant Sound Project), which joins other independent publishers like Zer0 Books and artist-run presses in supporting this kind of experimentation. From this range of activities, it is evident that the interest in expanding ways of writing about sound for a number of purposes—creative outcome, documentation and expanded theory—is strong. However, I would argue that much of this writing is still seen as happening on the edges of theory, as interesting marginalia. An aim of this research, beyond establishing the field for my own work, is to increase the recognition of these alternate writings as legitimate sound theory, and to encourage the more traditional gatekeepers of academic thought to understand the impact these creative ways of theorising can have in advancing sound theory.

While I could attempt to include all these expanded writing formats under the umbrella term of ficto-critical, I think it beneficial, within this research context, to argue for a more specific application of ficto-criticism. Ficto-criticism combines creative and theoretical elements in a strategic way to directly challenge notions of subjectivity, not as personal anecdote, but as complex tomographic engagement of a together-apart notion, one in which the experience of negotiating the text encourages a reflexiveness in the reader about themselves and the text. In this way the reflexivity of ficto-criticism echoes the reflexive experience of sound and listening in sonic art, as established in Chapter 2. Importantly, most of the texts mentioned above are still published within the traditional paradigms of print, even if they are read as e-books. While some efforts are made to include online material, these links are strictly supplemental and often are not maintained.[8] In a world that offers a range of

[7] Lane is the editor of *Playing with Words: The Spoken Word in Artistic Practice* (2008), which focuses on practice-based applications of language within sound and music.
[8] Demers's *Drone and Apocalypse* initially had an online supplement, but this material is no longer available.

sounding potentials, these texts are still remarkably silent. In the following chapter, I will explore the second part of my strategic approach: the delivery of ficto-critical writing using current online digital publishing methods to further enhance the engagement and reflexivity of the reading experience.

Bridge
Module (iv): *Listening Lingua*

Listening Lingua documents the process and results of the Listening Lingua interview project. This involved listening sessions with 26 participants, whose responses were transcribed and subsequently analysed. With the interview project I created a tomographic context in which participants described their listening from within the experience. I was interested in how this position within generated different uses of language—the different grammars. In addition to the exegetical material here and in Chapter 6, the module is offered as findings within this research.

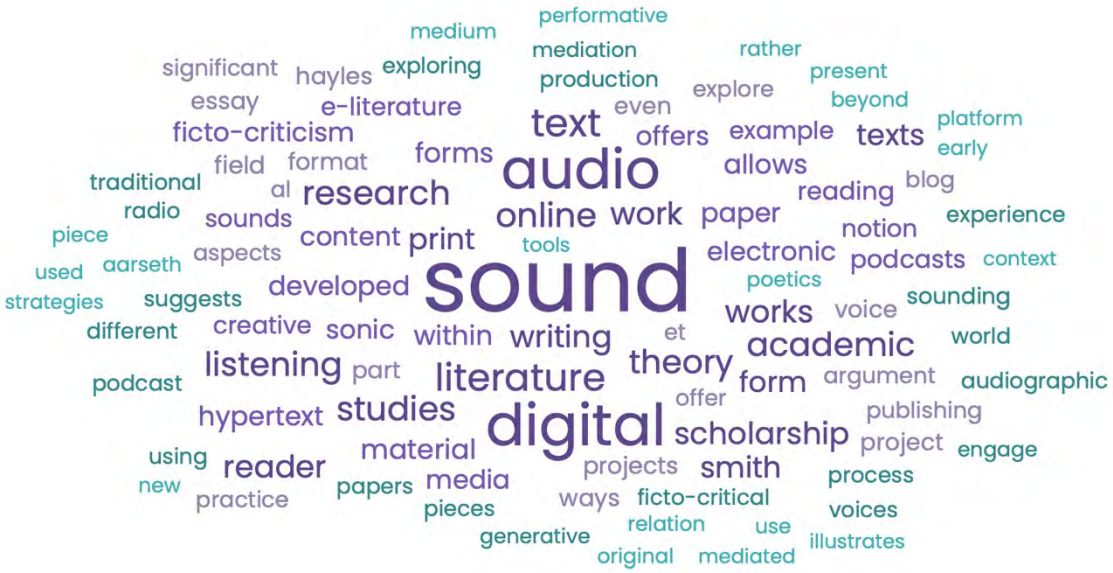
The introductory essay, "Ears and Tongues", explains the context and process of the interview project and the reflection essay, "Performing Listening", analyses the responses according to my own coding, exploring, in particular, the idea of grammar as a metaphorical and interpretive tool. While these essays adhere to a more traditional academic form, the main body of the module differs by presenting the responses of all the participants. These have been processed using Tim McKenna-Buchannan's method of poetic transcription (2018), which allows for editing and condensing of the raw material while not violating its original intention. As a result, the responses are included not as raw data but as creative contributions, viewing the interviews as a collaborative exchange in the manner of a relational performance. I do not expect all the responses to be read, but offering the reader the full set from which to sample allows the individual subjectivities of the participants to be present, and illustrates pluralistic understandings of the sounds and the ways that people listen. I provide direct access to the sounds to which the participants are responding, inviting the reader/listener to similarly engage in the tomographic process of the interviews.

This chapter documents the interview project that forms an integral part of my research design, as discussed in Chapter 4.

For exegetical evaluation of this module see Chapter 6, "Exegetical Congeries".

Proceed to module (iv): *Listening Lingua*

Chapter 5
Mediations: Digital Literature and Audiography



In the previous chapters I have constructed an argument for a reflexive tomographic authorial position to work through the complex interrelation of sound and listening that is sonaurality. Using a writing-as-research method I have focused on ficto-critical strategies for their ability to generate the reflexive writing and reading effects that I believe are sympathetic to a tomographic approach. I will now outline one further strategy—digital mediation—that serves to amplify the potential of ficto-critical effects, and allows sonic art sound theory to exemplify its arguments using sensorial and signifying sound. In doing this I offer a clear point of differentiation from the majority of extant sound studies texts, which are still presented within the paradigm of print, either as actual print texts or e-book translations that replicate the print format (sometimes with linked footnotes and a selection of hyperlinked references). In the online modules I aim to illustrate how projects that are "born digital" (Hayles, 2002) explore the interrelation of form and content in ways that can engage the reader/listener more intensively in the conceptual and perceptual.

In this chapter I will look at mediation strategies that allow sound theory to actually sound, employing creative and discursive uses of audio, what Jacob Smith calls *audiography* (2019), which can manifest as podcasts (Llinares, 2018; Soltani, 2018), audio papers (Groth & Samson, 2016, 2019) or artworks. In this mediated approach the project enters the developing territory of digital sound studies, in which sound is researched and theorised primarily using digital tools (Lingold et al., 2018). However, I am also interested in exploring strategies that developed as part of *digital literature*, variously called *e-literature*, *hypertext*, *cybertext* and *technotexts*.[1] As these forms developed contemporaneously with the ficto-criticism of the 1980s and '90s, largely in response to the same postmodern and post-structuralist provocations, I propose there are very productive correlations between the two, particularly in terms of reflexive reading experiences.

Part 1: Digital Literature – Hyper/cyber/ergodic/techno-texts

Scott Rettberg is arguably one of the leading authorities in the area of digital literature, co-founding the Electronic Literature Organization (ELO) in 1999. He defines e-literature as

[1] I will use the terms *digital literature* and *e-literature* mostly interchangeably, with a tendency to use e-literature when referring to early practices and digital literature for more recent works.

> an umbrella term used to describe various forms of literary practice that take advantage of the computational, multimedia, and networked properties of the contemporary computer in the production of born-digital experiences and works of a narrative or poetic nature that are specific to this context. (Rettberg, 2016, ¶1)

The types of works that fall under this umbrella include "hypertext fiction, kinetic multimedia poetry, interactive fiction, generative poetry and fiction, interactive drama and cinema, database narratives [and] locative narratives" as well as text-based new media installations (¶1). Rettberg suggests that e-literature operates as both a creative practice and a mode of digital scholarship in which the creative experiments explore theory, analysis, tool and platform development (¶3). This positioning of e-literature as practice and research method echoes Haseman's notion of performative research (2007), in which the research enacts or performs the research process and findings. It is through this mode of practice and research utilising ficto-critical and digital literature strategies that I have developed the online modules of *Languages of Listening*. (For a literature and historical review of electronic literature undertaken in the meta-format of a random hypertext see module (v): *Memexical Machine Reading.*)

(i) E-literature and Ficto-criticism: Sibling Strategies

It is no coincidence that ficto-critical writing and e-literature both developed and thrived in the 1980s and early 1990s. While its development can be partly attributed to technological advances, like ficto-criticism, e-literature developed both in response and reaction to post-structuralist and postmodern theory. The influence of feminist theory is also prevalent, evidenced by the number of female-identified writers that embraced the new form, seeing it as new territory that may be inhabited and developed differently. This is illustrated by works such as Jackson's *Patchwork Girl*, and the high proportion of females who were part of Teri Hoskin's electronic Writing Research ensemble (eWRe, 1997). Both ficto-criticism and e-literature explore complex subjectivities, experimental non-linear forms, intertextuality, ambiguity, reflexivity and meta-reading. However, ficto-criticism's embrace of post-structural and postmodern theory is still confined to the linearity and flatness of the page, while e-literature adds a spatial and temporal dimension. Jay D. Bolter suggests

> Deconstruction and the other poststructuralist techniques, such as those of Barthes and the reader-response critics, aimed to refashion techniques associated with the printed book from within the technology. On the other hand, electronic writing remediates print itself—that is, it seeks to refashion print genres and forms from the perspective of a new technology. (2001, p. 182)

While there has been much debate regarding how first-generation hypertext was still largely preoccupied with the more conservative forms of print literature (Aarseth, 1997; Cayley, 2018; O'Sullivan, 2019), the base strategy of the hyperlink allows hypertextual writing to radically challenge many aspects of traditional reading, exemplifying the concerns of post-structural and postmodern theories.

Hypertext based on the hyperlink fundamentally challenges constructed linearity. While a path the user takes may become its own linearity, it is not pre-given or fixed. Aarseth suggests that rather than non-linear, or even multi-linear, the term *multicursal* best describes the way in which a hypertextual work is experienced as it emphasises the notion of movement and traversal (1997, p. 44). The interlinked and associative form of hypertext also encourages intertextuality. Content-wise, the link can be argued to operate in the same way as a footnote in print, but footnotes denote a hierarchy of first and secondary concerns. In hypertext all texts are similarly weighted, a quality we have seen as important to both ficto-criticism and theory-fiction. This equality of texts undoes the sense of wholeness and the reverence that has been associated with the "high" literature of print (Bolter, 2001, p. 177). The multicursal form of hypertexts also makes them unstable and ambiguous. In this way they are an example of "open" works as described by Umberto Eco[2] (Aarseth, 1997, p. 51), which require completion by the reader. Bolter suggests that electronic text "claims to be only a potential text, and as such even its ambiguities are only potential" (2001, p. 182). However, instead of this ambiguity making e-literature resistant to criticism, Bolter suggests hypertexts are "instead self-referential and incorporate their own critique" (p. 182). For example, in *Patchwork Girl*, Jackson is not afraid to critically question the techniques she is using:

> Assembling these patched words in an electronic space, I feel half-blind… When I open a book I know where I am, which is restful. My reading is spatial and even volumetric. I tell myself, I am a third of the way down through a rectangular solid, I am a quarter of the way down the page, I am here on the page, here on this line, here, here, here. But where am I now? I am in a here and a present moment that has no history and no expectations for the future. (Jackson, 1995, The Writing[3])

Jackson exemplifies how many writers present reflexive meta-texts that parallel the formal experimentations of ficto-criticism inviting a questioning of the textuality of text (Haas, 2017).

[2] Umberto Eco's *Opera Aperta* (1962)/*Open Work* (1989) talks of the open structures in both music and literature that make the interpretive role of the receiver (and performer) more explicit.
[3] Referencing an online work in print format offers challenges. "The Writing" is the lexia's title.

This emphasis on plurality, intertextuality and openness allows the reader to actively participate in the interpretation and even the "writing" of the texts. This is a heightened explication of the post-structuralist argument of the role the reader and the death of the author (Barthes, 1977, pp. 142–148). However, rather than killing off the author, the relationship between writer and reader becomes more explicit. Bolter argues that "in print the subjectivity of the author was expressed at the expense of that of the reader, in electronic hypertext two subjectivities, the author's and reader's, encounter one another on more nearly equal terms" (p. 168). Philippe Bootz says that rather than the writer and reader being particular individuals, they in fact can be viewed as roles, with an individual's role changing through the course of a reading (2011, pp. 82–83).

However, it is not simply a relationship between the roles of writer and reader, as the text can also be considered as playing a role. Aarseth proposes that if this triangular relationship of writer, reader and text involves an "information feedback loop" (which can also occur in print texts, for example Julio Cortazar's *Hopscotch* (1966)) then the work is a "cybertext" (1997, p. 19). This feedback loop makes these texts *ergodic*, from the Ancient Greek, *ergon*, "work", and *hodos*, "path" (Aarseth, 1997, p. 1). Ergodic literature requires a "non-trivial effort" in order to experience the text. This non-trivial effort aligns with the effort involved in negotiating the ficto/perceptual and the critical/conceptual construct in Muecke's interpretation of ficto-criticism (Muecke, 2002, p. 109). Non-trivial effort also aptly describes the negotiations of obstacles as proposes by Claparède and Vygotsky (1986) and Noë's premise that meaningful art requires a re-organising of expectations (2016). It is in the work of negotiating paths and switching roles that we become aware of the textuality of the text, and our part as readers in constructing it. I exemplify this triangular relation and cybernetic loop in my online module (v): *Memexical Machine Reading*, which offers a random navigation. Once started the direction of the journey is out of both mine and the reader's control, but rather than this creating a passive experience it encourages the reader to actively develop their own connections between texts.

While many early hypertext projects were oriented towards literary narratives, others used the opportunity of hypertextuality to present content that slips between fiction and theory. Jackson's *Patchwork Girl* (1995) combines literary and feminist theory with a re-envisaging of Mary Shelley's *Frankenstein*. Bolter suggests that the work of hypertext authors like Jackson, Michael Joyce and Stuart Moulthrop, as well as electronic poets like John Cayley

and Jim Rosenberg, all incorporate theory self-referentially into their writings (2001, p. 187). In this way many works of electronic literature illustrate a kind of "practice of theory" that is closely aligned with ficto-criticism.

The clearest correlation of ficto-criticism and early electronic literature can be found in Gregory Ulmer's writing form of the *mystory*. His first ventures into mystory were in print, such as "Derrida at the Little Big Horn" (1989), but he was looking towards the developing world of media, prophesying that culture was in the process of moving from literacy to "electracy" (2015). Ulmer's mystory has a clear formulation:

> Write a mystory bringing into relation your experience with three levels of discourse—personal (autobiography), popular (community stories, oral history or popular culture), expert (disciplines of knowledge). In each case use the punctum or sting of memory to locate items significant to you… Arrange the entries to highlight the chance associations that appear among the three levels. (Ulmer, 1989, p. 209)

Ulmer's recipe combines the subjective, the social and theoretical with an emphasis on association and a kind of poetics illustrated by his allusion to Barthes' punctum, the sting or rupture that occurs when experiencing cultural works that stir sensation into thought. With a mystory, the narrative provides an account of the search for knowledge from the perspective of the seeker, "from the side of discovery, from the side of not yet knowing what it is, rather than from the side of verification, telling about it afterwards" (Ulmer, 2015, p. 55). This has resonances with Skains documentation of process in process proposed as auto-ethnomethodology (2018) and Kontturi's notion of "following" (2018) proposed as productive writing-as-research methods in Chapter 4.

Ulmer also aims to expand literature into the media of image and video in order to "translate existing theory into the vulgate of television, and to devise a new video essay capable of doing the cognitive work of future theory" (Ulmer, 2015, p. 65). The correlations between the mystory and ficto-criticism are clear in terms of intertextuality, plural perspectives and open associations. Ulmer's expansion from the textual to the audiovisual brings us to the territory of rich mediation, the strategy that this research promotes to create sensorial and signifying ficto-critical sound theory.

(ii) Second Generation: Generative Poetics

Early enthusiastic hypertext theorists were not afraid to claim hypertext as the ultimate instantiation of post-structuralist and postmodern theory (Bolter, 2001; Landow, 1992).

However, Cayley argues that what digital environments do allow for is a next level of generative poetics activated through what he calls "programmatology" (2019, p. 18), where aleatoric processes encourage and incorporate the reader's potential understanding of "what is going on" and "how it's being done" (p. 21). Cayley's emphasis on real-time creation not only highlights the performative aspect of generative text works that align these processes with other temporal arts such as video and sound but highlights the ergodic "work" being done by the reader. While a full survey of generative poetry is beyond the remit of this research, works developed by artists such as Cayley, Judy Malloy, J.R. Carpenter, Nick Montfort and Stephanie Strickland, geniwate, Maria Mencia, Jim Andrews and Phillipe Balpe are noted as significant contributions to generative e-literature (Malloy, 2013). It is in the spirit of these more radical chance-based works that I have developed module (v): *Memexical Machine Reading*. While the textual content is fixed, not generated, the order is randomised so that the reader is at the mercy of the algorithm, but through this they are offered greater associative and interpretative freedom.

(iii) Technotexts: Materiality and Reflexivity

N. Katherine Hayles's notion of media specific analysis (MSA) affirms Cayley's suggestion that understanding the system is an integral part of the "reading" in generative literature. MSA is "a mode of critical interrogation alert to the ways in which the medium constructs the work and the work constructs the medium" (Hayles, 2002, p. 6). Hayles calls works of electronic literature *technotexts*, which generate reflexivity through interrogation of the "inscription technology that produced it… mobilis[ing] reflexive loops between its imaginative work and the material apparatus embodying that creation as a physical presence" (p. 25). This produces "material metaphors" (p. 21) that feed back into the web of cultural understanding. For example, the material properties of a printed page—that it is bound in a set order, opaque and binary in its two-sidedness—effects our understanding of the text. Hayle's maintains that "[t]o change the physical form of the artifact is not merely to change the act of reading… but profoundly to transform the metaphoric network structuring the relation of word to world" (p. 23). For Hayles, medium specificity and the material metaphors generated by the medium construct our reading and influences our interpretation.

Hayles insistence on materiality and the interplay of form and content also allows for embodiment within the digital environment: "MSA insists that texts must always be embodied to exist in the world" (2002, p. 31). This embodiment of texts then calls for a "mindbody" engagement with the reader/user whose physical interactions with a work bring it into its

particular being for that reader (p. 48). Consequently, Hayles's theory is the most explicit in terms of considering literature not just as texts but as fully sensorial, multimedia manifestations. Hayles's proposition of MSA confirms the importance for sound theory to take place to some degree through the medium of sound, so that its material and sensorial properties work with textual signification to create a more holistic understanding.

Hayles's 2002 text, *Writing Machines*, puts her theories into practice, creating a significant example of mediated ficto-critical writing. Published as part of the MIT Mediawork pamphlet, the text intertwines semi-autobiographical material with theoretical essay. I say semi-autobiographical as she uses the third person, creating a one-step remove in the "character" Kaye, whose life parallels Hayles. This allows Hayles to both discuss her theory and work, and also their integral enmeshing, from an inside-outside perspective in a way that approaches the tomographic. Through her alter-ego she offers auto-ethnomethodological slices of her experience that reflect on her own practice as well as the broader context in which she is working. The Mediawork series, under the guidance of Peter Lunefeld, were print books but also offered significant additional web content, including commissioned artworks or "web takes". This innovative and visionary project is exemplary of hybrid, print-plus publishing. *Writing Machines* offers an excellent example of strategies from digital literature and ficto-critical writing coming together to create powerful, contemporary modes of theorising.

From this brief survey of e-literature I have highlighted the aspects that are similar and sympathetic with ficto-critical writing, in particular the hypertextual, generative and multimedia forms that involve the reader as collaborator. I activate these strategies in a variety of ways throughout my online modules illustrating how delivering ficto-critical writing that uses integrated techniques drawn from digital literature allows for a richer expression of the tomographic reflexive authorial position, as well as generating ergodic and reflexive reading experiences. As sonic art works to make us reflect on the aural realm, the pairing with reflexive writing and reading experiences provides a holistic alternate approach to sound theory. With the second generation of e-literature and its expansion into rich audiovisual presentation, there is the opportunity to use these tools and strategies to create sound theory that incorporates sensorial and signifying sound material instead of relying purely on the textual/visual format of print. In this last section I will focus on the ways in which digital tools are beginning to be incorporated into sound studies through the field of digital sound studies, and explore how I have leveraged these in my creative modules.

Part 2: Digital Sound Studies – Listening to Scholarship

Mary Caton Lingold, Darren Mueller, and Whitney Trettien's anthology pragmatically titled *Digital Sound Studies* (2018) positions this field within the area of digital humanities (which is also where Rettberg positions e-literature (2016)) . While initially developed through niche research projects particularly in linguistics, digital humanities now arguably involves trans-disciplinary and collaborative projects focusing on "computationally engaged research, teaching, and publication" (Anne Burdick et al., 2012, p. 122). However, Lingold et al. argue that, despite the more accessible online tools of MP3 formats, HTML5 protocols, social media and sharing platforms such as SoundCloud and YouTube, and dedicated podcasting channels there is still a resistance to focusing on and using sound within digital humanities with sound "perhaps the least utilized, least studied mode within digital humanities. Few projects and fewer tools incite scholars to listen" (2018, p. 10).

Concurring with my argument made in Chapter 3, Tanya E. Clement suggests that the "hush" around digital sound studies reflects not just a bias in digital humanities but "a bias at the root of humanistic inquiry in general" (2016, ¶1). Lingold et al. find that digital sound studies offer the opportunity to directly challenge this "baked in" textual bias (2018, p. 9) and in doing also challenge a number of other sociological and political biases that effect scholarship. The digital sound studies projects that feature in their book "create reading and listening experiences that give agency to the user, thereby challenging the unidirectionality of conventional scholarly writing" (p. 12). Within digital sound scholarship there is the potential to address issues such as representation and access, both in terms of the scholars who may contribute and the readers who may exist beyond elite academic circles. So digital sound studies shares with ficto-criticism and e-literature similar intentions to destabilise the status quo of traditional theorising and its attendant hierarchies.

(i) Sound Studies Provocations

Within the broader field of digital humanities there is a strong emphasis on platform building, digital archiving and large-scale projects that require significant inter-institutional collaboration and funding. However, digital sound studies projects tend towards the smaller scale, reflecting the DIY nature of a lot of creative sound culture. Lingold, Mueller, and Trettien, known collectively as Soundbox, are also the creators of *Provoke!*, a digital sound studies platform that houses a range of these interesting explorations. The projects are aimed

at different contexts and applications within sound studies. Some projects document field studies or creative and collaborative processes. One project offers a downloadable software module for academics to alter their voices in real time to explore different "voicings" in presentation. I will briefly survey three projects here that are aimed specifically at theorising *through* sound formats.

Steph Ceraso's *A Tale of Two Soundscapes: The Story of My Listening Body* is an audiovisual exploration of how ambient sound environments affect lived bodily experience. It is a narrated piece with field recordings exemplifying the different environments Ceraso is discussing. What is particularly interesting about Ceraso's project is her full use of the digital environment, offering multiple options to engage with the project, including audio only, audiovisual, or time-coded transcript with audio descriptions and extra samples and citations. Ceraso offers these options as accessibility tools, allowing people with different needs to engage, but she also believes that the repetition in different formats allows for both "utilitarian and intellectual functions", offering an opportunity for creative translation and interrelation (Ceraso, 2018, p. 254). Instead of repetition being considered an unwanted redundancy, the reiterations offer all reader/listeners a range of navigational options. I have subsequently followed Ceraso's model in my presentations of the audiographic material, providing transcripts with audio descriptions and time-coded notes that provide accessibility options and multimodal ways to experience the pieces, as well as offering material that adheres to certain academic structures (see module ii: *In_Listening_In* and module (viii): *Bedtime Stories*).

Rebecca Geoffroy-Schwinden's *Organs of the Soul: Sonic Networks in Eighteenth-Century Paris* enters the territory of the hypertextual essay. Using the Scalar platform—an online academic publishing system created by the Alliance for Networking Visual Culture—her project explores the soundscape of eighteenth century Paris. The work is broken down into three interwoven content/format streams: the voice, music and sound. Using freely available online tools like SoundCloud to deliver her short commentaries, YouTube for visual examples and Wikipedia for background explanations, Geoffroy-Schwinden illustrates how an academic can begin to explore digital delivery using the tools available without needing to be a software developer. While its visual presentation is basic, the project offers a multi-textured and evocative exploration to conjure a sound world that we can no longer access.

The final project I will discuss from *Provoke!* is *Susurrous Scholarship: Making Knowledge Sonic*. Here the academics undertake audio "translations" of existing academic texts. I will

discuss three of these that use differing approaches. Corrina Laughlin's *Context Collapse* translates Carolyn Marvin's "Your Smart Phones are Hot Pockets to Us: Context Collapse in a Mobilized Age" (2013). She narrates the text, with significant points illustrated by media sound bites. It is a complex text, written for the page, and the multiple sound bites interrupt the flow in terms of literal understanding, but they also enact the kinds of disconnection and decontextualisation that is the subject of the essay. Extending this idea, Laughlin adds effects to her voice, offering an increasing sense of mediation as the piece progresses.

Water Sounds by Kevin Gotkin presents an interesting perspective by taking a more pragmatic text—"Auditory Perception of Self-Similarity in Water Sounds" (Geffen et al., 2011), a paper documenting a scientific experiment into how we hear scale invariance in water sounds that affects how we recognise and respond to natural sounds. The show-and-tell format of the scientific paper allows Gotkin to illustrate the descriptions of the experiment with actual audio examples. While relatively straightforward in its format and audio usage, it offers an excellent example of how sound can simply and effectively be included in more scientifically oriented scholarship.

The most experimental translation is *Racial Paranoia* by Alex Gomez, who creates a collaged sound piece to present John Jackson Jr.'s "Peter Piper Picked Peppers, but Humpty Dumpty Got Pushed: The Productively Paranoid Stylings of Hip-Hop's Spirituality" (2009). With no narrated text from the essay, the piece is an "intellectual mixtape" that collates samples from hip-hop tracks, interviews, documentaries and speeches exploring race and hip-hop culture. Gomez says that it was a "triangulated" translation process in which "original text, key secondary reference, and songs-as-primary source—allowed me to trace a cycle between argument, artifact and history" (On Audio Translation & Digital Scholarship, *Provoke!*). Gomez's more radical approach loses the original textuality but replaces it with the words from the "subject", giving the subjects voices and agency. It allows the argument to be explicated by those who it is about, in a way that could never occur in traditional text pieces.

Besides Gomez, who is also a DJ, the academic translators admit to being quite new to exploring audio composition. Consequently, the sounds used are generally found samples or drawn from existing pieces of music. What is missing in these works is originality in the audio material, something that can be addressed if the area of audio scholarship is taken up by more artist-academics, or more academics develop creative audio skills. While all projects integrating audio are welcomed, if the sounds are developed with greater skill and subtlety then their

semantic and affective properties can be more fully leveraged. With my background as a sound artist and writer, I have developed the online modules to operate as both artworks and research projects, so that the sensorial and conceptual content can reinforce each other, bringing creative and theoretical "rigor" to the research, serving as an example of meaningful and productive alternate sound theory.

(ii) Audiography, Podcasts and Audio Papers

In the *Susurrus Scholarship* project, the audio translations move us into the territory of what Jacob Smith (2019) calls *audiographic criticism*, which describes works that are "made with the audio form in mind, using recorded sound as an essential component in the making of an argument" (Smith, 2019, ¶1). Smith exemplifies audiographic criticism through his remarkable 10-part podcast, *ESC*, published on University of Michigan's Fulcrum platform, which has been created to allow researchers to publish either accompanying or stand-alone rich media content. He proposes that sound can be used to encourage both empirical and imaginative listening. Empirical listening allows for the "concretization" of details (an idea he takes from Mikhail Bakhtin), while the imaginative listening allows for more speculative and generative thinking—adventurous listening (an idea he develops from Kate Lacey).

Podcasting's sonoturgy. Sonoturgy is a neologism based on the term dramaturgy that I use to discuss the specific ways sound can be used to develop narrative and discourse. Given the generally visual-centric forms of most media, the rise in popularity of the audio-only podcast is a welcome phenomenon. While podcasts may be used as supplementary material for large broadcast organisations, its most significant developments have occurred, like the blog, as a DIY "indie" form of audio production. Dario Llinares (2018) suggests that it offers a perfect alternate academic vehicle of communication because its "hybridity of thought, sound and text" allows for a more dialectical flow than the written and read text. The podcast "taps into something fundamental about oral communication, argument and even the tension between subjective and objective knowledge that has been amplified in the digital age" (Llinares, 2018, p. 2). Rather than just a broadcast format, Llinares proposes that podcasting may even be "deployed as a research method in and of itself" (2018, p. 141). In particular, he focuses on orality and the role the subjective voice of the presenter/producer/researcher plays in challenging traditional scholarship: "The resonance of a passionately authentic voice, rather than a more objectively dispassionate delivery, could reflect a cultural shift away from the paternalism of traditional structures of the public sphere and the reliance on 'expert' (usually

white, male) voices" (p. 140). For the researcher, Llinares says vocalising encourages self-reflection about their "mediated subjectivity" that challenges understandings of the role of researcher and academic (p. 141). Delivering their thoughts in their own voice, there is no denying the subjectivity of the researcher, for either researcher or the listener. Narration by the writer/academic enacts the tomographic authorial position of a reflexive interiority through both textual and sensorial form and content.

In addition to the audible voice, podcasts also utilise the complex qualities of non-textual sounds. Farokh Soltani (2018) believes that podcasts require a different sonic dramaturgy to other radio forms. For example, in traditional radio drama, sound effects serve as narrative signifiers that need to be unambiguous and semiotically consistent with the story's environment, creating a "theatre of the mind". In podcasts, non-speech sounds can serve not simply as illustrative but as semiotically significant in their own right, advancing the argument through both association, contrast and provocation. The sounds are also phenomenologically significant, expanding the work's perceptual engagement with the world (pp. 205–6). Ceraso says that sound is not simply a "semiotic resource" but a vehicle for multisensory and embodied understandings (2018, p. 251), which can be leveraged by "taking fuller advantage of spatial and aesthetic affordances in digital spaces" (p. 256). This entails a more active engagement from academics with the very practice and aesthetics of sonic creation and production. The audiographic pieces in my modules (ii): *In Listening In*, (vi) *In the Wolf Thickets*, (viii) *Bedtime Stories*, and the sound elements of (iii) *Surface Friction* showcase my explorations of sound as both semiotic and sensorially embodied knowledge transmission.

Escaping tone deaf theory. Smith's *ESC: Sonic Adventure in the Anthropocene* (2019), offers a perfect example of the podcast as a form of rigorous audiographic scholarship. In *ESC,* Smith takes the post-World War II radio drama *Escape*—tales of melodramatic adventure, danger and mystery—and re-reads, or relistens to it rather, considering the ecological effects of the Anthropocene. Smith proposes that the radio program was made contemporaneously with the acceleration of capitalist driven environmental destruction that marks the shift into the Anthropocene, the era in which human actions are fundamentally changing the geological and ecological structure of earth. He interprets key aspects of the radio drama through these ideas, "concretizing" the details of the stories by unpacking the contexts of "Western imperialism, colonial and corporate exploitation, racism, and the troubling intersection of Orientalism and white heterosexual male desire" (p. 5).

Smith concretises these notions both within the commentary but also through his use of sound. In addition to audio from the original broadcasts he exemplifies his ecological concerns with sounds from contemporary sound artists: underwater recordings by Jana Winderen, screaming icebergs by Daniel Blinkhorn, electromagnetic significations tapped by Christina Kubisch, and the haunting silence of extinct birds by Sally Anne McIntyre. Smith says that he uses these "empirical" sound materials "contrapuntally", a notion drawn from Edward Said who promotes drawing out silenced and marginalised voices when negotiating discrepancies in post-colonial analysis (Smith, 2019, p. 6). In Smith's use of field recordings he gives the environment and location an agential voice. The contemporary sound elements taken from the real world also contrast sharply with the artificiality of the studio sound effects of the original broadcast. Smith considers the foley-sounds of *Escape* as standing in "iconic" or "symbolic" relation to the world depicted in the fictional drama, whereas the field recordings offer an "indexical" relationship to the real world. As such, "[t]his is not an art of studio illusions and musical cues, but of existential connections between specific environments and a well-placed microphone" (Smith, 2019, p. 11). This concurs with the analysis by Soltani (2018) in which radio drama works with "theatre of the mind" while podcast sonoturgy works with semiotic and affective use of sound. However, the use of field recording also comes with a critical element. As field recordings are frequently gathered from exotic locations—Francisco Lopez's field trips to the Amazon and South Africa for example—they also contain a sense of adventure and travel to the unknown, and in their "collection" approach another form of colonial exploitation and fetishisation.

The criticality of sound in *ESC* also extends beyond the sample materials, running through all aspects of the production. A particularly strong example is the in-depth analysis of the female voice that Smith extracts as a core issue in Episode 9, "She Saw Herself Running". Smith highlights the complex gender politics that are part of the Western capitalist model upheld in *Escape*, focusing two podcasts on some of the rare episodes that have female protagonists.[4] Here Smith asks us to listen to the different registers of voice that the actress employs to illustrate aspects of the infantilisation of women, the dismissal of women's voices, the toxic medicating of supposed "hysterical" women, and the portrayal of strong women as evil. These notions are conveyed through comparisons of the audio material and production techniques, highlighting the critical power of audio as index and affect.

[4] Smith has ascertained that of the 182 episodes of *Escape* that have been archived, only six have a female protagonist.

Another sonic strategy Smith employs to explore sonic dramaturgy is rescoring. *ESC*'s recurring theme is a reconfigured paired-back, folky version of the original epic orchestration, shifting the tone to a grounded, human scale. Even more poignant is the treatment of the episode *Earth Abides*, based on the influential 1949 book of the same name by George R. Stewart, which presciently describes the aftermath of a global pandemic. First Smith offers us the original militaristic scoring with its combative and arrogant tone, then replaces this with a quiet and spacious piano piece by Philip Aaberg, also called "Earth Abides" (2002), which was written in response to the novel. This melancholic, reflective piece highlights the more realistic ramifications of the scenario, emphasising the affective aspect of sound *as* semiotic material.

Through the variety and qualities of the additional samples, the recasting and manipulation of the original material and its nuanced production techniques, *ESC* succeeds in Smith's stated desire to encourage us to not simply listen to adventure but to "listen adventurously" (a notion he attributes to Kate Lacey) (Smith, 2019, p. 9) and polyphonically (a notion he attributes to Anna Tsing) (p. 11), so that voices and ideologies of the past can be critically re-examined through listening to marginalised voices, not just of people but environments. In the variety of techniques and approaches used across the 10 episodes, Smith illustrates that to work through audiographic criticism is to adapt to the context of the sonic materials, and to find ways in which these can speak for themselves, and in critical relation to the ideological and theoretical material.

Affective audio papers. Where podcasts come from a largely popularist context, a more specifically academically oriented form is the *audio essay* or *audio paper*. The audio paper, which has been become a feature of the Danish online journal *Seismograf,* was conceived and developed by a group of researchers during a site-specific workshop on the island of Amanger, Denmark as part of the *Fluid Sounds* event in 2015. Retrospectively, the workshop's facilitators, Sanne Krogh Groth and Kristine Samson, produced a provisional audio paper manifesto (2016; 2019), the most significant aspect of which highlights the performative nature of mediation:

> The audio paper recognizes and realizes both representation and presentation… the audio paper presents itself in mediation. Mediation contributes to the performative gesture and is self-referential. The mediation reveals meanings through, for instance, the physicality of sound or the dramaturgy by which the soundscape, voice and theses are put together. (Groth & Samson, 2016, ¶10)

This reinforces several points discussed earlier, such as Llinares's description of how podcasts reflexively mediate subjectivity (2018) and Haseman's notion of performative research (2007), and also resonates with the performative nature of ficto-criticism (Gibbs, 2003, p. 309; Nettelbeck, 1998, p. 5). The audio essay, through its deployment of aural text and sonic material, reflexively performs its research through sonaurality—the fluid relation of sound and listening that recasts our understanding of separate objects and subjects.

Groth and Samson, drawing on Haraway's theories (1988), also propose that audio papers are situated and partial, exploring multiplicity both in the focus, disciplinarity, argument, protagonists and voices, challenging traditional objective and singular positions of authority within academic discourse. The "protagonists" do not need to be human but may be the affective and sensorial aspects of objects, place, sound and its digital mediation. An excellent example is Kate Donovan's "Listening Beyond Radio, Listening Beyond History" (2019). Donovan uses fiction, theory, samples of "natural radio" and charming recordings of her child imitating meteor sounds to challenge the dominant Western view of the history of radio, which prioritises the heroism of "man" in discovering the natural phenomena that is electromagnetic radiation. In this essay, audio allows the non-human to have a discursive voice.

Llinares (2018) suggests that the strength of the podcast is that it is liminal, and this too is suggested as a core feature of the audio paper. Audio papers do not offer a singular solution but form part of a broader ecology—academically, culturally, socially and politically. Groth and Samson suggest that while the basis of the audio paper remains in rigorous academic discourse, it is also an "experiment" and a "subversion of academia. It is a frame for ideas that are present in our time, but that are not yet institutionalized nor settled" (Groth & Samson, 2019, ¶5). As with podcasts, the audio paper actively brings in the notion of praxis, requiring that researchers and theorists engage with the materiality of the sonic. They suggest there is a challenge with audio papers to strike a balance between being an artwork and an academic paper, proposing the answer might be found in thinking of the audio paper as "an art-based research methodology allowing academics to experiment and to show the processual aspects of research in the final research stage—the paper" (¶19). This resonates with Llinares's proposal of the podcast as a methodology (2018), and illustrates how the audio paper, as an act of audiographic criticism, can be a mobilised within a performative research methodology. There are many stimulating examples of audio papers published through *Seismograf*, all of which are peer assessed.

(iii) Hybrid Sounding Journals

While audiography offers a very direct strategy for mediating sound theory, it still exists within an academic ecosystem in which text is required to frame and explain scholarship. Online technologies offer interesting possibilities as to how textual scholarship can include more audio and audiovisual material, exploring how the two forms may reinforce each other. This is evident in the development of what I am calling *hybrid journals* that leverage online publishing to create rich sounding and textual scholarship. The most developed of these is *Sounding Out!*

Sounding Out! Founded in 2009 by Aaron Trammell, Jennifer Stoever and Liana Silva, *Sounding Out!* uses the DIY blog format of WordPress. Within the broader field of digital humanities there is an expectation that you must be a platform maker, however Trammel et al. contend that "[a]s bloggers we both *are* and *are not* makers, and therefore we are outsiders" (2016, p. 84). The blog format is a known standard, which offers an accessible and efficient way of incorporating sound and video content linked from other platforms to work around copyright issues.

> Blog is ethos, rhetoric, and form. For us the term "blog" best captures the productive tension *Sounding Out!* creates between "journal" and "magazine," "seriousness" and "play," "academic" and "public," with the added layer of sound and visual media capabilities a digital platform enables. (Trammel et al., 2018, p. 95).

The editors also suggest that the easy integration of multimedia on these platforms allows writers to "'think with' sound and image in new ways" (p. 97). This illustrates Hayles's notion of medium specificity—sound does not merely exemplify but can shape the writing and the thinking (2002). The editorial team also try to extract all potentials from the blog format, including comprehensive tagging and cross-linking between articles as well as external resources, and of course the immediate reader engagement that can be encouraged through comment features.

The blog, active since 2009 has a vast archive. Content is mostly organised around themes such as Sound and Affect, Gendered Sound, Sound and Technology, Hysterical Sound, Sound and Pedagogy, Deafness and Sound Studies, and even a feature titled Sonic Beyoncé. The content accurately reflects the multidisciplinary nature of sound studies, exploring creative, sociological, cultural and political aspects of sound and listening. There is a clear agenda to discuss sound and listening in relation to marginalised and othered voices, non-

dominant genders, race and cultures. The blog as a whole illustrates how thinking through sound and listening offers a different access to narratives and analysis of history race and gender studies, in a direct challenge to Western white male theorising.

While the journal takes a blog format and uses its affordances to offer alternative formats and modes, it is still peer reviewed by the editor-in-chief, Stoever, and the editorial team, however this is pitched as an open process in which the reviewers are known, and the process is developmental, including redrafting and expansion of content through extra online resources. To have the blog format and editorial process recognised by the academic institutions that the editors work for has been an ongoing battle and illustrates the challenges that alternative forms of academic publication pose and face. As a sustained digital sound studies project, *Sounding Out!* is exemplary for its contingent leveraging of available platforms and its hands-on experimentation and production that directly challenges traditional academic publishing methods.

***Disclaimer*.** Despite the rhetoric around the global potentials of online publishing, the partial and situated context of *Sounding Out!,* based in North America, is clear. It is also through the notion of partiality and incompleteness that the Australian online publication *Disclaimer* justifies itself, which, while reflecting currents of global thought within sound studies, presents a distinctly Australian perspective. *Disclaimer* is a publication associated with the sound art organisation Liquid Architecture, and while many of the writers and artists may be academics, it stands outside any academic institution. Consequently, while often being theoretically engaged, there is no pretence to conform to academic formats, instead preferencing creative and experimental approaches to both writing and online presentation. The content is classified under artist profiles, interviews, essays, audio and audio papers, conversations, scores and text poems, with much slippage between all these forms. The actual utilisation of sonic material ranges from simple spoken versions of written texts, to embedded audio tracks, audiovisual pieces, to a recent podcast series, "Rogue Syntax", exploring language, speech and sound through in-depth episodes.

Given *Disclaimer*'s emphasis on experimentation over academic pursuit, some pieces are best viewed as artworks, some as experiments in poetics about sound with no claims to be considered theoretical, while other works emerge as remarkable pieces of alternate sound theory. One such piece is Chun Yin Rainbow Chan's "Gloss: a manifesto on Shanzai in artistic practice by Chamele No. 5". Using a bottle of bootlegged Chanel No. 5 as a provocation, this

audio paper rigorously and creatively explores the correlation of counterfeit culture associated with China and artistic practices of appropriation, collage and mash-up in music, to interrogate notions of Western imperialist capitalism, racism and oriental fetishisation. At the centre of the argument is an extended "original" composition in which Chan manipulates samples from a Coco Channel advertisement into a pumping dance track. She then analyses its production through the theoretical filters of consumerism, late capitalism and resistance. It is, in short, a remarkable piece of art and scholarship, in which sound and text interrogate each other in critical, creative and affective ways.

Disclaimer is a publication that lives up to its aim of ambiguity, refusing to be easily categorisable as academic journal, art magazine or artwork portal. The main issue with *Disclaimer* I believe is that in its valiant attempts to push boundaries, the site, while very attractive at first glance (particularly in comparison with the work-a-day yet highly functional look of *Sounding Out!)*, is frustrating to engage with and navigate through, with an endlessly scrolling main contents page and an audio player that only allows play and pause. While the player encourages a considered, no shortcuts listening, it also frustrates reader/listeners. I suspect these are deliberate tactics, however I would suggest that ease of access is vital for encouraging people to engage meaningfully with an online reading and listening experience. In the online *Languages of Listening* modules I offer full player controls in order for people to have agency over their experience, and have attempted designs and navigation systems that allow for navigational clarity to avoid overwhelming, confusing or frustrating the reader.

There are, or course, other examples of sound theory and alternate sound commentary publications online, such as the *Journal of Sonic Studies*. This is predominantly text-based but it takes into consideration the difference between online and print by breaking up essays into shorter linked sections. Australia has also grown another online "zine" for alternate commentary on sound and experimental music, *ADSR*, which promotes writing from the perspective of the artist. The content often employs subjective, poetic and practice-based approaches, but as a DIY project with limited resources it doesn't engage fully in the affordance of online publishing, being delivered as a static PDF. Zer0 Books, who have published a number of the writers discusses here (e.g., Cascella and Demers), also offer a number of digital augmentations to their texts, such as podcasts and video pieces (including a recent retrospective on Ccru). Radio Web MACBA, a project associated with MACBA Museu d'Art Contemporani de Barcelona, also offers a cornucopia of erudite podcasts. However, the

two hybrid journals that I have focused on exemplify a particularly "born digital" approach I believe is working more specifically with the capabilities of digital publishing to enable a sonic theory that is delivered in sound.

(iv) Conclusion: Mediating Meaning

In this chapter I have considered ways of mediating writing—both creative and academic—to find the strategies that are sympathetic to a ficto-critical approach. I have then turned specifically to approaches that are being undertaken in digital sound studies, such as audiographic criticism through podcasts and audio papers, and hybrid text-rich media publications made possible by exploiting the tools of online publishing. Audiographic criticism presents an excellent method for sound artist-academics like myself, as it allows me to actively undertake practice-based research utilising the medium with which I am creatively engaged and aesthetically and technically skilled. Consequently, audiography has formed a key method resulting in a stereo format audio essay, *Bedtime Stories*, and also an ambisonic essay, *In Listening In*, which explores the 360 VR environment to creatively and critically explore key aspects of sonaurality and tomography. However, as the title *Languages of Listening* makes explicit, the research engages with the relation of text and sonaurality and thus text is by no means rejected in favour of the audible. This is why the research employs methods derived from electronic literature and ficto-criticism that complement each other in their ability to present complex subjectivities, expanded forms of intertextuality, ambiguous and open forms that require ergodic work from the reader, resulting in a woven, multilayered reflexive experience of creative knowledge building. In this way my research has engaged in considerable cross-disciplinary research opening up a productive dialogue between sound studies, media studies and literary theory. In the following chapter I will present my exegetical evaluation of the eight online modules that I have created using these methods to bring together my argument for the values and potentials of a mediated ficto-critical approach to art-focused sound theory.

Bridge
Module (v): *Memexical Machine Reading*

Memexical Machine Reading (MMR) comprises a selection of 25 citations drawn from critical discussion around electronic literature, focusing on interactive reading and the fundamental element of the hyperlink.[1] When the reader enters "the machine" the lexia are shuffled, offering the reader a unique, randomised journey. On the completion of a traversal the reader is presented with a record of their journey, the list of titles forming an aleatoric poem of sorts. This list exemplifies the notion of a *periplus*, an account of a journey from the perspective of the sailor on the sea (Spanos, in Connor, 1997, p. 124–125), a concept explored in more detail in *In_Listening_In* (part 3).

With *MMR* I was wanting to find a way to present a collection of fascinating information about early experiments in e-literature and digital reading systems so that the form illustrated the content. The main body of each entry is a direct quote regarding a particular aspect of e-literature's history and philosophy. This is followed by a commentary that ranges from interpretative to associative, as I synthesise the multiple strands of the research as a whole. I developed the quote section first, as an exercise in random programming. A year later I used the "machine", in random mode, to write the commentaries. In this way *MMR* served as a generative writing tool that allowed me to think through a number of interconnecting ideas. In its content and synthesis of broader research notions I propose that *MMR* is an alternate literature review—a remix or redux—paralleling the content of Chapters 4 and 5.

For exegetical evaluation of this module see Chapter 6, "Exegetical Congeries".

Proceed to module (v): *Memexical Machine Reading*

[1] There is a longer version comprising 53 entries, but for the purposes of PhD assessment a shorter version is more appropriate.

Bridge
Module (vi): *In the Wolf Thickets*

In the Wolf Thickets is ficto-critical essay exploring ideas around gender and sound making, both creatively and more generally. It comprises three streams that offer different stylistic approaches covering ancient pasts, personal pasts and fictional futures. The first (in presentation though not necessarily the first that needs to be experienced) is a speculative scenario that entertains the notion of a future world where females dominate the experimental music scene. With its dark future focus and paranoid tone it is the piece that comes closest to an uppercase Sonic Fiction as discussed in Chapter 4. This is delivered as a multipart audio work that was initially developed for my project *Sounding the Future* (2015–2017). I was inspired to write the original text after reading Anne Carson's essay "The Gender of Sound" (1995), and I had always had the intention of developing a theoretical commentary that explored Carson's essay. For this current research I was keen to revisit the speculative scenario, and add in the theoretical stream, which deals with how the female voice was banished in Ancient Greece, the ramifications of which are still felt today. After writing this, I decided it needed a third, more personalised aspect, which are reflections on my attitudes and understanding of my own voice, and its silencing and release within my artistic practice.

The mediated aspect of this essay is quite simple. While the three-strand presentation is possible in a print format, the sense of hierarchy across the texts is more diffused in the online format due to the general expectations and affordances of the medium. I also use a design structure that moves horizontally between each of its parts. This diminishes the feeling of vertical linearity that occurs on the page and allows a reader the option of following all one strand or shifting between them with greater ease. These are subtle aspects that become possible with online delivery and that illustrate how medium specificity effects the "material metaphors" of reading (Hayes, 2002).

This module engages with the feminist theory of Chapter 3, notions of speculation and sonic fiction discussed in Chapter 4, and the strategies and effects of audiography discussed in Chapter 5.

For exegetical evaluation of this module see Chapter 6, "Exegetical Congeries".

Proceed to module (vi): *In the Wolf Thickets*

Bridge
Module (vii): *Tonotopia*

Tonotopia offers a selection of short creative poetic pieces that I have written over the duration of the research journey. The pieces recount moments of listening, my attempts to reflexively analyse my listening experiences, and also explore my process of coming to terms with theorising more generally. The title is inspired by the biological fact that the basilar membrane that lines the cochlea is tonotopic, whereby the areas that receive different frequencies are arranged in sequential order, the highest frequencies received on the outer part of the spiral and the lower frequencies in the centre. I am captured by the simplicity and beauty of this biological organisation.

The pieces were developed through a process of free-form writing, often at the very beginning or the end of the day, informed by the current reading and thinking that I had been doing. This created long-form, unruly morasses from which short fragments emerged with intriguing images, metaphors and deeper understandings. I took these elements and reworked them, concentrating on compression of language, rhythm and Nancy's "sense" that "resounds beyond signification" (2007, p. 34). I hesitate to call them poems because I would not want to claim to be a poet; instead I refer to them as poetic writings.

It might seem ironic that *Tonotopia* is the only module without any sounding element. My primary interest in this module is how text can encourage the "sense" of a listening experience. It may do this by asking the reader to imagine the sounds being discussed, as in "Aria for Dirty Dishes", "Soft Relations", or "The Last Word". Some of the texts, such as "Listening Filters" and "Sound Actions", propose poetic frameworks for listening to the sounds around you. Others explore notions of sound purely to generate poetic thinking, such as "Millinery" or "Healing". And some pieces, like "Epistemapology", "i-Dream", or "A Quiz: A Poem with Notes", illustrate my attempt to come to grips with my epistemological positioning within theory, pushing and pulling at words in order to test the "master's tools" (Lorde, 2003).[1] In some of these pieces my engagement in theory is made explicit through the inclusion of

[1] I am rereferring to Audre Lorde's famous aphorism, "The master's tools will never dismantle the master's house" (2003).

notes. In a manner of poetic play I sometimes also include "Notes within Notes" (rather than references), illustrating the associative and nested nature of inspirations and influences.

This module also relies on an interactive image for the initial navigation map and home page design. The main image is of a seashell, eroded to the point where it is a flat disc bearing the grooves of its original spiral.[2] The seashell's spiral interior serves as a visual metaphor for anatomical structure of the mammalian cochlea.[3] When the image is rolled over a scientific etching of the cochlea is superimposed over the seashell, reinforcing the metaphor. This references the anatomical yet poetic implications of the title. Besides the visual correlation, the seashell also evokes the action of a child putting a shell to their ear to "hear the sea". As an adult we know that this is not really what is occurring, yet I would argue that a sense of wonder and wishful thinking remains. A shell holds a memory of its home as a kind of material recording. The image thus offers its own visual poem.

This module employs creative writing strategies discussed in Chapter 4, and reflects content discussion from all aspects of the research.

For exegetical evaluation of this module see Chapter 6, "Exegetical Congeries".

Proceed to module (vii): *Tonotopia*

[2] The seashell I used was found in my backyard, dug up by my chickens. I live 100 km from the sea, 1000 metres above sea level. I have since found three more like this.
[3] Monotremes, egg-laying mammals like the platypus or echidna, have a banana-shaped cochlea rather than spiral.

Bridge
Module (viii): *Bedtime Stories*

Bedtime Stories explores the acousmatic aspects of listening and how this effects our perceptual awareness and reflexivity about listening. I have placed it as the final module (not that the order needs to be followed), as it is an example of audiography or the audio paper format proposed in Chapter 5. I also like the notion of a bedtime story concluding the online modules.

As an audio piece, the content has a linear construction of two parts, both introduced by "bedtime stories"—personal anecdotes about lying in bed, in the dark, and hearing mysterious noises. These anecdotes then spark discussion focused on acousmatic listening, aural cognition of music and sound and the deeper mysteries of the sounding world.

The piece was first developed as a text-based ficto-critical essay experimenting with personal anecdote as a way to enter into a discussion of acousmatic listening. As the *Language of Listening* site developed, I realised that this piece was well suited to a full audiographic treatment in which the sounds could create both a conducive atmosphere but also exemplify its ideas. In this instance the sounds are creative imaginings of the scenarios discussed, highlighting the content's preoccupation with the role of imagination and memory in the perception and processing of sound and listening.

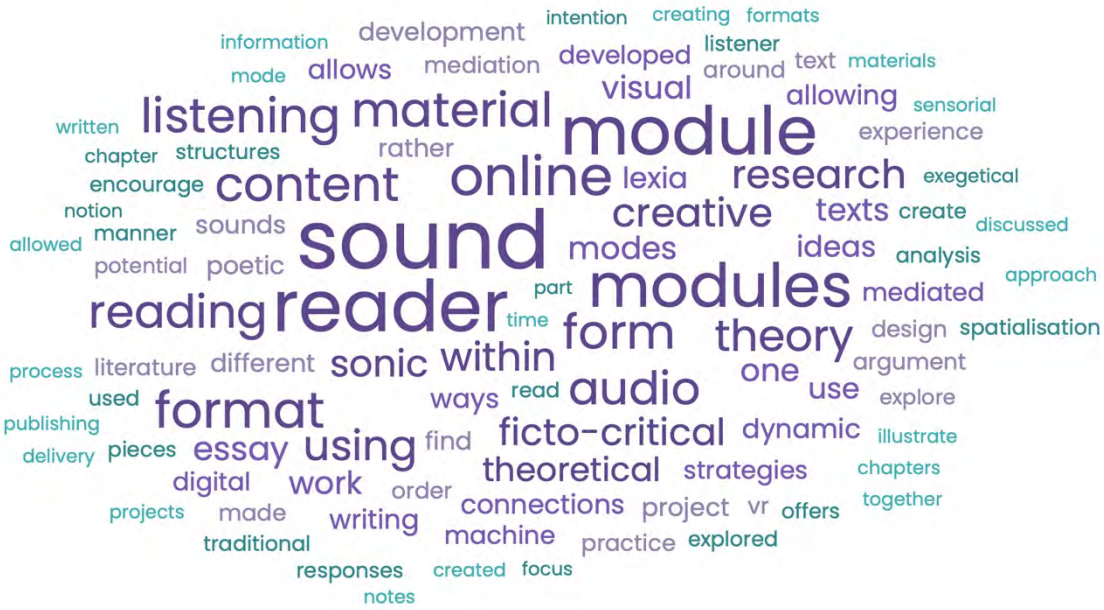
In this module I have experimented with using SoundCloud to deliver the audio. I have done this to illustrate how current, freely available tools may be used to deliver audiography in sound studies. I have also explored using the inbuilt comments feature to house the notes. These are also available on the website along with a time-coded transcript with audio description and a preface that can serve as an abstract.

This module relates to ontological discussions in Chapter 2, and in its audio format exemplifies audiographic criticism as discussed in Chapter 5.

For exegetical evaluation of this module see Chapter 6, "Exegetical Congeries".

Proceed to module (viii): *Bedtime Stories*

Chapter 6
Exegetical Congeries



Part 1: Best Intentions

This academic research has developed authentically from the ways in which I have been practicing as a sound artist and writer for 25 years. From this position within practice, I am seeking alternate ways to theorise sonic art that are embedded in experience, both the experience of making and that of being an audience within sonic art. Believing that the position within has been too easily dismissed in traditional theory in preference for the model of critical distance, I have developed this research project to illustrate how the tomographic position, that of a reflexive subjectivity from within, can be developed through mediated ficto-critical strategies. The best way to argue for this is through practice and consequently the research includes the *Languages of Listening* website, which hosts eight modules that explore a range of mediated and ficto-critical strategies. These modules form a web of associated explorations around the key research themes: sound ontologies, alternate epistemologies, reflexive listening and reading, and the relations of language to listening. The structures and design vary as each module has developed content through form and form through content.

In the DIY spirit of digital sound studies (Caton et al., 2018), I chose the website format for its accessibility and potential resistance to platform changes.[1] I have undertaken all the online design and programming, except for the refinement of the random shuffle code of module (v): *Memexical Machine Reading*, which proved beyond my skills. I produced the modules using Adobe Dreamweaver, adapting a range of HTML/CSS/Bootstrap templates to fit my designs and desires. While I could have turned to more ready-made platforms, such as WordPress or the academically oriented Scalar, I felt that I needed to have more foundational control over my structures and how they interact with content. While I have had previous experience in basic web design and online publishing, the development of the modules required significant skills development and was time consuming. However, I believe that working through these structures was important for developing both the content and a deeper understanding of the possibilities and limitations of mediation. That said, for the purposes of academics with fewer skills in online publishing looking to work in this way, the tools of available online platforms such as Scalar are an excellent place to start (evidenced by Rebecca Geoffroy-Schwinden's *Organs of the Soul: Sonic Networks in Eighteenth-Century Paris* for the Provoke! Platform, p. 124). I have created the

[1] I did initially consider the iBook format which makes for a satisfyingly complete document, however it limits the readership to the Apple platform and has the potential for faster obsolescence. Unfortunately epub formats do not allow for extensive rich media integration.

modules with simple functionality in mind, allowing for ease of access, reading and listening experiences. While there is the potential for more advanced design features to be added in the future, they currently serve as a fully working prototype intended to illustrate the potentials of mediated ficto-criticism and emphasise that these modes are achievable without large institutional publishing infrastructures.

(i) Parallels and Deviations

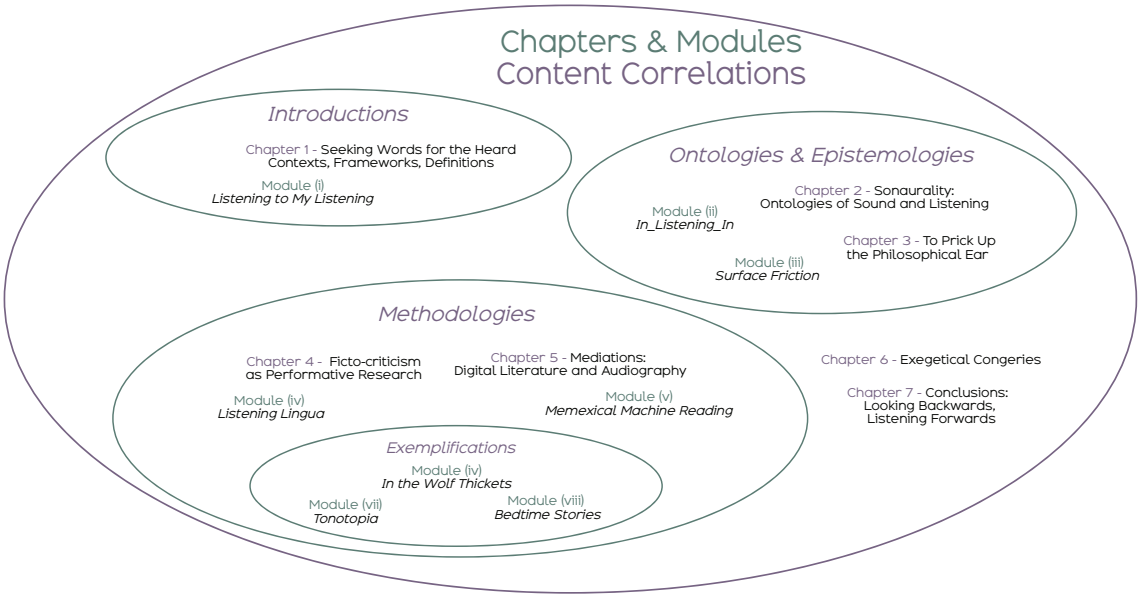


Figure 5. Breakdown of the interrelation of ficto-critical modules and theory analysis chapters.

Each online module relates to one or more theory chapters exploring and expanding on the ideas, and exemplifying the strategies that are discussed. They are not exactly one-to-one "translations" of each other; rather, the modules work on associations and resonances. Consequently, after the reader has acquainted themselves with the introductory chapters, the reading order of the online modules in relation to the theory chapters can be fluid, although a suggested path has been provided for examination navigation.

Between each theory chapter, the "bridges" alert readers to the online ficto-critical modules associated with them and unpack the content and development of the module contextualising the work within the construct of this theory document. However, each module also has its own preface so that they can exist independently of this theory document. Exegetical evaluations of the module have then been gathered together in this chapter, where I will reflect on the online project as a whole and in relation to the research question and theoretical arguments that have been developed here.

(ii) Patterns, Meanings, Contexts

I am keen to reiterate that I am not proposing a mediated ficto-critical approach as a comprehensive replacement of traditional theoretical print methods but to illustrate that there are alternatives that can enrich the field of creatively focused sound studies. As texts started to become digitised there was an initial reluctance by many people to read longer-form texts on screen, but with the increased popularity of tablets, availability of research texts in e-book formats, and generations of new scholars who are "digital natives" there is a reduction in this resistance. However, by using techniques developed from digital literature, I am proposing greater formal changes than the replication of traditional texts online.

N. Katherine Hayles proposes that there are three modes of reading: close, hyper and machine. Close reading is that encouraged by long-form text and linear concentration. Hyper reading arises from the contemporary online formats, such as hyperlinking, short-form tweets, and selection from vast amounts of materials. There have been studies into how these modes increase the cognitive load and decrease comprehension (Hayles, 2010, p. 67). However, hyper reading is useful for pattern recognition in its "quick grasp of the gist of material, and its ability to move rapidly among and between different kinds of texts" (p. 72). In machine reading, the "human interpreter" provides the context and the emphasis on pattern, resulting in the amplification of allusion and association, a process I exemplify in module (v): *Memexical Machine Reading*. Hayles suggests that each mode has limitations and advantages, and they can be used "synergistically with one another" (p. 75). Creating online texts, then, is about deftly using the techniques that ask for different reading modes in the right context.

(iii) Tactics and Techniques

Taking note of these issues, I have tried to find the balance between longer-form absorption, hyper reading selection and machinic pattern recognition. I have used simple diagrams to indicate structures and navigational options allowing for easy pattern recognition and association. I mostly use short-form lexias (with the exception of the two essays in module (iv): *Listening Lingua*), which allow for a poetic condensation encouraging the reader into the associative. When texts are longer, I have included reading times so that the reader may get a sense of the scale of a text to assist with a feeling of progress and orientation that can be missed in online reading. I have also included paragraph numbers for longer texts so that they may be accurately referenced to accommodate academic needs. While the HTML format allows for infinite linking, I have deliberately limited the number of in-text links to avoid the

tendency towards restlessness and overload, mainly offering navigation options or related links at the end of each lexia so the reader may focus and then choose. I have also programmed notes as pop-up roll-overs so that reader does not need to move from their place on the page to access them. These tactics are intended to minimise the distraction, restlessness and lack of orientation that can occur with online reading. It should be noted that I have designed the modules for computer-based web reading. As a developing web designer, ensuring full functionality on all mobile devices constitutes a next level of proficiency that I could not develop for this project, although there is the potential to do so in the future.

I have also utilised the sensorial potentials of sound materials to encourage deeper ways of engaging with the material. Firstly, the compositions encourage focus and attention over defined periods of time. Secondly, as we have seen with Jacob Smith's proposal for audiographic criticism (2019), audio material and technical production concretise the concepts being explored, which I discuss in more detail below. I created pieces in ways that concur with the proposition by Soltani (2018) around sonic dramaturgy, or sonoturgy as I call it, in which sound does not create a "theatre of the mind" but offers semiotic material and sensorial reinforcement. I also performed my own texts in a way that makes my subjectivity very clear within the pieces, a process deemed significant by Llinares (2018). This "performance" made me reflect on my modes of address and voicing in the creation of the pieces, often re-recording the texts to find the right tone. I have also been influenced by the theorising of audio papers by Groth and Samson (2016), particularly in how the projects "perform" as both artworks and research method. These pragmatic strategies, informed by study in e-literature and digital sound studies, are used to deliver creative and critical writing that employs the ficto-critical tactics of the experiential, anecdotal, authoethnological, fragmentary, ambiguous and meta-textual. Combining these elements, I have explored a tomographic authorial position with the aim of creating a reflexive reading experience that offers a viable alternate sonic art-focused sound theory.

Part 2: Exegetical Evaluations

This exegetical analysis complements the material contained in the bridging chapters, in which the modules are introduced. I have broken up the exegetical information in this way so that the connections and resonances between the ficto-critical modules and theory analysis

could be highlighted and to encourage the reader to move back and forth between the theory and creative documents. Below I bring together the evaluation aspects, in the assumption that the modules (and bridges) have now been read, but before I move to the modules I will just briefly address the home or landing page of *Languages of Listening*. As the modules are created to be complete in themselves, they could be housed as separate sites (with their own domain names), however the landing page offers a visual cohesion so that collectively they present as an online anthology. For the purposes of examination there is also "read me" intro text that provides instructions and context to the reader if they encounter the page without reference to the theory document.

(i) Listening to My Listening

Listening to my Listening acts as the introduction to the ficto-critical modules but also to the research as a whole, providing background context to my practice and my conceptual preoccupations. As one of the first pieces that I constructed (originally in iBook format), this module allowed me to develop the triangular structure that I find productive as a mediated ficto-critical form. It allows for three different styles or approaches to be presented with equal weight, with the reader determining the order. In this way each lexia needs to be a discrete piece that encourages a conciseness and particular kind of "packaging". Connections are made through associations between materials rather than through argument, allowing the reader/listener more interpretive scope. The module offers both linear and non-linear reading modes. The clear tripartite form can be read vertically—all Endophasy pieces, then all Practice Notes—or horizontally, proceeding layer by layer sampling a lexia from each stream. This serves as an introduction not just in content but form, allowing the reader to adjust to the affordances of the medium.

The visual design is based on images generated cymatically, as part of the *We Are All Oscillators* project discussed in Practice Notes. With all the modules I use visual imagery directly related to sound generation or associated conceptual notions to keep the sonic aspect at the forefront. The mix of personal, poetic and informational authorial approaches to exploring the sonaural relationship and multi-cursal reading format exemplify a tomographic approach in which multiple slices can be compiled, at the reader's discretion into a whole. The delivery, using digital mediation, allows for this navigational format and for the inclusion of audiovisual samples that offer exemplification both of my practice as context, and of the ideas discussed.

(ii) In_Listening_In

In_Listening_In is an audiovisual essay that uses ambisonic technology that is part of the 306VR format—a system that allows for recording, mixing and playing back of 360-degree audio—to create a surround sound dynamic listening experience. The immersiveness of the audio is used to sensorially enact the concepts that are discussed. The essay considers the enmeshed and embodied experience of sound, the interrelation of object and subject that sound and listening involves—which I call sonaurality—and ways in which this interrelation can be thought through and written about. Using the ambisonic format illustrates how mediation can deliver an experiential perspective that is suitable to my concept of a tomographic approach.

While 360VR could be considered a visual medium, here I subvert the format, exploiting its audio capacities—the delivery of ambisonic audio with full horizontal and vertical spatialisation that is in dynamic relation to the listener. The 360VR format is best delivered via the YouTube app using a phone or tablet so that their in-built movement sensors can fully implement the responsive spatialisation. While the 360VR visual format can be navigated on a computer, the audio is less dynamic. Consequently, there is no benefit to embedding the video in the module's webpage and it is necessary to refer the participant to YouTube on a mobile device. (Because of this I have tried to make the *In_Listening_In* module functional on phones and tablets.) This method is not as elegant as I would desire but as technology improves, ambisonic audio in computer-based video delivery may become possible. I have also optimised the experience to not require VR goggles as this would severely limit its accessibility. However, viewing through this equipment is possible (I use the affordable form of Google Cardboard) and creates an even more immersive effect. It also means the piece can be presented as stand-alone artwork.

In the creation of the soundscape, which includes my own binaural field recordings and compositions designed for surround sound, I worked with Smith's notion of audio as a tool to concretise critical and abstract concepts (2019). For example, when introducing de Certeau's notion of viewing from above I use a rapid parametric equaliser sweep to transition from the full spectrum sound of city traffic on the ground to a version in which all bass frequencies have been removed, leaving only a thin white noise. This is also spatialised to move vertically through the sonic sphere. When discussing the notion of the wanderers in the city I use a compilation of footsteps recorded in various locations, with strong spatialisation, to illustrate

multicursal paths. As the field recordings are gathered from my own travels, they reinforce the role of the sonic in my argument about journeying, memory and mapping.

As a sound-focused person I struggle with the expectation of visual engagement in all presentation media. However, in the last few years of my practice I have ceased to rail against this and attempted to find a visual style that is atmospherically engaging but not dominating and distracting. I aim for the visualisation to be generated from the textual and sonic material. The development of the visuals for *In_Listening_In* went through a number of stages. The early material was more dynamic, attempting to rhythmically match the sound with visual punctuations, and featured video footage from the same places as the audio material. But I found that the visual detail dampened the experience of audio spatialisation and hampered the ability to understand the subtleties of the texts. What was required was a subtly active atmosphere or wallpaper that gave a sense of a continuous, alive space but did not semantically dominate. In the development of this ambiance, I was inspired by Laurie Anderson's VR project *Chalkroom* (2017) made in collaboration with Hsin-Chien Huang. This is a fully realised interactive virtual reality project accompanied by an installation. While I had no intention to emulate it, I was intrigued by one key visual motif, in which letters gently rain from the sky. In a recent lecture, Anderson talks of how in virtual reality environments you actually need to "make air" (2021). This line of thinking helped me to find the right type of visual environment that defined a space, was not static, yet not dominating or narratively active. This manifested as the text of the essay, composited with a photograph of a root system. By animating differently scaled layers and colour gradients, the "wallpaper" subtly breathes and shimmers. I also visually manifest the moments of quotation using a glowing orb and the author's name. This is partly pragmatic, as I find I like to be able to see the spelling of cited authors' names in lectures, but it also allowed me to play with enhancing the spatialisation. Placing each quoted author in different parts of the 360-degree environment, both aurally and visually, I hope to encourage the participant to explore the space and get a more dynamic sense of the shifting audio and immersion.

As I intend this ambisonic essay to be considered as a viable academic essay form I have included a preface that could also be read as an abstract so that I may be able to submit the piece to journals in the future. Notes are presented with timecodes so that references may be followed up. I have also included a full transcript, both for accessibility and for complementary study in the manner of repetitions serving as both "utilitarian and intellectual functions"

(Ceraso, 2018, p. 254). Due to my interest in creative ways of writing about sound, I have included poetic audio descriptions rather than the more pragmatic format favoured by professional audio describers.

While the delivery method of this type of essay, in its referral to an outside app, is admittedly not as streamlined as I would like, I believe there is potential in undertaking certain audiographic essay projects in this mode, particularly those that benefit from a more dynamic spatialisation (and visualisation, if that was the intention). In terms of the content of this essay, involving discussion of immersion and subjective positioning inside experiences, this format has certainly been a useful tool, allowing content and form to work together to make a more forceful argument. *In_Listening_In* offers a comprehensive example of how ficto-critical writing strategies that integrate the personal, anecdotal, theoretical and fragmentary, matched with digital mediation in the form of audiography adapted to the 360VR format, can deliver an alternate sound theory that makes its argument sensorially and textually. It places the listener/reader in a tomographic position within the work that encourages a layered understanding and a reflexive response.

(iii) Surface Friction

Surface Friction is a what I have called a "constellated" essay in which concepts are explored through short, related fragments that can be read in any order. What has always appealed to me about the affordances of hypertext is how it encourages the associative connection of ideas rather than offering a fixed linear exposition (as affirmed by Vannevar Bush (1948) and Theodore Nelson (1974) see module v: *Memexical Machine Reading (MMR)*). I am attracted to the non-hierarchical multiplicity that reflects the way ideas operate in my mind, not necessarily forming conclusions but finding connections amongst things. In the non-linear form of this module, I am drawing on Haas's proposal that a fragmentary structure "makes our workings perceptible while in progress" (2017, p. 27). The activity of finding connections makes the reader aware of the process of cognition in the manner described by Claparède and Vygotsky's law of conscious awareness (1987). I see the lexias of this module as offering different "frequencies" of the concept that resonate together to form a rich, plural understanding of its key ideas.

Some of these "frequencies" are quite literal in that they are sounds. These are explicit in the "Sound" page, presenting raw recordings of surface interactions that can be played

simultaneously, with the listener "mixing" their own experience. In other lexia, the sound exists as compositions made from these raw materials, which explore the themes in way that Nancy describes as "resound[ing] beyond signification, or beyond itself" (2007, p. 34). I am particularly conscious as to how the listener/reader encounters the sounds, so that they are encouraged to give them time, and that there is not a compulsion to preference textual expression. I approached this by using collapsible boxes, so that I could give sounds their own space before the text was encountered.

Given the dominance of theory within the lexias, this project could be seen to offer a sense of a first-person subjectivity in a less obvious way. However, in this theoretical writing I engaged with the material in a deliberately more naïve way—in a manner that Gregory Ulmer's suggests is "from the perspective of the seeker, from the side of discovery, from the side of not yet knowing what it is, rather than from the side of verification, telling about it afterwards." (Ulmer, 2015, p. 55). Ulmer's description resonates with the notion of the *periplus*, the account of a journey rather than the resulting map—accounts from the interior, tomographic perspective. This results in the open-ended, musing nature of the writings and the tendency for them to end in queries rather than certainties. While there are fewer poetic writings than theoretical ones, they illustrate a personal and creative interpretation of the ideas. The creative sound pieces also manifest an alternate personalised voice or authoring and illustrate the iterative loop between theoretical learning and practicing sound.

Surface Friction utilises a hyperlinked scalable vector graphic (SVG) as its main navigation tool. Created in a vector-based drawing program such as Adobe Illustrator, SVGs allow for greater design flexibility, do not pixelate as they resize, and are editable through code, allowing for the addition of links and interactive effects such as rollovers. Drafts of this diagram attempted to make certain connections between lexia explicit, but this proved confusing, messy and actually not within the spirit of how I want reader/listeners to explore the module. I finally settled on a roughly circular structure anchored around the core lexia of Sound and Words, with cross-linking within lexia to draw attention to correlations of ideas.

This module offers a solid example of how mediation using hypertextuality can enhance ficto-critical writing strategies, allowing for reader agency in a way that encourages associative thinking and an openness to interpretation. The online mediation also allows the inclusion of sonic material that can be placed in varying weighted relationships with the text, providing a sensorial element of authorship and argument. *Surface Friction* offers a solid example of a

mediated ficto-critical approach to theorising sound that encourages a reflexivity in the reader/listener through layering, association and sensorial engagement, creating a creative-critical mode that is sympathetic to considering the experience of sonaurality, particularly in sonic art.

(iv) Listening Lingua

The *Listening Lingua* module provides the research findings of the interview project. It is presented in an alternative online format that includes all the responses of the participants and the sounds to which they are responding. This body of creative material is framed by introductory and reflection essays. The responses were processed using a method of poetic transcription that allows for condensation but without losing the voice of the participant.[2] The responses are not included as raw data but as evidence of the creative exchange that occurred, with the interviews functioning as both research format and relational performance, exemplifying Haseman's methodology of performative research (2007).

Importantly, the online format allows for direct access to source sounds, both as examples of the material encountered by the participants and for inviting a shared engagement in the process by the online reader/listener. I also include relevant sound samples within the essays for ease of reference. While this could be seen as inefficient repetition, online projects require multiple possible instantiations of content to ensure that the reader may come across the content with ease (Ceraso, 2018).

As I include all the responses from the participants, I had to find a way to present this material that invites a sampling of responses without overwhelming the reader. I utilise the form of collapsible boxes that allow introductory fragments to be viewed, with full entries accessible when clicked. I continued the use of the collapsible boxes for more data-oriented information within the essays, allowing the reader to choose how much information they would like to access and what formats they find useful, such as graphs and word clouds.

The interview project as a whole addresses the key concerns of the research project in which I am proposing that we need to seek alternate approaches, including different grammars and languages, to those used in standard theoretical and academic arguments. This project established a context in which I could gather rich, tomographic descriptions from

[2] The poetic texts were sent to the participants for approval, and they could indicate how they wanted to be credited.

participants with a range of listening engagements. It was an exercise in exploring how descriptive language may enhance rather than flatten the listening experience, matching the generative experience of listening with that of thinking/speaking. In terms of format, while the introduction and reflection essay could be combined to form a traditional findings chapter within this theoretical analysis document, presenting the findings of the interview project as an online module allows for a deeper engagement with the material as it allows for the research to be enacted to some degree by the reader, and illustrates how online mediation can be leveraged more effectively within research documentation.

(v) Memexical Machine Reading

Memexical Machine Reading (MMR) is a complement to the ficto-criticism and digital literature content of Chapters 4 and 5. In terms of ficto-critical strategies it uses intertextuality and citation in ways that challenge traditional theory, in that citations form the main content, and are randomly shuffled to appear in a unique order for each reader. These citations are accompanied by commentaries that reflect on both the citation itself and its resonances with the research as a whole. The commentaries were produced in collaboration with the chance aspect of the "machine", written spontaneously and freely. This approach allowed me to draw in ideas from many aspects of the research that began to synthesise in a way that felt quite different to progressing through a linear argument. Consequently, the module operates as both outcome and a generative writing tool with randomness and fragmentation arising as productive strategies.

My first instinct was to create a hypertextual literature review, but the connections were so intermeshing and numerous that the interlinking was overwhelming and could be overdetermined by my own interpretations. I was interested in other modes of digital literature that explored chance elements, removing control not just from the reader but also from the creator. As a dabbler in various "future reading" devices that intrigue (not because I believe they actually tell of the future but because they encourage the making of connections[3]) I decided that *MMR* needed the true aleatoric format of randomness.

The beta version of *MMR* used a randomising JavaScript algorithm, but this form created repeats of the lexia. Also, in this format I still couldn't resist making some hypertextual

[3] My 2009 interactive installation *Urban Runes* told a "sonic fortune" that was generated via a randomising algorithm programmed in Max/MSP.

interconnection between entries so that it was both randomised but also offered linking options for some entries. In order to provide a non-repeating random experience, I engaged the services of a more advanced programmer, Luke Dearnley. Using the Knuth Shuffle/Fisher Yeats algorithm, the sequence is shuffled anew for each reader creating a personalised random journey. This changed the underlying infrastructure from one of individual pages to one of pulling different information into the same page. While a much more elegant solution, it meant hyperlinks were not possible, but this made me realise that linking had been a weakness in the system, in that I was still trying to have some control and "announce" my authorship over the knowledge. In the beta version, the reader could also track their journey through the machine simply by viewing their browser history. In the final shuffled version we were able to instigate a final list, which can be read as an aleatoric poem, offering the reader closure and a record of their journey. Embracing the affordances of the shuffle structure allowed the module greater integration of form, content and intention.

MMR presents a radical alternative to a literature review, in which the connections between the citations must be made more actively by the reader. As the commentaries were written using the random engine, they exhibit the kind of connective logic that I am encouraging the reader to engage in. This module illustrates a commitment to integrated form and content, in which the texts does what it talks of, a key feature of ficto-critical writing, and a productive approach as to how sound theory (and maybe other theory) can benefit from alternate forms, particularly those made possible by the hypertextual affordances of online digital mediation.

(vi) In the Wolf Thickets

In the Wolf Thickets engages with arguments and speculation around gender in sonic art and experimental music. It uses a three-stream mode (also used in module (i): *Listening to My Listening*) presenting a speculative fictional scenario delivered as an audio work, a close reading of Anne Carson's essay "The Gender of Sound" (1995), and personal anecdote.

While this module is one of the simplest in terms of its mediation, it is one that clearly employs ficto-critical strategies, such as using multiple "voices" or stylistic approaches to the content in a way that offers allusion and collusion between them. In the required "code" switching, whereby the reader negotiates the shifts of tone and persona, the reader/listener is asked to make leaps and create their own connections. The different textual approaches ask the

reader to consider themselves in relation to the text, in the manner of reader reflexivity that Haas (2017) proposes. The sonic material explored in the speculative scenario is used to both develop the atmosphere and world of the story, but also concretises the notions that are discussed in terms of illustrating a range of creative compositional modes developed by myself as a female sound artist. The format accommodates the standard elements of academic publishing, such as preface/abstract and notes. The mediated ficto-critical approach of this module illustrates how a combination of fiction, personal anecdote and theory can provide a multilayered understanding of a key issue in sonic art—access and representation of female identifying artists—and in content and form manifests the feminist theoretical perspectives that I have drawn on to develop my tomographic authorial position.

(vii) Tonotopia

Tonotopia is the module that delves deepest into creative and poetic writing. For me it presents how far creative texts can go in exploring the ideas within the research around sonic ontologies and epistemologies. While I did consider including an aural component, I also wanted to present one module that explores how poetic text may encourage listening imaginatively. I see this module aligning particularly with the work of Daniela Cascella (2015), who aims to push words to their "edges" in an attempt to describe the temporal passing of sound. It also explores Henri Meschonnic's notion, described by Anna Gibbs, of orality (thus aurality), which is transferred to the reader in the rhythms of poetry (Gibbs, 2015). In its absence of sensorial sound, the module is also an example of Seth Kim-Cohen's non-cochlear sound art (2009), art that does not use sensory sound yet is no less concerned with sound and listening. It is in this module that I feel the most subjectively exposed, but also in which I feel I have pushed and tested language, in a manner that Voegelin (2010) calls for, in order to express sonaurality.

In terms of its mediation and design, I use the image of the seashell for its poetic resonances with the cochlea, a connection reinforced using a dynamic rollover feature made available using the SVG format. As with other modules I use an initial diagram. This is a technique I employ to orient the reader, allowing then to ascertain the scale of the module and its components. This is a tactic to combat the structural disorientation, restlessness and option fatigue that can arise with online delivery. After the initial navigation overview, the menu for the poems is a "drop up" at the end of each piece. This is positioned below the content so that it can be sampled after rather than before reading—another deliberate tactic to settle the restlessness that a top menu can encourage.

Tonotopia uses creative texts that are written in response to theoretical concerns. The module could be considered an online chapbook in its compact collection of thematically related poems, but the individual pieces also lend themselves to inclusion within theoretical texts in the manner of ficto-critical intertextuality, fragmentation and modularity.

(viii) Bedtime Stories

As the closing module, *Bedtime Stories* aptly encapsulates the ideals and aspirations of this research. It explores the ficto-critical strategies of transparent subjectivity and intertextuality through a braiding of personal anecdote, factual material from popular science, and sound theory, with all materials given equal weight. The writing is developed for aural comprehension, using poetic compression and attention to rhythmic and dynamic flow, and the sound elements are utilised to work with these rhythms, creating both atmosphere, illustration and prompts for the imagination. As with *In_Listening_In,* the sound elements aim to "concretize" the ideas (Smith, 2019), however, the key difference is that all sounds are creative responses rather than "real". They are my interpretation of a small insect improvisation or the mysterious earth hum or the soft gong of atmospheric pressure. Given the focus on the role imagination plays in listening as an "emergent perception", as Grimshaw and Garner (2015) propose, and the overall sense of mystery[4] that is prevalent in all the sounds discussed, it is perfectly in keeping with the conceptual content that the sounds are creative reimaginings.

Rather than embedding the sound using the HTML5 audio element I have used SoundCloud to deliver the audio. I have done this primarily to illustrate how freely available tools can be used to make sound theory sound. I was also interested in experimenting with the inbuilt comments feature to house the notes. This is definitely an interesting feature to play with, however it did require some "work arounds" to optimise it. As the comments are archived in date order, the notes needed to be added reverse order. Also, if you delete and re-enter several times there is the risk that the "bot" views you as a spammer and blocks your ability to post. These aspects come with the territory of bending current domestic tools to other purposes, but my use of the feature does illustrate the potential for this kind of format to deliver audiography with active footnoting and referencing. I have still included the time-coded notes on the site along with the transcript (with creative audio description), and a

[4] In the use of personal anecdote, theory and more popular science this piece also comes close to a "mystory" as proposed by Ulmer (1989).

preface that can serve as an abstract. Subsequently this module illustrates how the audiographic format can exist constructively alongside a traditional essay or audio paper of similar content, while also being accessible to a wider listening/reading audience. *Bedtime Stories* provides a clear example of a mediated ficto-critical essay that creatively and rigorously explores sonic ontologies and listening experiences. Through personal anecdotes juxtaposed with critical reflection, it demonstrates a tomographic position—slices or layers of discussion—maximised by the sensorial and signifying aspects of audio delivery.

Part 3: Conclusions and Contributions

My intention with the online modules was to make a body of work that would sit beside the theoretical analysis (for the purpose of formal assessment), enacting the arguments not as direct translation but as collusions, collaborations, points of difference and lines of flight. The online modules that combine creative and critical modes and mediated delivery are not proposed to compete with traditional theory formats but offer viable, additional alternatives that can express arguments in expanded, sensorial, intriguing and effective ways. However, I also intend the website modules to be considered as complete experiences within themselves, and, when considered together, create a web of meanings. I feel confident that each of the projects has something to offer creatively and critically to a reader, and to sound theory.

I am aware that my question specifies art-focused sound theory, and that these modules do not directly address sonic art created by others in the way that Voegelin, Cascella or Demers's work does. This is not to say that these modes cannot do so, and certainly my thoughts on writing have been deeply influenced by my time writing art commentary for *RealTime* magazine (2001–2018). To address this potential gap, I propose that as a foundational project that is working in tandem with the theoretical thesis, the content of the modules naturally developed around the ontological and epistemological ideas that are the focus of my theoretical analysis. Within this mode I have offered my own projects as the artworks in question. What surprised me in the development of these modules is how the enquiries and formats allowed me to critically reflect on my previous and present practice, offering me greater insight into how certain preoccupations have developed, and allowing me deeper practice-based understanding. This illustrates how the tomographic approach has led me to greater understanding of the conceptual and theoretical underpinnings and

contributions not only of my own but others' art practices. My specification of sonic art-focused theory allows me to contain my field of reference to the ways in which sound is explored perceptually, imaginatively and conceptually as a creative enterprise. The approaches that I have developed may be appropriate for other interdisciplinary areas of sound studies, however, I have focused on how these methods can benefit sound theory concerned with creative practice.

These mediated ficto-critical modes may not always be the most efficient way of presenting work, requiring the sourcing and/or creation of audio and audiovisual material, and developing bespoke structures to work with each content formulation. However, if this approach were to become more widely accepted within academia, I suggest there would be a subsequent increase in the development of platforms and skill development within academics. As *Bedtime Stories* evidences, SoundCloud can facilitate fully referenced audiographic content, but I would argue that current platforms like SoundCloud, YouTube, blogs and the academically focused Scalar platform are all still underutilised. In my bespoke modules I have explored a variety of ways of rethinking sonic theory, using tomographic authorial positions and reflexive textualities, where the effectiveness of these textual forms has been heightened through digital publishing strategies that manifest dynamic, non-linear and audible knowledge sharing.

The alternate approaches to sonic-art sound theory manifested in these modules have the potential to offer engaging and more accessible ways to encounter and explore ideas around sonaurality. They offer an alternative to the traditional mode of analysis that frequently tries to conclude and finalise with a singular, definitive argument—a mode I have argued is reliant on the justification of detached objectivity. Instead, the strategies that come together as a mediated ficto-critical approach are focused on generating connections between ideas and embodying knowledge through asking the reader to participate more actively, both through listening and self-directed navigation. I have found that this mode of engagement with theory is sympathetic to the complex interrelation of sound and listening that I call sonaurality, in that the tomographic perspective of the writer is also shared by the reader. This is a reflexive perspective; it asks for the same level of reflexivity as does the direct experience of sonic art itself, and in this way theorising meets practice on the same level.

Chapter 7
Looking Backwards, Listening Forwards

> Critical discourse does badly in dealing with sound as it assumes and insists on the gap between that which it describes and its description—it is the very opposite of sound, which is always the heard, immersive and present… And so sound reveals the constraints and limitations of the word in language while extending its use in sound. The methodology of investigation is intrinsically linked to its subject: one is investigated through the other. (Voegelin, 2010, p. xiv)

My research proposition, "How digitally mediated ficto-critical strategies can enrich sonic art-focused sound studies", was developed in direct response to Salomé Voegelin's call for an alternative creative discourse for sound. Through the *Languages of Listening* research I have argued that it is the role of tomographic reflexivity within mediated ficto-criticism, for both writer and reader, which allows this approach to respond to the specificities of sonic art and its theoretical discussion. I have also argued for the inclusion of sonic and audiovisual material, made possible through mediation, as vital for progressing the way we publish contemporary sound studies, allowing sound to offer sensorial and semantic exemplification. In parallel to these theoretical propositions I have enacted my arguments through the eight online modules, delivering original and innovative works of alternate sound theory.

The primary original contribution of my research is in the area of methods and methodology whereby I have outlined mediated ficto-critical writing and delivery formats as ways to create a reflexive tomographic writing and reading experience that is sympathetic to the sensory and conceptual complexities of sonic art. As part of the process of making this argument I have developed a number of ontological and epistemological concepts that, in their analysis and synthesis of current literature, offer an original contribution that enriches the discussion of creative sound studies. These positions or concepts include the role of reflexivity in both sonic art and sound studies; the framing of the interdependent and entangled relation of sound and listening as sonaurality; and the authorial position of tomography, which challenges the binary notion of subjective and objective positions (terms summarised in Appendix 1). Using these ideas, I have then argued for and illustrated how a mediated ficto-critical approach allows these concepts to be brought together to create an alternate way of theorising sonic art that encourages reading and listening modes that heighten understanding through interactive, ergodic and sensory experiences. I propose that a mediated ficto-critical approach places the reader/listener as a participant within theory rather than a more passive receiver. Consequently, by thinking through ficto-criticism I have contributed new thought that is equally ontological, epistemological and methodological, exemplifying Voegelin's statement above that the methodology and the subject investigate each other.

This methodological exploration is also intrinsically cross-disciplinary. While I have come across some of these ideas in association with each other, I contend that my research offers an original contribution by bringing together ideas and approaches from sound theory, literary theory, feminist theory and embodied psychology that are synthesised in the overall conceptual framework of reflexivity within sonic art; the ontological proposition of sonaurality; the epistemological challenge of the tomographic authorial position that encourages a tomographic reader position; and the resulting method of mediated ficto-criticism. In this concluding chapter, I revisit these key contributions and examine how they work together to create a productive, engaging and rigorous mode of theorising, and a valuable and original contribution to sonic art-focused sound studies.

(i) The Role of Reflexivity

The foundational concept that runs throughout this research is the role of reflexivity in sonic art and sound studies. I employ the term *reflexive* in the way that it is used in grammar to delineate reflexive verbs. This is a verb that is used when the action "reflects back" on the subject who is *also* the object (Collins Dictionary, n.d.). In a reflexive act, the subject who is having an experience reflects on being the subject of the experience, which thus renders them as the object. In this subject-object collapse, the binary of subjectivity as inherently interior and objectivity as exterior is challenged.

Reflexivity features in this research in a number of interrelated ways. My argument is based in the practice of phenomenology, which I understand as fundamentally reflexive. Husserl's phenomenology sought to move beyond the naïve, natural state of experience to one in which we become conscious of our experiences. By bracketing out natural presumptions when perceiving an object in the world, we can become conscious of our acts of perception. Merleau-Ponty further develops Husserl's ideas by highlighting the role that the objects of perception play in this reflexive experience, suggesting that they invite us to engage with them in particular ways. In this way we are in an intersubjective relationship of "Self-Other-things" (Merleau-Ponty, 2012, p. 57). In the aural realm, I propose that the intersubjectivity of sound and listening can be described by the term *sonaurality* (discussed further in section (ii)).

Phenomenology uses the notion of bracketing, or *epoché,* to activate a consciousness of consciousness. This has a parallel in Claparède and Vygotsky's "law of conscious awareness"

(1987), proposed in relation to developmental psychology. When we are confronted with difference, obstacles or difficulty we become consciously aware of our process of negotiation, and as a child, this is how we learn. While Noë (2016) does not refer to Claparède or Vygotsky, I have drawn a connection between the law of consciousness awareness and his proposal that art is concerned with rearranging our perceptual understandings. Noë suggests that art is a strange, broken tool. It does not function the way the real world functions. Negotiating this disfunction encourages us to reorganise our perceptual and cognitive understandings.

Accepting that art is not representational but reorganisational allows us to create a fluid understanding of sonic art as creative practices that explore our perceptual engagement with sound and listening through activities that encourage reflexivity. While this definition originates with the perceptual, it does not then restrict the art form to only using perceptual material, as we may experience reflexive understanding of ourselves as listeners through conceptual stimulation and imagination. Within in my online modules, not only can perceptual engagement be presented through sounding examples but the ficto-critical approach also allows for creative exploration of the conceptual and imaginative aspects of sonaurality, and the relationships that can emerge between all three. This is exemplified in module (iii): *Surface Friction,* which explores sound as sensorial authorial voice in relation to creative and critical writing.

I have also argued that reflexivity is a key aspect within the academic field of sound studies. This is an argument supported by LaBelle (2010) and Sterne (2012). However, I contend that to allow for this reflexivity, sound theory needs to develop alternate tools of theorising than those that rely on traditional formats of theorising. The current tool set was predominantly inherited from the visual arts, conceptual art and occasionally music. These theoretical modes rely on notions of observational distance that are rooted in a visual paradigm. (Musicology relies on structural and taxonomical paradigms that also arguably rely on stepping back and analysing from a critical distance, with the additional reliance on the visuality of notated scores.) I have argued that this critical positioning is not best suited to the interdependent relation of sound and listening whereby a listener is immersed in the experience of the sound, and the sound comes into meaning through the listening intention. This is not to deny the excellent foundational work conducted within sound studies employing critical distance to map the development of sonic arts from visual art and music by theorists such as Sterne (2003), LaBelle (2010), Kahn (2001, 2013), Kim-Cohen (2009) Licht

(2007) and Kelly (2009, 2017). Their analyses of the interactions of sonic art with other art forms have established and legitimised the field. However, I argue that there is a need for a more radical experimentation with form and content in order to advance sound theory. While my arguments are based on those of Voegelin (2010, 2014, 2019), Lavender (2017), Steintrager and Chow (2019) and Kapchan (2019), I have extended the discussion further by offering a comprehensive, practical alternative approach. Through my practice-based mediated ficto-critical proposal, I have presented targeted methods and strategies that consider the specificities of sound and listening, resulting in a sound theory that thinks through and with sound.

(ii) Sonaurality

I have proposed the notion of the *sonaural* to describe the complex interrelation of sound-as-object and listener-as-subject, whereby each brings the other into meaningful existence. This interrelation emerges due to the spatially immersive and temporally ephemeral nature of sound, in which the listener is embedded and in turn effects. I have argued that sound theory needs alternative methods to those based on critical distance to productively engage with this entanglement.

I came to the concept of the sonaural by surveying current ontological explanations of sound and listening. As a starting point, I found the phenomenological approach of Voegelin (2010) and Schaeffer (2017), with its basis in experiential relations, to be most useful to a sonic art focus. I also considered the psychological conception of sound as proposed within the fields of embodied perception and cognition, in particular the theories of Gibson (2015), Varela et al. (1991) and Grimshaw and Garner (2015), which consider our understanding and existence through the relations of our mind-body (as a combined entity) and our environment. I draw out the parallels between the subject–object correlation that is proposed by phenomenology, in which we become conscious of ourselves through our engagement with the world in which we are in relation, and the interrelation of self and environment that occurs due to the affordances or invitations that an environment offers. Phenomenology and embodied cognition equally affirm the pivotal concept of subjects and objects functioning not as independent entities but in complex correlations. These conceptions allow for an understanding of sound and listening as having symmetrical intentionalities. Sounds make themselves available to be listened to, and the listener makes themselves receptive to sounds.

My proposal for the sonaural does not discount the materialist, asymmetrical understanding of sound as an ongoing flow that continues regardless of whether we choose to tune into it, as proposed by Cox (2011, 2019). I have argued that while sound may exist without out attention, as soon as sound is practically considered by a subject, it is rendered the object of experience which is then part of the complex relation of subject and object that is captured by sonaurality. The notion of sonaurality provides a term to understand sound and listening/listener, object and subject, as engaged in an entangled relation in which they come into meaning for each other, through each other. Considering the sonaural thus requires a way of theorising that allows the subject and object to be in close proximity and fluid communion; a mode that challenges the notion of critical distance and its association with objectivity.

(iii) A Tomographic Approach

If we are to reject modes of theorising that assume a stance of critical distance, the question arises as to whether it is still possible to create rigorous analysis and commentary. Does a rejection of critical distance that is associated with un-biased universalist perspectives then mean that the only alternative is an introspective subjectivity? My proposal for a tomographic authorial position challenges the exclusively oppositional interpretation of subjectivity and objectivity as it has historically played out (Daston and Galison, 2010). My usage of the term *tomography* draws metaphorically on the medical procedure in which a body is scanned via multiple planes or x-ray “slices” that are then reconstructed to form an exterior whole. Tomography allows an external understanding based on a series of interiorities. The metaphor is strengthened (in an example of Derrida’s *différance,* 1997) by considering the contrasting term, *topography*, which undertakes a mapping of surfaces. Rather than considering a sonic artwork according to where it sits within the terrain of sound culture, a tomographic position explores the work from the experience within it. These slices of experience are compiled to form a whole, and in its reconstruction, context and critique can be woven in. The tomographic approach requires of the writer a reflexiveness to avoid indulgence, and to connect the experience to greater contexts, but the initiating input is always experiential. The emphasis on the experiential does not mean that a writer can never discuss a work that they have not actually experienced. There is always the possibility of an imagined experience of a work, based on the descriptions of others, which can generate its own experiential narrative. What the tomographic approach ensures is that these levels of experience are acknowledged, making for a transparent disclosure of engagement with a work.

The role of technological mediation in accessing the “inside” that tomography enables also parallels the with the way in which I utilise mediated methods to enhance the reflexive effects of ficto-criticism.

I have come to the proposal of tomography by considering various feminist epistemological positions that investigate the nature of subjectivity and objectivity in relation to universalist male assumptions. The work of Cixous (1976, 1991) offers the proposal that theory is liberated from the (predominantly male) “machine” tradition by writing through the body. She recasts subjectivity as a political position that asserts multiplicity and otherness. Individual experiences combine to form a critical mass resisting universalist and singular paradigms. As her work progresses, Cixous moves to a less specifically gendered reading towards a self/other understanding, seeking an intersubjectivity based on the sharing of corporealities and their multiple entanglements (Kaiser, 2012). Within my argument I embrace Cixous’ recasting of subjectivity, not as indulgent solipsism resulting in relativism, but as a conscious resistance to dominant paradigms.

In comparison and contrast is Haraway’s proposal for a feminist objectivity (1988). Haraway reconfigures objectivity, adapting it to broader needs than those of a white European male. Drawing on contemporary feminist positions, Haraway proposes that true knowledge is situated knowledge, in that the circumstances of its development are made known in terms of how the researcher is “located” within it. This knowledge admits its partiality, the areas that it can lay claim to and those that it cannot, allowing the “objective” researcher’s subjectivity to be considered and reflected upon by the writer and the reader. In my concept of a tomographic approach I embrace Haraway’s understanding that to acknowledge the researcher’s position and partiality is not a capitulation to relativistic subjectivity. Rather, encouraging a reflexive approach to experience, combined with contextual understanding, creates an authorial approach that is not simply subjective or objective but operates between the two.

Barad (2012, 2014) also develops their episteme from a scientific aspect. In quantum field theory particles are entangled and contain multiple possibilities. These potentials are only collapsed by measurement and observation. Barad proposes that we too are entangled with potentials of the “other”, and through superposition can be multiply situated. Drawing on Barad’s quantum metaphor I have proposed that tomography is an authorial position that allows for multiple possibilities that can be entangled but do not have to be collapsed completely on “observation”. Made of slices of experience, multiple perspectives may

continue to exist simultaneously. This aspect of entanglement also resonates with the relations within sonaurality.

Within my research I employ feminist theories for the ways in which they challenge traditional knowledge systems. Cixous, Haraway and Barad's epistemological approaches interrogate the notions of subjectivity and objectivity as concepts that reinforce gender binaries. However, while each of these theorists starts from a consideration of gender, the theories are extended to explore power imbalances more widely in which a dominant modality disempowers or silences the perspective of an "Other". As sound and listening are often cast as being subordinated to image and vision, there is strategic value in using approaches drawn from these feminist challenges to dominant paradigms. Voegelin directly associates the two, proposing that a "sonic materialism is a feminine materialism" (2019a, Loc 3784). She uses the arguments of Barad and Braidotti to combat the disembodiment presented in masculinist conceptions of materialist realism (see Chapter 2, page 38). As a female sound artist existing in a culture that has historically been male dominated, I am wary of attributing gender characteristics to sound. Whether intended or not, the gendering of sound leads all too easily to essentialisation and, as a feminist, I want to resist my work being categorised and marginalised as "female sound". Of course, I accept that my lived experience is played out in my work—this is the premise of my research—but this involves multiple influential aspects of which gender is one. The feminist theorists on whose work I draw move through the binary of gender to then encompass other power imbalances and silencing of otherness. It is the epistemic challenges that their theories propose that I have embraced, and taken courage from, in my research.

In this thesis I have outlined ways in which embodied understandings and empathetic intra-actions of subjectivities do not have to amount to indulgent and relativistic perspectives but can instead create the potential for pluralistic understandings. Rigorous knowledges can be built through a reflexive acknowledgment of partiality that considers experience and its context. In the online modules I have illustrated how experiential understanding can contextualise and concretise theoretical discussions. This is particularly evident in modules (ii): *In_Listening_In*, (vi): *In the Wolf Thickets* and (viii): *Bedtime Stories*, which use personal anecdote to introduce or exemplify theoretical discussion. However, my experience as a sound maker is at play in all the modules, guiding my understanding and helping me translate theoretical concepts into the creative mediated ficto-critical modules. What is also important

about the tomographic approach employed through mediated ficto-criticism is that it not only plays a part in the writing/creating element but in the reception of the modules. The ultimate aim is to activate the reading experience so that it is a multilayered pluralistic one in which the reader/listener has various levels of agency, immersion and sensory stimulation that encourages reflexivity. In this way I am trying to model the writing and reading experience as a heightened process of relation and negotiation that reflects the complex interrelation that is sonaurality, the concern of sonic art.

(iv) Mediated Ficto-criticism

I have proposed that reflexivity is also a significant feature of ficto-critical writing. Within this research I have positioned ficto-criticism as a set of strategies that bring about reflexive writing and reading experiences. The prevalent strategies of intertextuality, fragmentation, experimentation with form, ethical consideration in terms of dominant and hierarchical paradigms, openness and ambiguity illustrate an active engagement with post-structuralism, postmodernism and feminist theory. These strategies have destabilising effects that require the reader to engage with the textuality of the text. Muecke suggests that ficto-critical reflexivity emerges from the effort of switching between percept, in the form of the creative elements, and concept, in terms of the theory (2002, p. 109). The reader negotiates a gap as they switch between codes that allows them greater reflection on what it is to read and interpret. This exemplifies Claparède and Vygotsky's law of conscious awareness (1987). Haas (2017) suggests that the creative elements encourage the reader to explore the construction of textuality, while the critical elements ask the reader to interrogate their own position in relation to the text, and subsequently to the broader world. For the writer, the ficto-critical paradigm offers a space to explore a reflexive subjectivity, questioning who they are in relation to the subject and the textual formation (Prosser, 2009, p. 6). This reflexive subjectivity is perfectly compatible with a tomographic approach that seeks an inside-outside positioning. While I have focused on the critical commentary of and analysis of ficto-criticism that took place at the end of the twentieth century, my application of ficto-critical strategies to sonaurality, through the epistemological approach of tomography, has the effect of reconfiguring, and re-animating the form of ficto-criticism as a productive contemporary mode of theorising. While there are other theorists using creative and expanded writing forms, I have broken down the structures and strategies so that we can see how these expanded forms

can be consciously crafted and leveraged to create alternate sound theory that can better address the immersive, temporal and relational specificities of the aural realm.

The final stage of my argument proposes a union between the strategies of ficto-criticism, digital literature and online mediation. Hypertextual online writing, like ficto-criticism, responds to post-structuralism, postmodernism and feminism. Online mediation allows the strategies of fragmentation, intertextuality, ambiguity and formal experimentation to be heightened through the affordances of hypertextuality. Mediated hypertextuality requires a negotiation of the text, not only in the code switching, but due to the non-linear multicursal possibilities that require a "non-trivial effort" to navigate (Aarseth, 1997, p. 1). Once again, this aspect of negotiation brings us back to Claparède and Vygotsky's notion that conscious awareness is developed from negotiating your way through an experience. The importance of effort is reiterated in Noë's casting of art as a tool for perceptual and cognitive reorganisation (2016). The idea of a reflexive writing is amplified by combining strategies of ficto-criticism and digital literature, which share many common textual intentions. As with the re-invigoration of ficto-criticism as a conscious approach to generate reflexive writing and reading, the re-investigation and repatriation of the strategies from electronic literature, and their pairing with ficto-criticality for the specific application to sonic art-focused theory is also an original contribution to contemporary sound theory.

Most importantly, technological mediation allows the reader/listener to access inside an experience, in a way that parallels the role technology plays in tomography. Online mediation allows sound theory to actually sound. The silent and visually oriented form of typographic text in print format cannot engage fully with the specificities of sonaurality as a complex interrelation of sound and listening. The sonic and audiovisual potentials of online delivery allow sound to be leveraged as a sensorial and semantic explication. The critical use of sound can occur through pure audio works or through an exploration of sound and written text. As a practicing artist and academic, online mediation has allowed me to explore my theoretical arguments experientially—to enact sonic thinking.

(v) Enactions and Examples

Fundamental to this research is that it has been conducted through a practice-based performative research methodology in which the argument is enacted and performed through creative manifestations. The eight online modules exemplify a range of ways in which

mediated ficto-critical strategies can be used to explore key concepts that preoccupy sonic art. The mediated ficto-critical approach I have employed in the online modules encourages a tomographic and reflexive reading experience. The reader is offered agency in negotiating their traversal through the pieces. In their fragmentation, poetic compression and non-linearity, the modules encourage a connective and associative line of thinking rather than a definitive argumentation. I do not tell the reader what they should think, I provide a collection of materials, ideas, associations, and "illogics", as Eshun (1998) and Schulze (2020) would have it, that allow the reader to not simply receive ideas but generate their own rich responses, often with sensorial sound to add another resonating layer to the discussion. In this more engaged and embodied mode of theorising, I propose it offers greater accessibility to those who feel alienated from formal academia such as non-male academics, academics of colour, practicing artists and autodidacts.

The majority of the modules may also exist as artworks in themselves. The mediated ficto-critical approach allows sound theory the opportunity to sound, with the creative results clearly offering new knowledge through original forms. While this new knowledge takes a number of formats, the content and structures are critically rigorous, with key academic features innovatively incorporated. For example, the audiographic modules such as *In_Listening_In*, *In the Wolf Thickets* and *Bedtime Stories* include time-coded notes, transcripts and references for further study. In this way my mediated ficto-critical modules illustrate and advocate for the contribution that alternative methods can make to sound studies.

To provide a context for my own experimentations I have also analysed the work of other writers who are exploring creative approaches to writing. Besides the work of Holt (2019) and Schulze (2020) on sonic fiction,[1] Kapchan's exploration from the field of ethnomusicology (2017), and some examples discussed by Voegelin (2010, 2016), there has been little analysis within sound theory of the actual works that are investigating creative alternatives. There has been discussion about a *need* for them, but little discussion *about* the results. I surveyed key texts by Voegelin (2019), Cascella (2015), Demers (2015), Eshun (1998), Goodman (2009) and AUDINT (2019), and using ficto-criticism as a frame of reference, analysed where the strategies and intentions coincided or differed, and how they contributed to the field of sonic art-focused sound studies. In particular, I focused on the level of reflexive

[1] Interestingly both these writers, as well as Groth and Samson (2016), the advocates for audio papers, are based in Scandinavia, suggesting this alternative theorising is of particular interest in the region.

subjectivity, or presence of a tomographic approach, and the reflexivity that is intended for the reader through the negotiation of formal and textual devices. I have conducted this survey to establish a field for my own explorations, but also to illustrate how my approach extends and amplifies the intentions of these practices by offering clear strategies, techniques and authorial approaches that form the ficto-critical method. I have also liberated the writing from the linearity and silence of the printed page. Pairing ficto-criticism with the "ergodic reading" processes of hypertextuality (Aarseth, 1997) and the sounding capacities of online media allows the full potentials of creative sound theory to be realised.

(vi) Conclusions and Futures

The exploration that I have taken with the *Languages of Listening* project has alerted me to the possibility of future research in a number of areas. I am particularly interested in advancing an understanding of sonaurality and language through psychological frameworks, potentially partnering with a psychologist and/or scientist to continue study into cognitive connections between language and listening through the creative practice of sonic art. As this thesis could only accommodate a small sample of creative theory approaches, in future research I will also pursue a more comprehensive survey of creative approaches to sound theory, particularly focusing on poetic works and textually based sound practices. I will also be actively pursuing and advocating for the mediated ficto-critical form in my future projects, both creatively and academically, specifically exploring the audiographic form as podcast, installation and audio paper.

I will bring this research journey to a close by reiterating the contribution that the *Languages of Listening* project offers to sonic art -focused sound studies. The majority of the creative modules are designed to work both as research outcomes and as original web-based and audiovisual artworks, which can be presented in various formats in the future. Through both theory and practice I have advanced the argument around the visual paradigm of traditional theory and a need for new alternatives, bringing together significant literature as refutation and inspiration. In the process, I have developed a number of concepts that are valuable additions to sonic art-focused discussion. Foundational to my argument is the role that reflexivity plays within sonic art practice, sound studies and ficto-criticism. My innovative cross-disciplinary approach that brings together ideas from sound theory, literary theory, psychology and cognitive science reveals how these areas share a common preoccupation with reflexivity. In this way I offer a new perspective on the interactions between these disciplines,

and in the process I have developed meaningful methods and methodologies that are well suited to the study of the aural realm.

A key ontological contribution is the proposal of the succinct yet porous concept of sonaurality to encapsulate the interrelation of sound as object and listener as subject. Similarly, the authorial position enabled by tomography provides a conceptual package for epistemological approaches that explore critical experiential perspectives. Tomography challenges the binary assumption of an indulgent subjectivity versus an unbiased objectivity, offering a position that operates between the two as a critical, experiential reflexivity. I have brought these concepts together through the methodological framework of practice-based performative research, using ficto-critical and mediated strategies that together constitute a viable and repeatable writing-as-research method.

Creative sound writing deserves more serious consideration within academic sound studies, and this has been the main aim of *Languages of Listening*. Through both my theoretical analysis and, more importantly, my body of mediated ficto-critical writing, I have proven that sonic art-focused sound studies can be undertaken differently, in a way that is emergent from the very specificities of sound and listening, is conceptually and creatively rich and rigorous, and that offers exciting opportunities for the future of sound studies.

END

Appendix 1

Glossary

Within in this research I offer a number of key terms that I have developed as tools for new understanding as well as known terms whose use and interpretations are particular to this project.

Audiography. Based on the term *audiographic criticism* offered by Jacob Smith (2019) to describe acts of criticism that are developed specifically for delivery as audio and that use recorded sound as key elements of the argument. I use the term audiography to describe the process of theorising through the medium of sound that manifests as podcasts, audio essays, audio papers (a term theorised by Groth and Samson, 2016) and audio artworks that include theoretical discussion.

Ficto-criticism. A term that came to prominence in the 1980s and 1990s, particularly in Australia and Canada to describe a tendency towards theoretical writings that were incorporating creative and autobiographical content. This kind of writing has roots in the post-structuralist writers such Jacques Derrida and Roland Barthes who were experimenting with text often using meta-textuality and form/content collusions so that the writing enacts the theoretical point it is discussing. Rosalind Kraus (1986) called these early writings "paraliterary". Drawing on commentary about ficto-criticism from the 1980s/90s, I am using the term in reference to strategies that are often present such as personal anecdote, subjective positioning, ethical considerations, fragmentation, ambiguity, and formal experimentation. Continuing commentary from Haas (2017), I propose ficto-criticism comes into play when these strategies are wielded consciously to create reflexive reading experiences in which the reader is asked to negotiate their own understandings of themselves and their relation to the text.

Mediated ficto-criticism. An approach in which the strategies of ficto-criticism are paired with strategies and intentions from electronic literature (also known as e-literature, digital literature), such as hypertextuality, randomness, multicursal navigation; and the tools of digital sound studies including audio delivery formats such as podcasts, audio papers and audiovisual delivery. Combining mediation and ficto-criticism amplifies the reflexive and participatory

engagement elements of ficto-critical writing and allows for sound theory to expand into the aural rather than simply the textual.

Reflexivity. A term I use in the manner of "reflexive verbs" in grammar in which the action "reflects back" on the subject who is *also* the object (Collins Dictionary, n.d.). In a reflexive act, the subject reflects on being the subject of the experience, which in fact makes them the object of the experience. I argue that this subject-object collapse challenges the binary notion of subjectivity as inherently interior and objectivity as exterior and that this mode of understanding is key to sonic artworks that are concerned with sonaurality, which is an interrelation of sound (object) and listener (subject).

Sonaurality. The term I have developed to describe the ontological understanding that frames this research in which sound and listening are in an interdependent, symmetrical relationship. Based on understandings from phenomenology and embodied cognition, sound comes to meaning when it is met with listening, and listening actively seeks sounds, in the manner of intention and attention (as opposed to hearing that is biological and passively received). In this interrelation, sound as object and listener as subject form a correlate that can be described as sonaurality.

Sonoturgy. A neologism I have developed from the terms "sono" and "dramaturgy". I use sonoturgy to describe how sound operates as both sensorial and signifying agent within a work of art or theory.

Sonic Art. Using Noë's proposal that all art is aimed at perceptual and conceptual re-organisation (2016), I use the term sonic art to describe any practice in which the focus is on reorganising perceptual and conceptual understandings of sound and listening, or sonaurality as I have defined it above. Sonic art does not have to include perceptual material but the notion of the perceptual is always at play, even in silent, textual or purely conceptual works as these rely on memory or imaginings of sound and listening. I choose the term sonic over sound as it is the grammatic adjectival equivalent to "visual" and to overcome the bias that exist around sound art referring only to gallery-based work. The term sonic art more explicitly allows performance and experimental music that is concerned with reorganising ideas around sonaurality to be considered.

Tomography. I borrow the term tomography from the medical sciences where it describes a process of capturing slices of imagery from inside a body or volume with the possibility of

compiling an external picture of the interior. I propose that this thought figure can be used to describe an authorial process of describing slices of experience of an artwork from within, and in their compilation and layering allow for an external understanding to arise from the inside. This position is partial and situated in the manner of Haraway's situated knowledges (1988), so that it offers a critical and rigorous subjectivity that is aware of its limitations and does not slide into solipsistic indulgence. The term is offered in contrast to topography that maps horizontal surfaces. Tomography offers a vertical, layered and plural understanding rather than a one focused on concrete divisions and territorial declarations.

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