

Reviver Voce: The Voice, Technology, and Death

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If you are unable to play any of the records in full, you can find digitised versions of the discs here: <https://repository.falmouth.ac.uk/id/eprint/4774>

Liner Notes

Abstract

This is *Reviver Voce*. A deliberate verbal play on *viva voce*, the Latin term meaning, ‘By word of mouth; in speech; orally’ (OED 2020) Given the oral nature of this submission, it is understandably a pun that works better when spoken aloud, but this title has not simply been selected for wordplay or the direct reference to the oral defence of a doctoral thesis. Mladen Dolar, in his discussion of the political role of the voice, observes that the ‘*viva voce*, or just *viva* . . . has to be made “in the living voice”’ (2006: 110). It is this conception of “the living voice”—and its implied other, “the dead voice”—that sits at the core of this research: the work confronts the revivification of voices in recorded media, reassessing the relationship between technology, the voice, and death, and considering the ideological implications inherent within this emergent realm: the voice’s position within this act of revivification.

This research represents a study of the voice and its relationship to technological developments and death: what our voices mean to us, to others, and to death in this ever-changing space. For over a century the dead have “lived on” through audio, but with each advancement in sound recording and media storage we see new uses for the deceased and the bereaved. The voice, as a unique identifier of a person and their life, is entering new territory in a world of hypothetical digital immortality where it is possible to digitise an individual’s vocal characteristics.

As the spoken voice is central to this research, this thesis comprises of a collection of 33 $\frac{1}{3}$ rpm, long-play records, primarily—but not entirely—voiced by the author. The introduction and subsequent chapters are presented on separate pressings, each side roughly 30 minutes in length. Practice, too, is submitted on this physical, audio-only medium. Through this research, it is suggested that developments in technology, a shift to everyday and pedestrian practices of recording, and our changing interactions with new media, leave the voice and death, and our relationship with the two, in fundamentally altered spaces.

Methodological Statement

The creation of *Reviver Voce* is the culmination of a range of methods and approaches; rooted in theory, enacted through practice, but bringing in lived—and dead—experience in the form of interviews and donated voices. As a collection of vinyl records of spoken chapters, it contains—and is emblematic of—the practice itself, supplied on a medium that unites form and content. This brief methodological statement outlines the methods used across the process to explicate the interrelationship between the spoken voice, recording technology, and death.

The examinations of the voice, sound, recording technology, and death conducted across these records are built upon a theoretical grounding, drawing upon philosophical considerations of the voice (including Dolar, Connor, Karpf; literature from sound studies (such as Street, Chion, Stanyek & Piekut); theorists of technology (including Kittler, Sterne); media theorists (including Williams, McLuhan, Bolter & Grusin); performance theorists (including Taylor, Schechner, Phelan); as well as philosophical and theoretical considerations of death (including Barthes, Scarre, Roach). These examinations, however, are not built only on theory, but also speak to practice, often sampling from and referencing audio works—created by, among others, Sagan et al, MacColl, Seeger, and Parker, Street, Jenkins, Cutler—in relation to questions around the voice, death, and audio recording. In addition to this body of theory and interrogations of existing works, interviews undertaken by me sit as part of this thesis—including with Sue Hill, widow of Bill Mitchell (whose attic I captured with a combination of ambisonic recording and impulse responses), Barbara Altounyan of the Hospice Biographers—as well as posthumous contributions, recorded voices from beyond the grave (such as answerphone messages and interviews prior to death) which have been generously donated by friends and family. The combination of the theoretical spine underpinning the overall work, examinations of other practice, in addition to qualitative research undertaken as part of the project—interviews imparting the lived experience of death and dying—all impacted upon the construction, content, as well as contributions to knowledge across the thesis.

Fundamentally, creative practice sits at the core of what has been created and this study of the revivification of the spoken voice across technology has been written and designed via practice

as research. The thesis submission itself is practice, and my own voice sits at the core of it, speaking the composed chapters, recorded on to different media and within different spaces according to the theme of each chapter, as well as utilising different recording techniques (including binaural, ambisonic, and capturing impulse responses, and celebrating reverb) and creating my own digital voices. Creating these vinyl artefacts involved a process of writing, speaking, redrafting—followed by mis-takes, and re-recording—and as a consequence, this spoken version, pressed as a record, is the definitive one. But my voice is not the only vocalic offering inscribed on these records, and all quoted theorists have been spoken by someone who offered their voice to the process and vocally documented their consent. It is the voices that make up these records that demonstrate much of what is absent in the written word. The choice of form, my voice and the donated voices of my family and friends are—and *speak clearly to*—the content of these discs: they contain, through the voices that speak it, my life to date. They are the voices of my life, the people I have interacted with across the years in a number of different ways. There is something *particular* about these voices to me, which has resonance with how a voice is *particular* to the person who is listening to it, to the bereaved. What exists beyond the written word is so often in the voice, in the space in which it resounds, in the experiences that it speaks to, in the memories it ignites. The donated voices do not speak for themselves—they are largely reading quotations across the records—but do speak in a range of ways through my life experience of these voices.

The donated voices are not perfect, they are not recorded in studios because I did not want them to be, and there is something about imperfection that is in the form of the work. The donated voices have, largely, been roughly recorded on phones, in imperfect environments—even my father’s voice, which can be heard reading the third vinyl, is not completely isolated from the occasional seagull in the background—and this is what gives them their value: someone on a train, someone outside, someone stumbling slightly over their words, this opens up the experience of hearing them and their contribution to the work. This roughness of recording—and resultant verisimilitude—brings “aliveness” to the fore through a multiplicity of voices and was another chosen method within an overarching practice-as-research methodology. Across these records I have made a case for the presentational form, and the ideas contained within it, as well as a relationship between the two. I recognise that the inert 33 $\frac{1}{3}$ RPM record is not an

interrogative form, you cannot ask questions of a piece of vinyl, and it demonstrates the limitations that the thesis speaks to. It is always better to be alive; dead voices are always dead voices: the recorded voice post-mortem, while a gateway to memory and experience, is typically second best.

It is important to note, too, that this thesis focuses upon the spoken voice. Speech is an act; a thing done. In contrast, the voice is a modality; if not quite a way of being then at least a marker of ontological presence. Speech represents a large part of this, particularly given this spoken collection of vinyl records, and is the focus of much of the research. Speech is not, however, everything that is happening within the voice, and—as Vinyl 1 asserts—the voice is, *in part*, speech. The voice contains and carries this element, but speech is about words; it is less individuating, a distillation of spoken words as information, often conflated with voice. A voice can be recognised when it is not speaking words—a laugh, for instance, is often easily identifiable—through an individual’s pitch, cadence, vocal tone, even non-verbal vocal tics. This body of work examines voices; often they are speaking, but they are carriers of much more than words alone.

Ultimately, this collection of audio—the voices, the spaces in which those voices resound and re-sound, the technologies and microphonic arrangements upon which the words have been recorded—are compiled on this non-standard submission form of a collection of vinyl records, too, chosen to elucidate the links between content and form. The methodology embarked upon in order to create this thesis was one that involved a reciprocal, and dynamic, relationship between theory and practice. The learning across the project has been enacted through making and is written into the discs, but it is also the discs themselves; the decision to read them aloud and have them pressed as vinyl was arrived at during the project as a result of a combination of the theoretical underpinning and practice as research, to present them any other way would not have been correct and the written word was not appropriate for an examination of the spoken voice.

And so, you are about to listen to this collection of dead voices, inscribed into vinyl, unpicking the voice through technology and death in content and form. This thesis is, I think, one that demonstrates much of what is absent in the written word. There is something of a remediation

(Bolter & Grusin 1999) of reading here, offering a commentary on conceptions of the receipt of knowledge through my chosen form. It has resonance in the field of sound studies through its chosen form and the work contained within; the subject matter has resonance in the 21st century, opening up new areas for consideration; and is addressed throughout the discs across spaces and voices, with the autoethnographic woven vocally through the work, meaning that these discs have particular resonance for me.

Contribution to Knowledge

There are key contributions to knowledge running across the vinyl records within this collection, with observations, definitions, and examinations that represent new knowledge throughout this body of work. These include the ontological difference between the living and dead voice (Vinyl 1) and its historical and ongoing relationships with technology (Vinyl 2), the interrogation and expression of the Aural Punctum (Vinyl 3), examinations of media and memory (Vinyl 4), the spatial audio work undertaken in Bill's Attic and resultant articulations regarding space, memory, and personhood (Vinyl 5), but much of the thesis, and the new ideas articulated across it, culminates in the notion of the *intermortem*—a posthumous aural space between media and memory—charting the route to this point from the Aural Punctum, and the subsequent investigations of digital voices in the 21st century (Vinyl 6 and the Conclusion). Ultimately, while the territories of performance, media studies, and death studies are traversed, interrogated, and intersected across the work, the contributions to knowledge are primarily in the domain of sound studies.

There are, however, additional contributions to knowledge in the audible form that the thesis takes too, and the manner in which it has been created and delivered offers a rumination on how we receive knowledge and the manner in which it is transmitted, and in reading the work aloud there is something of a remediation of reading taking place for the listener. Conventions of written theses have been played with, with timecodes supplied on the PDF version, and aural phenomena documented as stage directions. These records contain performances of my voice—and the voices of others—and the specific interaction of practice and academic prose as performed across the records represents a particular contribution to knowledge.

The presentation of the knowledge as a collection of records, too, represents a new contribution to knowledge; I have endeavoured throughout this project, wherever possible, for content to mirror form and the final artefact itself represents part of this. The submitted form of the thesis contains theory and practice and is, in itself, practice, and has been chosen as the preferred medium because of its resonance with the subject of the research.

Reviver Voce - Introduction - Side A

If you are reading this, I have one request: please do not. I have presented a written form as required by the University of the Arts London regulations, but the thesis has been compiled and written with the intention that it is listened to. In accordance with the UAL regulations there is a printed version, but you will note that it has additions that pertain to the preferred medium: each LP is divided into sides A & B, timecodes sit on each page, sound effects are written, and other aural phenomena have been detailed in words as thoroughly as possible. You can still read it, of course; you can ignore the timecodes and silently read the written words that make up the document, but it is important that I vocalise this plea. It is also important to note that because these records deliberately push the limits of record length, they can only be listened to in full on manual turntables. If, for any reason, your record player cannot play these in full, I have provided a link to all of the audio—digitised from a record player—in the submission.

This is *Reviver Voce*. A deliberate verbal play on the term *viva voce*, the Latin phrase meaning, ‘By word of mouth; in speech; orally.’ (OED 2020) Fittingly, it is a pun that works better when spoken aloud, but this title has not simply been selected for the wordplay and the direct reference to the defence of a doctoral thesis. Mladen Dolar, in his discussion of the political role of the voice, observes that the ‘*viva voce*, or just *viva* . . . has to be made “in the living voice” (2006: 110). It is this distinction of “the living voice”—and its implied suggestion of a “dead voice”—that cuts somewhat to the core of the title of this research: this work confronts the revivification of voices in recorded media, reassessing the relationship between technology, the voice, and death, and considering the ideological implications inherent within this emergent realm: the voice’s position within this act of (often digital) revivification, for whom the bell tolls.

[A bell rings]

That bell will make sense later. As the spoken voice is central to this research, this thesis is contained on vinyl, largely—“but not entirely”—spoken by me. The introduction and subsequent chapters are presented on separate pressings, each side around 25 to 30 minutes in length. My practice, too, is submitted on this physical, audio-only medium, as well as my list of references,

extracted names from verbal participant consent forms, and any required corrections (a sleeve which is, currently, empty): the primary submission of my thesis concerning the voice, technology and death is this collection of 33 ⅓ rpm, long-play records—as well as an additional 7” EP as an addendum to Vinyl 3. Due to the non-standard nature of this thesis of records, this introduction is conveniently—perhaps inevitably—split into two parts: Side A begins with an overview of how the thesis functions, before examining its audio-only nature, and vinyl as the chosen medium. Side B then discusses the content of the records in more detail, outlining each vinyl and my practice, before providing a road-map on how to engage with the discs.

This collection of records primarily contain my voice, speaking deliberately scripted words, that have been recorded in a variety of locations according to the substantive themes of each vinyl, from a variety of takes. I will “speak” these words, rather than “read” them, but Italo Calvino’s consideration of pace is important:

Listening to someone read aloud is very different from reading in silence. When you read, you can stop or skip sentences: you are the one who sets the pace. When someone else is reading, it is difficult to make your attention coincide with the tempo of his reading: the voice goes either too fast or too slow (1979: 58)

My intention is to keep the pacing acceptable, and easy on the ear, though the constraints of the medium will occasionally have a bearing on this. Additionally, these discs also carry snippets of interviews I have conducted, donated voices of the living and the dead, recordings from radio and television programmes, occasional music, and sound effects. Where possible, in the interests of accuracy, if the originating medium of a citation was (or carried) audio, these quotes have been supplied as they were spoken.

In order to conform to certain academic standards, citations that adhere to Harvard style guidelines are contained throughout and—as you have already heard—quotes from texts are spoken by donated voices, with a different person providing their voice for each theorist or publication. I have endeavoured to match the theorist’s gender with the speaker, as well as the number of authors (with some exceptions in the name of clarity for longer and/or multiple quotes). The multiplicity of donated voices, and each person’s idiosyncrasies of pronunciation,

inflection, timbre, tone is important: this study is not about one voice but the voice and voices more broadly, it is correct that the thesis is a collection and celebration of a wide variety of these. To aid navigation of the work, a copy of the spoken text is also supplied as a script, this carries timecodes at the top and bottom of each page (commencing at 0:00 for each side of the record).

Sections of this side of the introduction have also been given additional sub-headings (beyond the more physically apparent Side A and B), and, largely by way of emphasis, pronouncement and space, these are set apart from my other words. Like so...

Giving Voice

At every turn throughout my research, I endeavoured to be led by the process, and through reading and practice—whether working with audio recordings taken immediately prior to death, creating a digital voice through snippets or speeches, capturing the words of a motor neurone disease sufferer—I steadily came to the realisation that a text-based submission for my doctorate would be fundamentally incorrect: it is a work about the voice and sound, mere writing is insufficient. I do not seek to “do down” the written word in this assessment, it is simply not the right form for this work; to vocalise the words speaks more accurately to the core of my thesis, as it engages with the space of technology and death through the spoken voice: it needs to be vocal, rather than visual. There is a dominance of the visual in our everyday language, as recognised (among others) by Don Ihde:

Only the briefest survey shows the presence of visual metaphors and meanings. When one solves a problem he has had the requisite insight. Reason is the inner light. There is a mind’s “eye.” We are enlightened when informed by an answer. Even the lightbulb going on in a cloud over the cartoon character’s head continues the linkage of thought with vision (2007: 9)

Ihde’s argument is a persuasive one—you might find yourself agreeing, thinking, “I see”—and speaks to the normalising of sound as a phenomenon: it becomes everyday and there is no audio equivalent of a sunset. The sound of the sea [SAMPLE: The Sea], for instance, whilst possessing its own, sonic beauty, is so persistent and ever-present that the ear can quickly tune it out. Any audio equivalent of the “spectacle” requires investment over time: it cannot be distilled to, say, a

photograph. Even with fireworks [SAMPLE: Fireworks] the sound arrives mid-way through the cooing of the crowd, sneaking in, almost apologetically, slightly late.

Using my voice (and the voices of others) to articulate my findings in this area allows me to capture what writing cannot accurately capture: the uniqueness of the spoken voice. When researching Spanish folk songs, Federico García Lorca observed that ‘it is not possible to copy down the songs on music paper; it is necessary to collect them with a gramophone so as not to lose that inexpressible element in which more than anything else their beauty lies’ (in Chanan 1995: 11). It is this “inexpressible element” that audio will allow me to capture. The voice can expose meaning that transcription may not: consider how the intention of a sentence, even a word, can pivot on how it is spoken. “That’s really good” and “That’s really good” carry a difference marked by vocal tone but cannot be distinguished on the page.

This medium brings the voice to the fore, as Rudolf Arnheim observed of radio: ‘the abolition of the visual is no artificial cut, but a natural consequence of technical conditions. The visual, if it must be had, must be painfully constructed in the imagination’ (1936: 152). The visual—in this form—is abolished, its absence aids this study. That said, the notion of committing my voice to a recording does not delight me, but is, I think, a necessity. Steven Connor, in his examination of the history of ventriloquism, wrestles with the ‘discomposing effect of hearing back one’s own voice as others hear it’ and, with reference to research by Philip S. Holzman and Clyde Rousey from 1966, points to the reason that our own voices so perturb us:

The suggestion is that, in listening to our own voices under normal circumstances, we are continuously monitoring them for signs of what we might be letting slip about ourselves. This is necessary precisely because of the extreme expressiveness of the voice (2000: 8)

It is both the expressivity of the voice and the “letting slip” that contribute to a vocalic submission as the preferred form for the thesis. This unconscious revealing is something only the voice allows, as Friedrich Kittler notes, ‘the bureaucratic medium of writing would be subject to the filtering and censoring effects of a consciousness’. He goes on: ‘Only technological media can record the nonsense that . . . technological media brought out into the open’ (1999: 89). The work has certainly still been written, but by recording my words and supplying the research

vocally, I am speaking to the core of the subject by utilising this breath-based bodily emission. Manipulated patterns of air shaped by my corporeal form: my lungs, my chest, my vocal cords; moulded through my accidents of geography: my class, my upbringing. These qualities cannot be communicated in a written transcript, ‘The written medium simply will not tolerate all of what actually goes on in oral speech. It has rules. If you cannot fit what you want to verbalize into the rules of writing, you are obligated not to write it’ (Ong 1967: 115). The sound of my voice could be described—did somebody say “mellifluous”? Oh, sorry, “middle-class”: I misheard—but this would be reductive and remains difficult to imagine for the reader. The notional “neutrality” of my accent—which I will call into question on Vinyl 3—is problematic. Michel Chion observes that ‘so that each spectator can make it his own, the voice must work toward being a *written text* that speaks with the impersonality of the printed page’ (1999: 54), but my intention is to speak with personality, to capture *my* voice (whatever that is) across this collection of records.

I am standing in front of a microphone, documenting my words through a vocal performance. But what about my voice when I am supposedly not performing, when I am unaware of recording? The more candid vocalic expressions uttered in dialogue with everyday digital voices, such as: [SAMPLE] “Echo, please can you turn on the lights?” It might be possible to hear artefacts of the editing process, takes from separate days, directly speaking to processes of editing and redrafting normally concealed in a thesis submission. Through this audio-only submission, then, I can include my own mistakes (or perhaps, mis-takes), errors, truth. But my voice is not the only thing inscribed on these recordings, so too are sites of recording and other voices. As my research has developed, bereaved participants have communicated not just the importance of a voice, but also that voice’s resonance and presence within a space. A voice is always heard in a given space, and the voices of the deceased are never severed from the rooms in which they spoke, never bereaved of their acoustical context; the manner in which a given voice might have excited a room is of particular relevance to my enquiries and has seen me capturing the impulse responses* of certain spaces—ah, yes, that noise was an audio footnote, which corresponds to a number on the vinyl sleeve. Now back to the words... Reverberation in a

* An impulse response is a recording of the characteristics of the reverberation of a space, recorded by “exciting” the environment with a sound. By capturing this sonic impression, the reverberatory qualities of a place can be emulated.

room is often characterised as “dead” or “lively”, with reverb being used to ‘reanimate (or enliven) sounds that are dead’ (Stanyek & Piekut 2010: 32). As such, I have inscribed my words with the reverberation of sites that resonate with each vinyl’s subject matter: a crematorium when examining death, bereavement, and media; a theatre when discussing the voice as a performatic medium. These sites are not only geographical, they are also technological, and will see me recording a vinyl on the history of voice in relation to media utilising an answering machine (so often a space containing seemingly innocuous vocalic legacies); and the “dead space” of a recording studio when discussing posthumous vocal expression. Personal resonance is also at play, with a vinyl considering the vocal *punctum* recorded by my father, and this introduction (as well as Side B of the conclusion) recorded in my home. In order to imbue these records with these particular acoustic contexts—sonic qualities that it is impossible to communicate with the written word—there is a need to submit my thesis chapters in audio form.

Vinyl Destination...

Audio-only is one aspect of this, but why vinyl? Why insist on an analogue medium for the thesis when I have already conceded that the act of vocal revivification is often digital? The answer is multifaceted, but primarily concerns areas that again speak to the kernel of my research: the medium’s longevity, mortality, lineage, technological constraints, and its physical nature.

In submitting my thesis, it is critical it can be engaged with long into the future. As I intend to submit my spoken voice, it makes sense to do so in the form that can still be played in years to come. Media formats have developed and changed across the years, and it is all too easy to point to examples of formats that have become obsolete: Betamax, MiniDisc, and HD-DVD. Even media storage not immediately lost in format wars is not immune to the creeping wave of obsolescence, with VHS and Mini DV falling foul of technological advancements.

Yet the record, in existence in roughly the same form since the turn of the 20th century, has not been a victim of these, and, indeed, has enjoyed something of a resurgence in a world of invisibly downloaded and streamed audio. *Wired* magazine proclaimed in 2007 that ‘Vinyl May

Be Final Nail in CD's Coffin' (a headline that would have been greeted with bafflement in the late 20th century given the dominance of the compact disc), and more recently the music industry has seen 'vinyl revenue [growing] by 12.8% in the second half of 2018 and 12.9% in the first six months of 2019, while the revenue from CDs barely budged' (Leight in Rolling Stone 2019) and 'UK vinyl sales in 2020 are the highest since the early '90s' (Richards in NME 2020). While I concede that no physical format comes close to the dominance of digital audio, file types too, become redundant, and whilst the WAV file format has enjoyed a dominance since 1991, this does not come close to the endurance of vinyl. I am also cognisant of Jeff Rothenburg's statement from 1995 that, 'digital information lasts forever—or five years, whichever comes first' due to the fragility of digital storage (in *Scientific American*: 43). With relation to technology and death, I would like to commit my thesis to a format that has the potential to outlive me: etching it on to vinyl makes this more likely, and I may be dead when you listen to this.

The artefact of humanity that is currently farthest from the Earth is the space probe, Voyager 1, launched in 1977. Beyond extensive scientific equipment, the precious cargo contained on board Voyager 1, and its twin launched in the same year, Voyager 2 (the second most distant human-made object), are identical copies of *The Golden Record*, 'a 12-inch gold-plated copper disk containing sounds and images selected to portray the diversity of life and culture on Earth' (NASA N.D.), to be played at 16 2/3 rpm. The record contains greetings in various languages [SAMPLE], sounds of earth [SAMPLE], morse code [SAMPLE], music [SAMPLE], a recording of brainwaves [SAMPLE], as well as images with their data written as waveforms [SAMPLE]. There is a neat parallel between the appearance of the records currently traversing through space and our own spiral galaxy: Paul Beatty observes in his novel *Slumberland*, 'the dust particles clinging to the shiny black vinyl like stars to the desert sky, I realized that in my hand I held a dusty twelve-inch microcosm of the Milky Way' (2008: 127).

Whilst the Golden Records themselves are representationally enormously problematic, with artist Connie Samaras observing that the records, in their erasure of historically sidelined communities '[privilege] elite white male American/Eurocentric culture where women's bodies are depicted as reproductive vessels, non-Western communities are timelessly portrayed as outside of

technology and where whiteness and heterosexuality are naturalised because, once again, they are not commented upon' (1997: 208), the medium is less so. The records themselves are equipped with a stylus and diagrammatic instructions (with numbers written in binary) for playback of the audio, as well as instructions for decoding the images. The records will, almost certainly, outlive the human race, and 'it was calculated that, excepting a direct collision with micrometeoroids or other space debris in our Solar System, the records might remain intact for a billion years' (Impey & Henry 2013: 92). As playback technologies have evolved and developed over the intervening decades, a record might have seemed a redundant technology as CDs began to dominate as an audio format in the 1990s; yet no tape-based or digital technology could possibly outlast the record, with its eminently readable waveforms etched on to its surface. There was, as observed by Ann Druyan (who compiled the audio contained on the record), a granting of 'eternal life' (93) in the selection process of the sounds and voices contained within: being included on a record that will outlast humanity.

Yet my records only have the possibility of surviving me; they are not, after all, made of gold. There is a fragility to vinyl, deftly summated in Travis Elborough's *The Long-Player Goodbye*, his love letter to the LP:

These simple procedures . . . are fraught with possible dangers. Spinning this wheel is a game of chance. Nothing is entirely certain. One false move and it could all go horribly wrong. (2008: 2)

This physical, corporeal, medium—as well as its process of playback—requires care. A record's groove has, as observed by Richard Osborne, a 'mortality' inherent to it. It was 'the first means of preserving a 'record' of sound; however, the groove itself also needed to be preserved' (2012: 8). The requirement to safeguard, to sustain and care for this fragile medium in order to continue to hear what is contained upon it—what it can speak—is an opportunity to marry form and content in the format submission: this medium can die. Digital information's hypothetical immortality does not serve the thesis, but the life (and passing) of vinyl does: '[Analogue records] have been thought of as living things. The main reason? Because you can play them to death' (Osborne 2012: 22). The medium, to an extent, is the message, or, to paraphrase Clement

Greenberg, the medium has become the content of my research (1939: 16): existing in this form—a mortal, coil of audio—affords my voice the capacity to die, steadily, through playback.

Death is palpable in perhaps the most well-known image of a record being played, as Nipper, ‘a chubby black-and-white fox terrier’ (Gelatt 1977: 87) listens, obediently—and perplexed—to his master’s voice emanating from a gramophone. But why play the voice from a record? Sebastian D.G. Knowles’ *Death By Gramophone* provides the evident answer: ‘It’s additionally useful to remember something that would have been immediately obvious to a Victorian audience for Barraud’s painting: the dog’s master is dead’ (2003: 7). Indeed, mortality is writ large across the medium: like a life, the inscription of a record is linear, what is ahead cannot be read until the moment it transpires, it spirals (with a sense of increasing speed) towards an inevitable, known, conclusion, there is a marked deterioration in quality if it is longer than expected, followed by a subsequent, unending silence. Analogue recordings are analogous to life in that they *degrade*; they carry something of their previous plays on them, and last longer when looked after properly. If, as Friedrich Kittler states, ‘Record grooves dig the grave of the author’ (1999: 83), they are also analogous to the nature of existence. Yet grooves go beyond this: they trace a direct lineage to the first recordings written into smoked glass, tin foil, and wax. All the dead voices that have been inscribed before now, from Thomas Edison’s ‘phonograph’ (‘voice-writer’) onwards (Chanan 1995: 1).

In ascertaining the voice’s status in relation to technology and death, it is incumbent upon me to interrogate the constraints of various media environments within the thesis. As discussed, a digital audio format offers infinite life, but beyond this it also contains infinite possibilities, particularly infinite length. However, I am much more attracted to the prospect of having technological constraints imposed upon my submission by the chosen medium, with form not just mirroring, but elucidating the content of my thesis with relation to the effects of a given recording medium. Vinyl is not, of course, the natural home for this kind of audio: records are usually filled with music rather than the spoken voice, but that expectation, too, is appealing: might this record be found, one day, at a car boot sale? Found, played, and required to speak in my absence. These spoken chapters will be subject to a strict word count, and the timing and rate of my speech is critical to the work: not too fast, and not too slow. Physically, a record has two

sides, and can only be an absolute maximum of 30 minutes per side; this allows me roughly 8100 words across each LP* (around 4050 words per side) without seriously inhibiting the audio quality (though the quality will be noticeably inhibited by the length at points). My thesis and the records contained within it work according to the boundaries of this analogue playground, utilising the affordances of the medium, and working with the physical nature of it.

At this stage on the record, if not before, you will have started to hear a noticeable loss in the audio quality, as we cross the temporal threshold of around 25 minutes. Here is that bell again: [Sound of a bell]. The higher frequencies, most noticeably, have begun to degrade, with this degradation becoming steadily more pronounced as the side progresses, and the needle nears the centre of the disc: my esses, specifically, will start sounding significantly sonically spoiled. Sad. It is most noticeable with an “ess” sound, as an obviously high-frequency component of language. The innermost curve (which carries the higher, or fast, frequencies) is becoming tighter and tighter, and as the difference between the two sides of the groove becomes more pronounced, the sound quality will continue to deteriorate quite considerably—but remain audible—towards the end of all of these sides of vinyl, particularly those that get closer to twenty-nine and a half minutes. It would be possible for me to undertake some measures to correct this, such as boosting the higher frequencies in audio editing software or speaking words with fewer esses in them. Fidelity, however, is not the focus here: I am more interested in the effect and recognising and embracing this deterioration as part of the form: capturing the vinylness of vinyl through its technical imperfections.

However, there is—inevitably—another side to vinyl. It is all very well to consider the creation of work for, and etching audio on to, this physical format, but there is, of course, the act of listening. Each record will dictate my thesis to the listener, containing two half-hours to each vinyl, demanding a tactile act of turning each record over in between. Elborough’s observation that ‘to listen to an LP is to acknowledge our mutual decay’ (2008: 17) through the shared passage of time is particularly pertinent to the reception of this research. Seán Street observes that ‘a recording is temporal; it has to be experienced in terms of time. As we passed through

* This assumes 3000 words every twenty minutes, revised down by 10% to allow for a more nuanced delivery.

time when we made it, so we must pass through it again as we listen' (2015: 79), particularly as the medium means that is not straightforward to skip to specific sections. Vinyl makes demands of the listener: it is not portable, it insists on a time and an indoor, private, place, requiring a specific, standalone piece of technology to listen to the audio contained within. This combination of factors situates you, the listener, in a way that no other domestic audio medium does, insisting on the enactment of a physical encounter in time and space as you place the needle on the record. It is likely that your record deck has a particular set-up, possibly connected to a good amplifier and speakers, and—though I cannot say this with absolute certainty—that you listen to these considerations of death in your living room. These records, in their constitution, playback, and through being listened to, speak more clearly on my chosen subject than writing could.

Please turn over for Side B: across the course of which I will detail the layout and contents of this thesis.

Reviver Voce - Introduction - Side B

My research represents a study of the voice and its relationship to technological developments and bereavement: what our voices mean to us, to one another, and in relation to the state of death in this ever-changing space. For over a century the dead have “lived on” through audio recording, initially on glass plates and wax cylinders, but with each advancement in sound recording and media storage, we see new uses for the deceased and the bereaved. The voice, as a unique identifier of a person and their life, is entering new territory in a world of hypothetical digital immortality where it is possible to digitise one’s vocal characteristics. My process of redefining this area sees a reciprocal relationship between theory and practice: written on vinyl and being informed by, and testing, theories around the voice, recorded media, and death. Any reflections on these theories will be reinforced by my practical analysis of the field and any and all discoveries made through these. As a consequence, I do not dedicate specific chapters to my practice, rather, the practice is imbricated within these spoken words and the production of this audio submission, and sampled across the records. I approach this field from a theatrical perspective, framing the voice as an inherently performatic medium.

Humans have been able to record—though not play back—the voice since the advent of the phonograph around 1860, a machine that, ‘produced tracings of sound on a sheet of smoked glass when sound entered the mouthpiece’ (Sterne 2003: 31). The subsequent refinement of this technology into Edison’s phonograph prompted *Scientific American* to pronounce that ‘Speech has become, as it were, immortal’ (1877: 304). This ability to record and hear ourselves back fundamentally changed our relationship with our voices: no longer ephemeral and vanishing at the moment of production; exclamations, coughs, pronouncements, stutters could all be played back, listened to, interrogated. Since this time, recorded voices have outlived their human vessels, inscribed into analogue and digital media; sentences recorded, sentences played back. Yet now, the technology to reconstitute these voices, to digitise them, and have them speak independently of their bodies is becoming ever more commonplace: companies such as the Acapela Group offer their customers the opportunity to, ‘Preserve your own voice as synthetic speech’ a process they describe as, ‘voice banking’ (Acapela Group 2021).

Yet, while society quickly became accustomed to the playback of recorded voices, the digitising and reconstitution of voices to speak again still seems to strike us as futuristic, somehow unlikely, even though we occupy a world that now contains a cacophony of digitally synthesised voices: Siri, Alexa, Google Assistant, Cortana. Shouts of, “Hey Siri!” and “OK Google,” have become oddly commonplace in our everyday lives. Despite this normalisation of digital voices in Western society, our collective understanding of the digital voice still primarily stems from popular culture. Notable examples are HAL 9000 from *2001: A Space Odyssey* and KITT the artificially intelligent car from *Knight Rider* (even *E.T.* somehow keeps the Texas Instruments Speak & Spell within this domain), and these voices from science fiction, bereft of corporeal form, still dominate our thinking around what a digital voice constitutes. These examples stem from the latter half of the 20th century, but experiments with speech synthesis—that, in reproducing sound, heralded concepts like the phonograph—have existed since the late 18th Century, with pioneers such as C. G. Kratzenstein and Wolfgang von Kempelen undertaking research in this field (Hankins & Silverman 1995: 178). These inventions could produce simple sounds, certainly, but although based on the human form, something was not quite right; Mladen Dolar states that ‘the machine nevertheless kept producing effects which can only be described with the Freudian word “uncanny”’ (2006: 7). This uncanny effect, although taking place here in the late 18th century, has remained as speech synthesis moved to ever more sophisticated electronic text-to-speech generators. It is important to clarify, given that my research sits at the interface between life, technology, and death, that I will focus on speech synthesis and digital voices that were originally modelled on a real person—a lived life—rather than physical modelling synthesis (voice sounds generated by an algorithm). Even Stephen Hawking’s seemingly utterly synthetic—and, indeed, trademarked—voice was modelled on samples recorded by the researcher Dennis H. Klatt (not the voice of the British Hawking, hence the American voice). These concatenative voices, as they are known, which stem from a lived existence, are the digital voices that I will focus on later in my research.

In looking at the conflict between corporeal mortality and digital immortality, there is a need to examine and define what posthumous opportunities emerging technologies offer to the human. In Western society, we define and understand how we live according to the technologies of the day: each and every aspect of our lives is permeated by a technological presence. What something—

in this instance, the voice—might mean to us is contingent on our relationship with it and this relationship is altered and negotiated by technologies. For the voice, this relationship, since the advent of sound recording, no longer ends at the point of death. There is an emphasis in literature on the subject about preserving a moment, or what it is to preserve a moment, such as Roland Barthes' *Camera Lucida*. Whilst that text is a consideration of photography, I will be utilising and extrapolating from it into other media and transitioning from visual to aural. We are moving towards a space of preserving a life through the increased capabilities of new media—and the application and uses of these—to preserve a lifespan as opposed to a moment. But what is this captured life? How can it accurately speak to the life lived? My point of departure is, I suppose, departure: what is the voice in this realm?

Across this series of records—the first of which, the Introduction, you are currently listening to—the spoken voice will be laid bare, and Vinyl 1 begins this investigation of the voice. My own voice is the only one I know how to use, and I have deployed it to make noise for thirty three years (in a neat—but coincidental—nod to vinyl, I record these chapters aged 33 and a 1/3). Side A begins with examinations of the voice, drawing from and building upon the writings of Mladen Dolar, Steven Connor, and Anne Karpf—among many others—in unpicking the voice's nature and examining its simultaneous status as a communicative tool and intensely personal—even utterly individuating—attribute: the voice represents a manifestation of personhood that is performed vocally, but also speaks to individual histories. It is a tool used to communicate meaning, yet carries meaning within its constitution, beyond these words being spoken. The voice is far more than words on a page, more than inflection contained within the speaking of words: our voices are a testimony to our lived experience. The voice, as a vessel through which we identify and are identified, captures clues to our pasts within it, containing and carrying the characteristics of a person's past and present: the voice *lives*, and this “living voice” is examined over both sides of the record. As a phenomenon, the voice occupies a unique place for people: it is not tied to the visual or appreciated by the eyes, yet it is a presentation of the self. This presentation tallies with many definitions of performance, and the vinyl is dedicated to demarcating the voice as a performatic medium. The latter half of Side A grounds the voice as a medium, utilising definitions of theorists such as Raymond Williams, Marshall McLuhan, and Walter J. Ong—and others—to situate it as such. Having reached this sturdy grounding in media

theory, Side B examines the voice—this medium—through the field of performance, deploying Diana Taylor’s conception of the “performatic”, that is ‘to denote the adjectival form of the nondiscursive realm of performance’ (2003: 6). Tying the voice to the body, and thus performance—and given the breadth of this field, and that everyday activity can be read as performatic—I put forward several targeted definitions and demonstrations of the voice as performance, building on the words of Elin Diamond, Diana Taylor, Marvin Carlson, Richard Schechner, and Peggy Phelan. The voice, in its broadest sense, is affirmed as a performatic medium. Steven Connor states:

What a voice, any voice, always says, no matter what the particular local import may be of the words it emits, is this: this, here, this voice, is not merely *a* voice, a particular aggregation of tones and timbres; it is voice, or voicing itself. Listen, says a voice: some being is giving voice. (2000: 3-4)

But is this true in a world of digital, synthesised voices? It may now be the case that some being *has given* voice, undertaking hours of recording as part of a “voice banking” procedure. The Acapela Group, an online voice preservation service, state that their My-own-voice product, ‘can already be performed in up to 10 languages’ (Acapela Group 2021). Their use of the word “performed” is interesting: at what stage is the performance? Are there multiple performances? Through and between these discussions of media and performance theory, having examined the “living voice” across the course of the vinyl, and in subsequent examinations of Diana Taylor’s conceptualisation of archive and repertoire, the living voice’s “other”, the “dead voice”—when it has been performed and is preserved—is proposed, defined, and interrogated. Our voices—in either manifestation—are a performatic medium of vocal expression and ourselves, which I will outline on Vinyl 1 through the lenses of media and performance studies.

The oral signs within any voice can be heard and interpreted, and collectively it is understood how they reveal themselves within the spoken word and what they might mean. It is this ability to carry more than the words spoken that sees the voice lend itself to the capturing and encapsulation of a life through recorded media. Yet the voice is a medium that disappears at the point of its reception: complex manipulation of patterns of air through time to generate meaning, dying in the moment of its inception. The disappearance of this mode of expression at the point of expressing meant that the ability to record our voices fundamentally changed the relationship

we have with them, not least by confronting us with the persistently curious phenomenon of hearing how our own voices sound to others, but also because these fleeting, momentary utterances could then be preserved, played, and replayed.

This seismic shift permanently altered the relationship people have with their voices. I take this as the tipping-point for my second vinyl: the moment at which we encountered our voices differently. I will be analysing this history and technological lineage alongside the ideas of media theorists, beginning on Side A with musical automata of the 1700s as a historical precursor that paved the way for voice recording and the first dead voices. Journeying from these machines, to the aforementioned talking machines, via the telegraph, and to the telephone, this side of audio draws from writers such as Friedrich Kittler, and his analysis within *Gramophone, Film, Typewriter* (1999), and Jonathan Sterne's *The Audible Past* (2003), reviewing the influences of auditory technological developments in relation to society and societal concerns, evaluated with reference to the voice. This technological lineage is examined with reference to Bolter and Grusin's ideas in *Remediation* (1999), and how newer media and older media participate in a constant cycle of refashioning one another. This marks a significant consideration with relation to my research concerns as, 'In the digital domain, even death is now no longer a guard against the forces of remediation' (Chapple & Kattenbelt 2007: 52). This, ultimately, renegotiates our relationship with the voice and death. Towards the end of this collection of records, I bring in developments in artificial intelligence, and how debates and new information in this area inform how we read what it is to be human.

Having reached the first dead voices of the telephone, Side B of Vinyl 2 winds back chronologically to Édouard-Léon Scott de Martinville's phonautograph of 1857, the first device on which sounds could be recorded—though not played back—before driving on towards Edison's phonograph in 1877 and studying this crucial turning point in what the voice—in relation to a new technology—was capable of. The next touchstone on this side is the emergence of the tape recorder—not vinyl, as while the technology normalised the playback of recorded voices, it could not be recorded on to domestically—which came to the fore following World War II. After unpicking the developments that tape offered society—particularly its propensity to shift time and space—and its impacts upon the voice, a lineage is traced forwards to digital

recording technologies and the subsequent disappearance of a physical medium. Interwoven with more writings on the voice, in addition to histories of technology, Vinyl 2 charts this history of audio recording, voices inscribed into different media, and the creation of replayable dead voices—via gradual processes of remediation—and arrives at the 21st century, where these previously profound effects have now become everyday and instantaneous.

With the voice posited as a performatic medium, and an analysis of technologies relating to its capture having taken place, Vinyl 3 marks the start of more playful and practical examinations of the voice. Building upon the preceding two vinyls, this record acts as a kind of *Camera Lucida* for sound, examining the nature and presence of networked mediating technologies and how our understanding of these might impact upon the person in the moment of recording. In this territory, I interrogate the concept of the aural or vocal *punctum* and where it is located in recorded audio, examining the barriers to its access. In order to try and seek out the *punctum*, this Vinyl is read not by me, but by my father, who sounds like this: [SAMPLE] “Hello.” This allows me to evaluate a media artefact—in this case, sonic rather than photographic—of a parent as a means of tracing—if it is possible—the vocal *punctum*. Examination of this territory takes place across Side A—focusing on technology, professionalisation, accent, and performance—arriving at Jason Stanyek & Benjamin Piekut’s theory of *Deadness* (2010), and its crossover in this space. Side B sets out to find the vocal *punctum* in professional audio recordings, focusing on Radio 4’s late night programming, early Home Service documentaries and the Radio Ballads, and Janet Cardiff’s *Forty Part Motet*. Can the vocal *punctum* be found in these audio works, and if not, where is it located? Examining the voice in the moment of recording, the point at which configurations of air hit the diaphragm of a microphone, the nature of the vocal *punctum* is revealed across the course of this vinyl, and my own aural punctum is detailed on a separate 7” record.

Vinyl 4 continues these more practical interrogations of the voice, using Samuel Beckett’s *Krapp’s Last Tape* (1958) as a frame for this record, as well as drawing from the text to elucidate arguments around recording and vocal legacies, and the relationship between media and memory. Over the course of this vinyl, I utilise and sample from recordings from my past—a combination of VHS tape, cassette, and digital audio—as well as radio documentaries focused on

recorded voices: Séan Street's *Home Recorded Voices* (2008) and Clare Jenkins' *Dad's Last Tape* (2012). These samples are interspersed across the audio recording of the performance of this record—you will hear the sounds of tape-handling and movement—across which the 21st century relationship to media artefacts is scrutinised. Side A examines not just recording and the relationship between media and memory, but also the processes of editing in the 21st century—touched upon on the previous Vinyl—both before and after the record button is pressed. Side B continues these investigations, but with a focus on the physical media artefact, particularly in relation to death, and considerations—ahead of a more detailed assessment on Vinyl 5—of the sound *in* and *of* space, utilising my experiences from making *Bleed*, a piece of live binaural stand-up comedy that I co-created with Edinburgh Comedy Award winner Jordan Brookes and producer Bríd Kirby. Returning more avowedly to the structure of *Krapp's Last Tape*, the record concludes with another examination of a home recorded video from my past, and my subsequent—fiery—reflections upon it in relation to the vinyl's focus of media legacies, memory, and the presentation of self.

Where, until now, death has been present but spoken about in more hushed tones, it announces itself on Vinyl 5, across which samples from recordings with the dead and the living are played: structured interviews taken ante-mortem with the dying, a last answerphone message, as well as interviews conducted and testimonies contributed as part of this research project. Much of Vinyl 5 focuses on Bill Mitchell, the former Artistic Director of Cornish landscape theatre company, Wildworks, his posthumous legacies, and interviews I conducted with his widow, the artist Sue Hill, but death, and philosophical considerations thereof, comes into sharp focus. The enlivening properties of the voice—that still endure in recordings—are examined in relation to funeral practices, where the deceased's voice is notable by its absence compared to the presence of other media artefacts, which are acknowledged as form of mediated afterlife and a means of persisting posthumously. Side B focuses more particularly on Bill Mitchell's enduring legacies, his artistic works, his funeral, his gravestone (with its gap for Sue), but especially Bill's Attic, a physical space which was Bill's studio. I endeavoured to immortalise this space through ambisonic recordings, audio capture of items from Bill's collection of toys and objects, as well as the creation of impulse responses to recreate the room's reverb with all of the objects contained within it. My process—and barriers to the recording—are documented here, but additionally, as

part of the vinyl—particularly in my analysis of the voice, sound, space, and reverb—I bring you, the listener, to Bill’s Attic. This is done by means of the recorded ambisonic audio from September 2019, a convolution reverb, and a pair of headphones, before returning to the dead in western societies in the 21st century and their position as an amassed collage of media artefacts.

Having now firmly arrived at death, Vinyl 6 examines the status and place of vocal legacies of the deceased. Previous explorations in this area have offered interesting results, most notably Stanyek and Piekut’s discussions in *Deadness*, which suggests a lexicon of terminologies that speaks to effects of the dead after the fact of recording and how these phenomena constitute themselves. These terms are not without their uses, with words such as ‘intermundane’ and ‘recombinatoriality’(2010; 14-38) proving valuable, but they speak to the products of professional recording. So too, Tony Walter’s analysis of communication media in relation to death, which, curiously, passes over the voice, referring only to the fact that ‘voices are firmly lodged in collective memory’ (2015: 226), with no reflection as to why. Neither theorist offers a great deal around the considerations of sound recording’s *uses* prior to death nor after. I will be unpicking the suitability of a word that refers to the potential revivability offered within sound recordings of the voice, speaking to an aliveness through audio in death. On Side A of Vinyl 6, I propose a theory of *intermortemity*: referring to the distinct properties of sound and its posthumous reanimation of the deceased. The spaces in which we encounter the dead are changing: they are no longer confined to the “real” world but appear in digital spaces too, often unprompted. This blurring of boundaries between the living and the dead (as well as the analogue and the digital) in digital culture is examined—with particular reference to Joseph Roach and Elizabeth Hallam & Jenny Hockey—before explicating the *intermortem* as a purely sonic phenomenon in its coalescence of audio artefacts and memories. Side B takes this new theory further, applying it to celebrity and, particularly, the death of David Bowie and his innumerable audio legacies. In this, I examine the personal connections his fans had to—and *through*—his music, and the resultant parasocial—‘one-sided, mediated’ (Gach et al 2017: 47:2)—relationships. Following the application of the *intermortem* to Bowie, other effective presences—whether social media accounts, or posthumous releases—of dead singers are assessed, before the record culminates in a brief examination of the text-to-speech world of the digital voice ahead of the concluding vinyl.

There is a theoretical immortality to digital technologies: the photo no longer degrades, audio no longer deteriorates, and we can see early examples of these interacting networks of the dead in social media spaces, in which we are increasingly building digital monuments to the deceased. The amassed digital artefacts from which these monuments are built lend themselves not to death, but to an extended un-lived digital life: the state of death has not changed for the deceased, but the technology exists and is developing to blur this distinct boundary, this end of existence, for the living, the bereaved. The digital death is a field that is coming under increased scrutiny, and rigorous analysis as our relationship with dying has been altered by digital technologies. Elaine Kasket's analyses of death in digital culture, and Facebook's role in bereavement, is particularly pertinent here, examining how users interact with the platform, and the observation that interactions with the deceased in private or public digital environments suggest that the users feel it has a connection to an afterlife, more so than the physical world. The investigation of death in relation to digital media conducted by Michael Arnold, et al. also proves insightful in considering these posthumous interactions. The state of death has not changed, obviously, but new media and technological developments have fundamentally changed—even remediated—death, and are continuing to change how mourners interact with the deceased, collective grief, and posthumous legacies. Side A of the final vinyl begins with a focus on digital voices—[SAMPLE] 'including my own digital voices that I created for this research'—and voice-based technologies' preference for non-accent as both input and output. The vinyl winds onwards, widening the focus to consider the ghostliness of digital technologies more broadly, including social media, the Roman Mazurenko chatbot (a digital avatar built through the digitisation of correspondence sent by the now deceased Roman, created in his memory), the *Black Mirror* episode "Be Right Back" (2013), and extending existing discussions around technologically enabled posthumous futures and their relationship with imaginary media. Side B of this concluding vinyl brings these examinations to a close, briefly continuing arguments from the previous side regarding thanatechnologies, before reflecting on the shared journey across this collection of records, the processes of their creation, the vinyl pressings as artefacts, and the record contains my last words (on this subject, at least).

This series of records should be listened to in order and they have been composed to be played in succession. While it is possible to play them in any order, each builds upon its preceding vinyls,

and have been arranged as such. There is a process to the series: Vinyl 1 rehearses the voice, Vinyl 2 sets up the recording, Vinyl 3 is the point when the voice hits the microphone, Vinyl 4 reviews the takes, Vinyl 5 plays these back in death, while Vinyl 6 and the Conclusion are what follows dying: as with life, death comes later. Further examples of my practice are contained on the practice vinyl, consisting of longer form versions of audio works referenced and sampled across this series of records (the contents of which can be found on its sleeve). These can be listened to at any stage, but I suggest that they are played at the end, or following the records that specifically refer to them. The Reference List disc contains me speaking my list of references according to Harvard style guidelines, while the Participant disc is a record of all of the names—where consent was given—from spoken participant consent forms: those who have so kindly donated voices, stories, recordings, and interviews.

The voice—in every recording—is fundamentally changed and changing, but it is how this change is manifested in relation to technology and death that precipitates the need for this study. Presented as a celebration, and preservation, of the voice—with over 190 speakers—across a collection of vinyls, this study—through examinations of the voice as a performatic medium, how technological advancements have changed people’s relationship with the voice, questions around the aural *punctum*, the nature of recording, preservation, and memory, death and the voice in space, the *intermortem*, and the future of the living and dead voice—will reveal how people engage with their voices in the 21st century, and the status of the voice in relation to technology and death.

Vinyl 1: So to speak - The voice as a performatic medium - Side A

I begin with the voice. Why the voice? What is it about the voice that warrants such an investigation? And what, specifically, am I referring to across this examination of “the voice”. The definitive article feels misleading, as though I intend to venerate the idea of “The Voice,” but that is not my intention. There is no weight or emphasis here: no shouting, no short, sharp sentences, no undue stress on the voice. Instead I will dismantle this everyday tool and keep our voices approachable; reifying—in the sense that I will make it ‘more concrete or real’ (OED 2021)—rather than deifying the voice. The articulation of this thesis allows me to speak more directly to the subject, considering—even explicating—how I employ my own voice, or voices, across this vinyl (whether talking, throat-clearing, stumbling over words): reframing the voice more broadly, and not just my own, as a performatic medium. Over the course of this side I will introduce the voice and situate and define it as a medium. Side B will build upon this, delineating the performatic qualities of the medium, before reframing an amalgamation of the two: the voice as a performatic* medium, providing a theoretical framework upon which I will build.

The voice holds a fascination for me, due almost entirely to my penchant for accents and mimicry. This ability to impersonate people and replicate accents has both delighted and perplexed me since I was a child: what is it that affords me this? My background is in theatre and performance, primarily working as an actor, and any employment in this field can largely be attributed to my possession of this fairly elastic voice box: an ability to shift and manipulate my pitch, vocal tone, accent, freely and readily. What does my brain do as it kicks into gear to allow me to channel former Leader of the Labour Party Ed Miliband, for instance? [AS ED MILIBAND]: “That’s a very good question, and I’m glad that you asked me” (it had to be him or Alan Bennett). The science of impersonation and mimicry has not been widely researched, but neuroscientists examining the brains of people attempting impersonations have found that ‘superior temporal regions previously identified with the perception of voices showed increased

* Performance Studies theorist Diana Taylor ‘proposed the word “performatic” as an adjective for performance’ (2016: 120), and it is my preferred term in relation to the voice.

activation and greater positive connectivity with frontal speech planning sites during the emulation of specific vocal identities' (McGettigan et al 2013: 1884). Whilst impersonation

offers a fine demonstration of the powers of—and control within—the voice, mimicking is one small, slightly exclusionary (not everyone has an ear for accents that are not their own), aspect of vocal mastery people are able to employ. But any accent goes beyond a vocal tone, entering the world of speech patterns, breath, and, crucially, vocabulary. Seán Street notices ‘the human voice or voices, engaging us physically with where we are, the grain and timbre and dialect of the place, itself the genetic memory of streets, towns, counties, states, regions, countries and continents. Dialects are the subtexts and symptoms of the language, the variants that make us human and unique’ (Street 2015: 15). While the voice is more than words, the *choice* of words are integral to the character of a voice. How these words are said, too, matters: [raised voice] the voice can be raised, [soft voice] it can be softened to calm and reassure, [angry voice] it can be weaponised to cut and hurt (the voice is not always a site or communicator of pleasure). My brain and voice, inevitably, are inextricably linked, hijacking ‘a system designed not for speech but for eating and breathing’ (Karpf 2006: 23) in order to allow me this level of vocal control.

Yet this incredibly malleable instrument is also, curiously, something of a fixed entity: it is *my* voice, a singular thing. Whether impersonating teachers at school, affecting a regional accent for the stage, sitting on a board of trustees, or conversing with my friends, I have constituted my voice—curiously singular in spite of its multiplicitous nature—in numerous ways across my life. It is a tool I know uniquely well, and one I have utilised the flexibility of for a full thirty-three years. I record this vinyl in a building in which I have employed my voice—beyond the home—more than any other: The Poly in Falmouth. It is a small, 180 seat theatre in which I have performed countless times as an actor, but also addressed the Annual General Meeting during my time managing the venue. It is a space that has borne witness to different manifestations of my voice, each time with an audience. As I deploy my voice in the building now it is just me and a microphone: the empty space acknowledging the absent audience and hinting towards the potential for performance.

For the word “voice,” the Oxford English Dictionary provides the following definition:

Sound produced by the vocal organs, esp. when speaking or singing, and regarded as characteristic of an individual person (OED 2020).

My study aligns with the definition of voice offered here, however I focus my investigations on the spoken voice—not the sung, you don’t want me to sing—and while there is some consideration of paralanguage in terms of my framing of the voice, I am more concerned with the avowedly and intentionally communicative: the voice speaking words. That is not to say that a perfunctory sigh, an interjecting clearance of the throat, or a loud cackle are without expression or somehow unintended—they perhaps offer the listener greater clarity *because* they are unencumbered by words that might cloud or dilute intention and meaning—but across this vinyl, I will largely focus on the spoken voice as a phenomenon: unrecorded, live, ‘vibrations of air which vanish as soon as they are produced’ (Dolar 2006: 36), my voice prior to these words hitting the diaphragm of this microphone, and what we might term, with reference to the title of this thesis, the “living voice”.

Ahem. But a timely interjection on paralanguage is, perhaps, worth pursuing in my demarcation of the voice. Aristotle observed in *De Anima Book II*, ‘it is not every sound made by an animal that is voice,’ going on to state that ‘voice is certainly a sound which has significance and is not like a cough’ (1907: 90), but this is not so: the voice carries speech as well as all of these sounds. Paralanguage, originally defined by George L. Trager, consists of ‘pitch range, pitch control, rhythm control, tempo, and other phenomena’ (1961: 18), and is described by Trevor Wishart in *On Sonic Art* as the ‘other components (tone of voice, state of breathing, intonation, use of stress etc.) [that] enter into the conveying of meaning through language’ (1996: 113). The “other phenomena” and “other components” include coughing, laughing, sighing, crying, etc. Relegated to a linguistic “other” by a structured and ordered world, paralanguage is critical in communication and understanding, even though our bodies seem to prioritise words, ‘Our ears learn even more quickly how to ride over the coughs punctuating the speaker’s utterance’ (Appelbaum 1990: 11). Whilst the characteristics of paralanguage elude traditional linguistic and phonetic analysis and cannot be distilled to phonemes—even evading words themselves, with Kittler’s observation of audio recording that ‘Writing can write nothing of that’ (1999: 113) ringing particularly true in this instance—these components make up much of what is recognisable in a voice. How I alter the paralinguistic capabilities of my voice contributes to the reception of the words spoken: unfailingly, the pitch of my voice will indicate my level of

excitement, and when presenting I might alter my speed of delivery, slowing down my words to explicate a particular point: paralinguistics is critical.

However, while I am primarily concerned with the spoken voice speaking words, I am not necessarily interested in the words themselves: what is important is that a voice speaks and has spoken, rather than what has been said. This thesis is not a study of language and words, but the channel by which those words are carried, and if ‘speech provides a hiding place for one’s own voice’ (Appelbaum 1990: x-xi) then it is critical to go beyond this obfuscation. Nor, however, is this purely a consideration of *my* voice, I will speak more broadly than that (although often using my voice to frame and elucidate my argument). I am concerned with medium, not message, and the vocal characteristics contained within each individual manifestation thereof: what Adriana Cavarero describes as a ‘*vocal ontology of uniqueness*,’ her theory that ‘the voice manifests the *unique being* of each human being’ (2005: 178), examining the voice as the vessel through which people identify and are identified.

That vocal identification is through both language and paralinguistics, with Dolar observing that ‘We can almost unfailingly identify a person by the voice, the particular individual timbre, resonance, pitch, cadence, melody, the peculiar way of pronouncing certain sounds’ (2006: 22). This list of features of the voice—these points of identification—are both linguistic (“pronouncing certain sounds”) and paralinguistic (“pitch” and “cadence”). However, Dolar goes on: ‘This fingerprint quality of the voice is something that does not contribute to meaning, nor can it be linguistically described, for its features are not linguistically relevant’ (Ibid). These fingerprints allow for identification, as the voice ‘[leaks] information about our biological, psychological, and social status’ (Karpf 2006: 10). Equally, this cannot necessarily be described only *paralinguistically*: the ‘fingerprint quality,’ the level of detail to which Dolar refers, demands an intimate and total knowledge of a given voice. This “quality” is perhaps incumbent upon a deep personal connection to a voice, as it does not “contribute to meaning” in the traditional sense; instead, the meaning is generated from a pre-existing relationship. The listener is, of course, critical in this relationship—the detailed identification cannot take place unless that voice is heard—and Michel Chion observes ‘The ear attempts to analyze the sound in order to extract meaning from it—as one peels and squeezes a fruit—and always tries to *localize* and if

possible *identify* the voice' (1999: 5). This extraction and identification of this vocal fingerprint could likely only be heard by the ear of a close friend or family member, or—impersonally but inevitably—a machine, with a number of U.K. banks using the voice as a form of authentication for telephone banking. Lloyds Bank ask customers to confirm their identity by dictating the words “My voice is my password,” secure because ‘your voice is like your fingerprint and unique to you’ (Lloyds Bank N.D.). It is important to note that I do not have a bank account with Lloyds and sampling that sentence will not result in any identity theft, but the dictation (even performance) of the passphrase is likely tonally fairly identical each time it is demanded: consider how uniform the delivery of interactions with voice interfaces can be with calls of “Hey Siri,” [SAMPLE: Siri SFX] for instance, hitting much the same cadences each time. Speakers attune their voices in these moments to the machines, but as voice recognition technology develops further this shaped “limitation aware” delivery will become increasingly unnecessary. Detailed vocal memories are not only familial, but increasingly algorithmic.

Walter Ong notes of the voice, ‘My voice really goes out of me. But it calls not to something outside, but to the inwardness of another. It is a call of one interior through an exterior to another interior’ (1967: 309). His observation reads similarly to the Shannon-Weaver Model of Communication: the message beginning at information source, to transmitter, to channel, to receiver, before it reaches its destination (1948: 379-423). The voice is both transmitter *and* channel, and can be both message *and* “noise”, that which can interfere with the reception of the intended message: there are many things between my voice going out of me (my interior) and its reception by the other interior which can massively impact upon what is received. This is paralinguistic and speech and everything in-between carried by the voice, the combination of which results in a connection: to other people and/or technologies.

As this series of records goes on, you too will inevitably develop a connection to my voice. That connection, obviously, is purely vocal: I am deliberately not videotaped, you cannot see me or my mouth in relation to my words; this is my voice in isolation, what Michel Chion in *The Voice in Cinema* identifies as an *acousmatic voice*—building on Pierre Schaeffer’s coining of the term in 1952—or an *acousmêtre*: ‘When the acousmatic presence is a voice, and especially when this voice has not yet been visualized—that is, when we cannot yet connect it to a face’ (1999: 21).

While Chion's writing primarily relates to the voice in film (an audio-visual medium), his considerations of the voice are still of relevance to this work—bereft of the visual as it is—because they rise above the visual distraction of cinema, often consider the voice phenomenologically before situating it in film, and—in this instance—consider an absent body. In speaking to you via vinyl, I am insisting on presenting myself as an acousmètre, rather than, say, appearing via a series of VHS tapes. The written form of a thesis—in this instance my accompanying transcript—is also something of an acousmètre: containing words without body. Writing—like speaking—is still a corporeal practice, but the body, the self, is often removed in academic writing as though it is strictly neutral; the notion of the written word is that it is somehow shorn free of the ideology of the person that is writing. Chion describes the effects of the acousmètre in film as ‘the ability to be everywhere, to see all, to know all, and to have complete power. In other words: ubiquity, panopticism, omniscience, and omnipotence’ (1999: 24), effects that resonate with academic writing. Additionally, there is something “God-like” about the acousmatic voice, due to the absence of my body. Particularly if I [pitch-shifted down by 3 semitones] deepen the sound, or [reverb added] add reverb.

Yet I do not want these effects of the acousmètre (although seeming to know all would be a handy byproduct), my aim is not to be neutral or simply words. I am giving my voice: reading aloud, but endeavouring to “speak” the words rather than “read” them, as I—hopefully—articulate something of myself on this recording, within and without these sentences; if this is my voice preserved in a delicate but potentially immortal medium, I would, perhaps egotistically, like these discs to carry a hint of me and my “living voice,” what composer Meredith Monk describes as ‘The voice as a manifestation of the self’ (cited in Banes 1987: 166). The effect of the acousmatic voice, too, has waned, ‘Radio, gramophone, tape-recorder, telephone: with the advent of the new media the acousmatic property of the voice became universal, and hence trivial’ (Dolar 2006: 63). This trivialisation, this everydayness, of the acousmètre, blunts its effects, and ‘all we see is some technical appliance from which voices emanate, and in a *quid pro quo* the gadget then takes the place of the original source itself’ (Ibid). In “taking the place” of my body, perhaps my voice on vinyl is closer to Steven Connor's definition of ventriloquism ‘in the larger sense of the separation of sounds from their source’ than acousmatic (2000: 22). There is, however a sense that all voices are somewhat ventriloquial, as argued by Slavoj Žižek:

an unbridgeable gap separates forever a human body from “its” voice. The voice displays a spectral autonomy, it never quite belongs to the body we see, so even when we see a living person talking, there is always a minimum of ventriloquism at work: it is as if the speaker’s own voice hollows him out and in a sense speaks “by itself,” through him (2001: 58)

The “spectral autonomy” of the voice that Žižek describes will come back to haunt this vinyl and subsequent ones, but any voice—including the “living voice”—is, by its very nature, acousmatic: even if you could see my mouth, it cannot make sense of this guttural, vocal emission when I speak (brought to the fore through Mouth’s isolation in Samuel Beckett’s *Not I*); over time we simply become accustomed to each person’s way of speaking. Whether an acousmètre or ventriloquial, I am aware that my voice here is recorded and dictated: I am not affording an unrecorded voice greater status, or suggesting it is somehow purer, but asking how can this—or indeed any—vinyl possibly capture the “living voice,” the voice that lives and dies in the same moment? Perhaps it cannot; over the course of this record we will see, or rather, hear.

But on to the voice—“living” or otherwise—and its status as a performatic medium. I am interested, firstly, in asserting the voice in toto as a medium, and targeting my definition of it in relation to this term. I begin with medium before performance because the performatic qualities of the voice are grounded in it *as a medium*, rather than it being a medium because of its performatic nature: the marginally sturdier foundations offered by the word “medium”—rather than the more slippery and ephemeral nature of “performance”—are a good place to begin, but additionally it represents the logical flow of the argument, as the qualities of performance arise from and exist in the voice as a medium rather than, say, any words uttered by it.

But what is meant by “medium?” The OED describes it as ‘An intermediate agency, instrument, or channel; a means; esp. a means or channel of communication or expression’ (2020), a definition that, while broad, encompasses our understanding of the term in the 21st century. However, Raymond Williams’ definition of “media” from *Keywords* is additionally instructive in considering and interrogating the term:

There has probably been a convergence of three senses: (i) the old general sense of an intervening or intermediate agency or substance; (ii) the conscious technical sense, as in the distinction between print and sound and vision as **media**; (iii) the specialized capitalist sense, in which a newspaper or broadcasting service - something that already exists or can be planned - is seen as a **medium** for something else, such as advertising (1976: 203).

It is important at this stage to note that I am not, as can happen in the convergence that Williams observes, conflating medium and technology; certainly, technological developments can result in new media and a medium can be shaped and defined by its constituent technology, but my title serves to explicate the difference: the voice—a performatic medium—and technology—utilised in relation to and in conjunction with the medium—are distinct entities. My considerations of specific media and the technologies pertaining to them will come later: this is voice unencumbered by modern technologies.

The resultant understanding we have of a medium is as a carrier of content or information for communication; be it a smile on a face, a handwritten note, or the more avowedly technological such as a radio play: the face carries the smile, the note carries the writing, and radio (a conflation of waves and receiver) carries the play. The voice is recognised as a medium, although as Shannon Mattern notes ‘our contemporary understanding of the term medium . . . presumes the presence of a technological intermediary’ (2017: 117) such as television or the internet, and with the “living voice,” no such technology intervenes: it is a “live” medium. Walter J. Ong describes the voice as ‘the oral medium’ (1967: 138), and Steven Connor, too, when speaking of the voice (though often avoiding the term “medium” perhaps due to his use of the term in the spiritual sense), discusses it in analogous terms, ‘I would prefer to call it ‘voice’, meaning by this a raw, quasi-bodily matter from which language will be made’ (2000: 31): recasting the speaker as sculptor, with the voice as their chosen medium (when speaking with intent). The voice, with reference to the OED definition of “medium,” is an ‘instrument’ of both ‘communication’ *and* ‘expression,’ and it is Williams’ converged definition of media that encapsulates our 21st century understanding of the term.

The “medium for something else” that Williams describes is common across definitions of medium and media. Marshall McLuhan describes a medium as ‘any extension of ourselves’ (1964: 7): if for a moment we divorce “the voice” and “the self” (if that is even possible), the voice, as a phenomenon that emanates from me and impacts upon the world, is already an extension of myself. He observes, like Williams, that ‘the “content” of any medium is always another medium,’ going on to assert that the ‘content of writing is speech,’ and that the content of speech is ‘an actual process of thought, which is in itself nonverbal’ (8). McLuhan’s observation is an enlightening one, but, in relation to speech and the voice, it is lacking. I am not suggesting that the voice takes precedence, but McLuhan’s definition simplifies it to “speech,” a purely informational and word-based medium, without a broader consideration of the voice (admittedly, not his stated aim in that chapter). Additionally, it is *written words* that are the content of writing (assuming it is not a script), with McLuhan later acknowledging ‘The widely separate characteristics of the spoken and written words’ (85): the intended medium is different and, as you can hear, requires different considerations. Speech is ‘Talk, speaking, or discourse’ (OED 2020), and is a different—for many reasons, but notably, live in production and reception—medium, that is composed for these factors, and with different effects and affects.

McLuhan’s dismissal of the voice, however, is not unsurprising, as Chion explains:

By what incomprehensible thoughtlessness can we . . . “forget” the voice? Because we confuse it with speech. From the speech act we usually retain only the signification it bears, forgetting the medium of the voice itself. Of course the voice is there to be forgotten in its materiality; only at this cost does it fill its primary function (1999: 1)

This confusion, or more accurately conflation, with speech serves to hide the voice behind words (as noted by Appelbaum). However, if we take McLuhan’s assertion regarding the content of media, then it follows that a given medium will also be contained within another: if we look upstream of speech, it is the voice that acts as the container and carrier for speech, and if the content of of any medium is another medium, the content of the voice is, *in part*, speech. But I have already spoken of the voice as much more than speech: the voice is pitch, volume, cadence, accent, the resonance of the body, and so on. Dismissing the voice as “speech” does not allow me to delve further: speech is further down the chain, it is the content of the voice. Looking

upstream of voice and considering *its* container—the breath—takes us towards the kernel of the voice as a medium.

The voice is carried and sustained by the breath: before speaking we are required to breathe in, indeed, statements about pointless vocal utterances refer to hot air, or wasting one’s breath. In his consideration of words (both written *and* spoken, in this instance), Ong brings us to the breath:

Though serviceable and enriching beyond all measure, nevertheless, by comparison with the oral medium, writing and print are permanently decadent. However vaguely, they entail some special threat of death. “The letter kills, but the spirit gives life” (II Cor. 3:6). The spirit (Latin, Spiritus), we remember, meant the breath, the vehicle of the living word in time.’ (1967: 138)

Ong speaks here of the “living voice” supported by breath (this recorded documentation of my voice, too, is “permanently decadent,” with death inherent to vinyl). Likely, in spite of no effort to edit it from this recording, you have not noticed my breath: the human ear is, as described by Michel Chion, ‘naturally vococentrist’ (1999: 6), it privileges the spoken voice. Don Ihde describes ‘[going] to the auditorium, and, without apparent effort, I hear the speaker while I barely notice the scuffling of feet, the coughing, the scraping noises’ (2007: 75), the same phenomenon has taken place here as you listen to me speaking in an auditorium. The ear plays its part but the technologies of recording my voice, too, are vococentric: the pop shield to eliminate plosives, and the Neumann U87 with its ‘natural sound and unique midrange presence [making] the ultimate vocal microphone’ (Neumann 2020). Breath grounds my voice in my body, and the side-effect of vococentric listening and recording in an audio-only medium results in an erasure akin to the acousmètre and the ventriloquist, Žižek’s “spectral autonomy” amplified: I become a voice speaking “by itself” without any acknowledgment or recognition of my containing body [Ciaran taps his body on these last two words]. There is, as observed by Valère Novarina, ‘a cleansing of the body in sound recording’ (1993: 100), which I will examine on Vinyl 3. This erasure is unhelpful to understanding the voice as medium: the breath and body are linked, my own breath—and, consequentially, voice—carries remnants of childhood asthma, and any voice captures clues to a person’s past within it: containing and carrying the characteristics of a geographical history, social class, medical history, recent or long-established wear and tear. Michel Chion offers this anecdotal evidence:

To make his E.T. speak, Spielberg used several voices, including an elderly woman whose voice was scarred by years of alcohol and tobacco, which gave her an inimitable hoarseness. Life, not technology, had done the work on this voice (1999: 171)

Invariably, life does “the work on” the voice, but life’s work is also *in* the living voice. This is what Roland Barthes described as “the grain” of the voice, ‘the materiality of the body speaking its mother tongue’ (1977: 182). Barthes’ assertions pertain to the singing voice, but Amy Lawrence states that ‘what he says regarding the space between the voice and language holds equally true for speech’ (1988: 9). The “materiality” that Barthes highlights is embodied, ‘it is not—or is not merely—its timbre’ (1977: 185), but closer to Chion’s example of a life contained within the voice, ‘The ‘grain’ is the body in the voice as it sings, the hand as it writes, the limb as it performs’ (188). Dolar supplies the following definition:

It is the material element recalcitrant to meaning, and if we speak in order to say something, then the voice is precisely that which cannot be said. It is there, in the very act of saying, but it eludes any pinning down, to the point where we could maintain that it is non-linguistic, the extralinguistic element which enables speech phenomena, but cannot itself be determined by linguistics (2006: 15)

This “material element” is embodied. However, the living voice as a medium is not an either/or (linguistic/non-linguistic), but both/and: it remains elusive, it both *is* and *goes beyond* words, but is grounded in the corporeal. Landing at the body in relation to the voice as medium takes us neatly to the performatic, as ‘performance offers a way to transmit knowledge by means of the body’ (Taylor 2016: 36). The medium of the living voice is rooted in life, in the body, and its performance—as I will examine on Side B—arises from these preconditions.

Vinyl 1: So to speak - The voice as a performatic medium - Side B

To the performatic elements of this bodily, breath-based medium, then. Herbert Blau states that ‘the voice can originate nowhere else but in the body, propelled by it and propelling’ (2002: 127). Barthes’ “grain” and Dolar’s “material element” arise from the body (either passively or actively): accent, pitch, speech disfluency, what Connor describes as ‘its individuating accidents of intonation and timbre’ (2000: 38). Guy Rosolato describes the voice as ‘the body’s greatest power of emanation’ (1974: 76): it is bodily in both production and reception, ‘the voice emerging from the resonant body as the body resonates in the voice’ (Stanyek & Piekut 2010: 31). Perhaps, then, recording technologies and the ear are not so much “vococentric” as “lingocentric,” diluting the voice to words and erasing the body’s existence in a voice, which I will come to on Vinyl 3. In grounding the voice in the corporeal, I will unite the seemingly disparate entities of this performatic medium. The term “performatic” comes from performance theorist Diana Taylor, ‘to denote the adjectival form of the nondiscursive realm of performance’ (2003: 6), this is rather than using “performative” as a term, which ‘is not, as some use it, the adjective for the word “performance”’ (2016: 120). In relation to the voice, too, “performative” has a distinct meaning which could cloud my argument: performatic, as a term—and its encompassing of the theatrical, the everyday, the unknowingly performed—is the correct one.

Inevitably the performatic goes well beyond the theatre, although the voice is obviously critical to theatrical performance and within theatre spaces, and this side is again recorded in the same empty theatre. In *Training for the Stage*—a somewhat haughty text on the technique of acting from 1952—the “Voice and Speech” chapter, amongst numerous exercises to unify breath and body and vocal warm-ups to ensure ‘Correct Voice Production’ (Birch: 3), states that ‘It is essential in the early stages of your work to listen to yourself . . . Are you aware of all the means by which changes are made in the voice?’ (11) These vocal changes, the manipulations Birch describes, are actively undertaken by means of the body. Voices are tied to each individual, bodily site of vocal production, with Michel Chion asserting that, ‘Real embodiment comes only with the simultaneous presentation of the visible body with the audible voice, a way for the body to swear “this is my voice” and for the voice to swear “this is my body”’ (1999: 144). In my aforementioned acousmêtric presentation, then, I have separated my voice from the body. In

severing my voice from its corporeal referent, is “real embodiment” impossible? The lack of the visual renders a complete image impossible, but as Steven Connor states, ‘The voice is a tone immaterial—it is energy and not substance—and full of the sense of the body’s presence (its warmth, elasticity, and sensitivity). It is the ideal body, or the body idealized’ (2000: 41). My body remains present in my voice—indeed, my voice may be purer for the absence of my body—and embodied vocal characteristics are still carried: Barthes’ “grain” of the voice persists, even when it is bereft of a body.

The body is uniquely tied to the voice and performance. Diana Taylor is correct to assert that ‘the body . . . occupies a privileged site in performance’ (2016: 117), it carries the various media by which performance is transmitted. However, this is by no means a recent revelation, Helen Spackman observes that ‘The emphasis on the body in the performing arts is not of course something ‘new’ - indeed the physical presence of performer(s) doing something live in the presence of spectating others, traditionally constitutes the most fundamental prerequisite of any theatrical event’ (2000: 6): like the voice, performance is contingent upon the body in both production *and* reception. As a consequence, our voices occupy a unique place for us, in part because, as Anne Karpf observes, ‘We’re both the originators and hearers of our own voice’. Through this aural affirmation of one’s identity, she suggests, ‘it is not only the (f)act of vocalising but the audio-feedback too which, together, play an important part in creating our sense of self, our idea of ourselves as a person in the world’ (2006: 31-2). The voice is—introspectively—a constant act of auditioning, in both senses of the term: listening and examination. Through our voices we establish, in part, who we are: the voice sits at the core of our sense of self.

But the voice does not simply assist with the creation of this sense of self, as Steven Connor observes it actively transports it *beyond* the body:

Nothing else about me defines me so intimately as my voice, precisely because there is no other feature of myself whose nature it is thus to move from me to the world, and to move me into the world (2000: 7).

This “movement” into the world is a curious one (in performance it is a word one might much more readily associate with the body), because whilst I have established that the voice is inherently and traceably “bodily”—the voice as a medium is ultimately shaped and created by the body: the lungs, the chest, the vocal cords, it cannot exist without it—the voice has no perceptible form and does not “move” in a traditional manner. There is no tangible evidence of its existence: it occurs and vanishes in the same moment (unless captured by means of recording). Mladen Dolar in *A Voice and Nothing More* observes that ‘The first obvious quality of the voice is that it fades away the moment it is produced’ (2006: 59)—even alluding to this characteristic in the book’s title—but in spite of having no physical form it is impactful: the voice is expelled from the mouth and ‘at the same time see and hear its effects upon the world’ (Connor 2000: 3). These effects might range from everyday conversation—“Excuse me.” “How are you keeping?” “Return to Truro, please.”—to the more obviously life-changing—“Look out!” “I love you.” “How do you plead?” Yes, the language used and carried by the voice is key, but at each turn participation and engagement in the world and with others is through this “living” voice, and while having no physical remnant is a key characteristic of the voice, its influence is profound. In this space, ‘The voice occupies a liminal status in relation to the body as a whole—as often neither/nor as either/or’ (Keller in Weiss 1996: 23). There is something that the voice both is and isn’t, simultaneously: it is a product of the body, but it isn’t within the body; it “is” in its sounding, then suddenly it “isn’t”; and it “is” and it “isn’t” across audio technology (as I will examine on later vinyls). These areas are, in some sense, connected by the voice, particularly in death: the dis/embodyed, the ethereal, and the digital tied up in a spectral autonomy.

The voice is concerned with presenting oneself to, and positioning oneself in, the world, in a fleeting form that dissipates as it is created. It is these features of the medium of the voice—presentation, interaction, and disappearance—that particularly resonate with definitions of performance and the performatic. In demarcating it as performed, however, I am not suggesting that this renders the voice somehow artificial. Elements of it can be, of course ([NORTHERN IRISH ACCENT] when I affect a Northern Irish accent, you recognise it as fabricated because of what you already know of my voice), and the voice is a critical tenet of theatrical performance, but while the level of control that people have over their voices aids the performance of them—

‘While embodied practices and attitudes are learned and enacted daily in the public realm, this does not mean that they are necessarily theatrical, put-on, “pretend,” or conscious acts’ (Taylor 2016: 31)—the voice is inherently and always performatic.

It is critical, then, to define performance in relation to the voice. Elin Diamond offers the following distillation: ‘in the blink of an eye, performance is always a doing and a thing done’, as well as offering examples of performance including, ‘speech acts’ and ‘aspects of everyday life’ (1996: 1-2). Diamond’s framing of ‘doing’ (in the moment, transient, present tense) and ‘done’ (reflected upon, lasting, past tense) is a useful one: it recognises performance as impactful, both in its “doing” and after, performance is remembered—even recorded—as a thing “done”, occupying a pre-existing definition of what constitutes performance. The voice, too, is a “doing” and a “done”: as I speak these words, they have been spoken, and recognised and documented as “the spoken voice”. At the end of a life, a person is “done”. The critical element of this definition (and many definitions of performance) is the presence—and variations upon—the seemingly innocuous word “do.” To “do” is ‘The action of doing, or that which is done,’ whilst the definition of “doing” expands upon this, ‘attributing responsibility to a specified agent’ (OED 2020). This represents determination and choice on the part of the “doer” rather than, say, something that is involuntary or has “happened,” and Marvin Carlson’s statement that ‘human agency is necessary for “performance”’ tallies with this: it is ‘all activity carried out with a consciousness of itself’ that he describes as, ‘the difference between doing and performing’ (2004: 3-4). I choose, too, when and how to utilise my voice: to speak (except in certain cases, such as Tourettes) is a decision.

I am presented to the world through this vocalic “doing,” utilising my voice—and its accent, tone, pitch, and volume—for the purposes of communication; but any presentation demands an audience. A voice is seldom deployed in isolation, it is a tool which we use to communicate, and requires, even insists upon, the presence of another. Certainly, one can talk to oneself in the mirror or whilst undertaking a task (whilst composing this text, I have occasionally wittered to myself), but when alone the tendency is to keep our thoughts unvoiced. Carlson’s considerations of performance state that ‘these arts require the physical presence of trained or skilled human beings whose demonstration of their skill is the performance’, later reiterating that ‘the public

demonstration of particular skills is the important thing’ (2004: 2-3). The voice, too, is a skill that we are trained in. Schechner states that ‘everyday life also involves years of training and practice, of learning appropriate culturally specific bits of behavior, of adjusting and performing one’s life roles in relation to social and personal circumstances’ (Schechner 2013: 28-9). With the voice, the “public demonstration”, the “everyday”, is conversation, the ‘Interchange of thoughts and words; familiar discourse or talk’ (OED 2020): for this interchange, at least one other person must be present. Diana Taylor suggests that ‘Performance is a doing to, a thing done to and with the spectator’ (2016: 86) and, whilst spectator is perhaps too passive (and visually dominant a word for a consideration of the voice), when we speak with one another, we are simultaneously both performer *and* audience, reciprocating and responding via this vocal “doing.” But, crucially, at least one other person is present: the “doing” is being shown.

“Doing” is the activity of all that exists, from quarks to sentient beings to supergalactic strings.

“Showing doing” is performing: pointing to, underlining, and displaying doing. (Schechner 2013: 28)

Vocal expression through conversation—my voice given to others—is an example of this “showing doing” that Richard Schechner describes, or, perhaps, “speaking doing”. In this instance, however, I am speaking, but not conversing with another person: I am alone in a theatre as I record this. Is it still a performance? Taylor offers some clarity in this domain, ‘A performance implies an audience or participants, even if that audience is a camera,’ or, in this case, a microphone (2016: 19). You, as the listener, are the implied audience, or audience singular, albeit with an unspecified latency from transmission to reception, and I am giving voice (although not a living voice). Presence of a person is critical to that distinction: live reception ratifies it as a “living voice,” unprepared and in the moment. Additionally, this vinyl—while spoken—is read, it is not the “living voice,” it cannot be performed in the same way, there is a barrier, it is not free-flowing. The living voice requires the active participation of another. Indeed, that we talk of “giving” voice, also implies the presence of a recipient. We might choose to “give” our voice, but we can also “remain” silent. That one “remains” silent, suggests that silence, actually, is the norm: meaning that there is something slightly *abnormal* about the voice. The living voice, in its vanishing, is impermanent, but so too is its state of being: our voices are, ordinarily, off. Unlike the body from which the voice emanates, it is not already present.

The living voice's vanishing, or fading, takes us closer to the particularly performatic qualities of the voice. Peggy Phelan, in *Unmarked*, observes of performance:

Performance's only life is in the present. Performance cannot be saved, recorded, documented, or otherwise participate in the circulation of representations of representations: once it does so, it becomes something other than performance. To the degree that performance attempts to enter the economy of reproduction it betrays and lessens the promise of its own ontology. Performance's being, like the ontology of subjectivity proposed here, becomes itself through disappearance (1993: 146)

The ephemeral nature of performance that Phelan outlines tallies with the impermanent qualities of the living voice that have been outlined across this record. Phelan goes on to state that 'the performative speech act shares with the ontology of performance the inability to be reproduced or repeated' (149), but this inability to be repeated goes beyond the performative speech act and is true of the living voice more broadly: it exists only in the moment of its sounding, although it may reverberate both literally and figuratively. The voice more broadly can, of course, be recorded (on this vinyl, for instance), but the living voice cannot.

Phelan's observations regarding the ontology of performance—and their resonance with the living voice—brings me to the voice in relation to Diana Taylor's definition of the archive and the repertoire. She states:

The rift, I submit, does not lie between the written and the spoken word, but between the archive of supposedly enduring materials (i.e., texts, documents, buildings, bones) and the so-called ephemeral repertoire of embodied practice/knowledge (i.e., spoken language, dance, sports, ritual) (2003: 19).

Taylor's distinction is not as essentialist as Phelan's—recognising that the archive and its "enduring materials" have a place in performance—and proves particularly useful in relation to the voice. Taylor defines the archive as 'documents, maps, literary texts, letters, archaeological remains, bones, videos, films, CDs, all those items supposedly resistant to change' (19), whereas the repertoire 'enacts embodied memory: performances, gestures, orality, movement, dance, singing—in short, all those acts usually thought of as ephemeral, nonreproducible knowledge' (20). My living voice, then, is repertorial and embodied, whilst this record (and the recorded

voices contained upon it) is archival. Yet there is a co-mingling of archive and repertoire, they ‘usually work in tandem and they work alongside other systems of transmission’ (21) as ‘scenarios are transmitted both through the repertoire and the archive’ (62), the two working together: not either/or but ‘different, though intertwined, systems of knowledge’ (298). My repertorial voice, for instance, is a regurgitation of embodied *and* archival knowledge (accrued from and shaped by a range of archival artefacts, enacted repertorial experiences, and embodied knowledge). The process of recording and editing, too, demonstrates this reciprocity in microcosm: I listen back to the takes and adjust my performance as archive informs repertoire, informs archive, informs repertoire... [Fades out beneath following text]. Taylor’s two definitions, however, seem to necessitate the making of a crucial distinction between the living voice and this recorded other, although like archive and repertoire they are inextricably intertwined. It is tempting, given the focus of this series of records, to demarcate any recorded voice as a “dead voice”: if the live, unmediated voice is the living voice, then all recorded voices are dead voices: preserved, inert, suspended in a kind of physical or digital aural formaldehyde. Geoffrey Scarre notes that ‘Finished things are a part of the past, inert and corpse-like’ (2007: 41), and Christian Metz makes a similar argument for the medium of photography:

But there [is] another real death which each of us undergoes every day, as each day we draw nearer our own death. Even when the person photographed is still living, that moment when he or she *was* has forever vanished. Strictly speaking, the person *who has been photographed*—not the total person, who is an effect of time—is dead (1985: 84)

The same is true of the voice in sound, as noted by Chris Cutler, ‘A recording may set an impossible standard of perfection; it may appropriate living music and compete with it in quality, convenience or accessibility; it may even seduce and satisfy – but it is dead. A recording is always of the past and must impose itself on a present that is obliged to adjust to it’ (2011: 12), Cutler’s final sentence eerily reminiscent of death and bereavement. Even though I might be physically alive, elsewhere, as you listen to this record, this is still a dead voice: the medium itself knows nothing of any substantive and irreversible change that may have taken place and that recorded voice can only be replayed; it cannot speak anew.

This is not to say that dead voices cannot be revived; they can be replayed, remixed, and we talk of how ‘reverb machines reanimate (or enliven) sounds that are dead’ (Stanyek & Piekut 2010: 32); the reverberatory characteristics of a room, too, might be considered “lively” or “dead”. The process of recording, according to Michael Chanan ‘conquers time and space [separating] the place and time of audition from the place and time of performance, paradoxically giving the experience of modernity a sound in the very act of preserving the voice that fades as it sings’ (1995: 19), while Jonathan Sterne notes that ‘Recording was the product of a culture that had learned to can and to embalm, to preserve the bodies of the dead so that they could continue to perform a social function after life’ (2003: 292). The temporal separation made possible by recording is important, but the distinction between the living and dead voice is not necessarily a technological one: the presence of the body at the point of production and reception is what differentiates between the living voice and the dead voice. The grain is audible, the traces of the body can be heard, but that is the critical distinction: a living voice can only be sited live in the body and, as with performance, the voice is concerned with reception and audience: as I speak these words, it is my living voice to me and anyone else in the room, as you hear it on vinyl, it is dead. To echo back to Taylor, ‘The repertoire requires presence: people participate in the production and reproduction of knowledge by “being there,” being a part of transmission’ (2003: 20). The living voice is a performatic medium that exists only in coincidence with the presence of its sounding body: I do not seek to place a greater importance on either the living or dead voices, but note the differences between them.

What, then, of live radio or the telephone? Neither medium is recorded, and both seem to contain living voices (albeit without co-presence), but both skilfully create the illusion of the living voice in constructing the notion of co-presence. In the knowledge that someone is speaking to you live, it is the simultaneity that suggests the notion of co-presence but ‘the telephone offers a very poor auditory image’ (McLuhan 1964: 292). The telephone carries much of the medium within it (any line is seldom clean, radio plays would swiftly switch the audio quality to that of a “telephone voice”), and while, according to Steven Connor, the telephone ‘could not only transmit articulate sounds, but also all the accidental noise of the voice, the sonorous excrescences which are incidental to the message, but nevertheless make up a voice’s individuating timbre’ (2000: 380), serving to suggest a closeness to another body, it does not overcome the audio quality: the

“grain” is present, but it is too grainy. Radio does not suffer from the same degradation in audio quality, and its illusion of the living voice is perhaps stronger for two reasons. The first, according to McLuhan, is imagined: ‘When the auditory image is of high definition, as with radio, we visualize the experience or complete it with the sense of sight’ (1964: 292). The second is more psychoacoustic; in his discussion of radio, Rudolf Arnheim describes the “dead” studio space:

in building studios meant for announcements, talks and musical performances, resonance is eliminated, out of a very proper feeling that the existence of the studio is not essential to the transmission and therefore has no place in the listener's consciousness (1936: 143)

Listeners would recognise the aural traces of a “lively” room, but in removing the reverb, the voice on radio adopts the reverberatory characteristic of the space it sounds within. Radio emerges into a room as uncoloured as it can be, it is ‘an intensely personal medium’ (Ducey 1993: 159), creating the *illusion* of a living voice. In *Around Naxos* Kaye Mortley argues that ‘the voice in radio is not disincarnate: it is its own body’ (in Weiss 2001: 162), but I would argue that it *implies* its own body. Radio stations and presenters use these vocal techniques (manipulating vocal proximity, warmth, etc.) to intensify the illusion, but voices received via the radio, too, are disincorporated, dead voices.

Both living and dead voices, however, are performatic media. The medium of the voice—and all the individuating characteristics contained within—is a uniquely malleable space that allows for remarkable manipulation. Steven Connor observes that:

If my voice is one of a collection of identifying attributes, like the colour of my eyes, hair, and complexion, my gait, physique, and fingerprints, it is different from such attributes in that it does not merely belong or attach to me. For I *produce* my voice in a way that I do not produce these other attributes. To speak is to perform work as any actor, teacher, or preacher knows, very arduous work indeed. The work has the voice, or actions of voice, as its product and process (2000: 3)

These identifying attributes—such as accent, timbre, tone—we might readily recognise as *medium*, whilst the voice’s production and manipulation is a *performance*. Connor goes on to

speak of the possibility of modifying the physical characteristics (eyes, hair, physique, etc.), ‘But these transformations modify certain given conditions. When I disguise my voice, I am producing something which is in the first place an active production and not a member condition of my being’ (4). The voice as an “active production” is already performed. Certain people may have greater control of their voices—shifting accent readily and at will—but extensive vocal control ([each of the following vocal tones are enacted] from a whisper, to a shout; calmness, to anger) is exercised daily. This vocal manipulation is not necessarily always conscious. Anne Karpf writes:

A 56-year-old South African man says of his long-term partner, ‘I can tell in her voice when we’re going to have sex, long before we go to bed. I know she’s up for bed, even if she doesn’t mention it - there comes an extra softness in her voice.’ (2006: 17)

That this vocal sign can be learned and interpreted, suggests that it has been enacted previously, and is a performance that Richard Schechner describes as ‘twice-behaved behavior’ (2013: 36), that is ‘behavior that can be repeated, that is, rehearsed’ (2003: 324) consciously or not. The distinction between what is medium and what is performed in the voice is not always clear cut (accents can be consciously and unconsciously performed), but this performatic medium collides and fizzes within and without the body. Herbert Blau states that ‘the rhythmic play of it should eliminate interferences that come from wondering which comes first, voice or body—the emphasis is on the voice as body language’ (2002: 128). The voice is an aural projection of the body: a person’s unaffected natural accent providing the stage from which, and the medium within which, it can perform, and its reception sits outside of the producing body. Diana Taylor neatly distils questions of medium in this territory:

Performance, even when understood strictly as live art, is always mediated. Works function within systems of representations, and the body is more than one media that transmits information and participates in the circulation of gestures and images. In this sense, it is the medium as well as the message. (2016: 60)

The “living voice” is one medium that the body can transmit through performance. This performance can then be recorded and captured as a “dead voice”. Both living *and* dead voices

display the “spectral autonomy” to which Žižek refers: we grow accustomed to people’s voices emerging from their bodies, but the growth in audio recording technologies across the late 19th and 20th centuries has seen the steady normalising of disincorporated voices speaking by themselves. The next vinyl examines the history of these recording technologies, and the media to which they record, investigating the audio crypts within which all dead voices are held.

[Sound of answerphone machine play button being pressed]

[Answerphone: (Synthesised voice) End of final message.]

[Play button pressed again]

Vinyl 2: “Please leave a message...” – The history of the voice in relation to technology - Side A

Hello! Again. Perhaps I should have started the thesis with this greeting, but in relation to technology, this word carries particular weight, as the greeting was popularised by the arrival of the telephone. In 1876 the carriage of voices by electric cable became possible for the first time, transforming how we thought about the voice, and separating it from its sounding body: the first dead voice (for now anyway). The telephone on its own represents an interesting example, because (unlike many dead voices) it disappeared, until, that is, the first click of the answering machine in the 1930s. I am recording this to a Panasonic Easa-Phone answering machine from the 1990s—[SAMPLE: synthesised voice saying] “Hello, we are not available now”—with its two tapes: one for the user’s voice greeting, the other for their callers’ messages. The answering machine itself is a site of innumerable innocuous vocal deposits, one of repetition, recording, and playback. Containing rehearsed, performed, and swiftly auditioned pre-recorded “greetings” that speak accurately to the user: a distilled 20 second manifestation of how they choose to present themselves. A great deal of anecdotal evidence points to this technology as a site of memorialisation, [SAMPLE] ‘When people haven’t got proper recordings they’ll sometimes make do with a last answerphone message’ (Jenkins 2012) and ‘recordings of deceased intimates maintained on telephone answering machines . . . are emotionally charged for many’ (Arnold et al 2018: 23). This compressed sense of self, a person reduced to a sentence; is this not why we might call an answerphone again and again if the speaker has died?

This vinyl focuses on technological developments in relation to the voice, from the 1770s to the 21st century, and how these advances, while stemming from the same phenomenological shift, change our relationship with the voice, this performatic medium, at each turn due to the devices

upon which the voice is recorded. I focus on domestic technologies in this arrangement, the technologies and media that captured the “everyday” voice, rather than the voice captured for wider distribution (a singer, actor, politician, etc.). These shifts in recording practices (rather than necessarily the phenomenon of hearing the recorded voice back) result in seismic changes at each turn, and the affordances of the medium all play their part. Across this side of the record the technologies I focus on are those that form important precursors to the capture and preservation of dead voices that commenced with the phonograph: examining technologies pertaining to the voice before transplantation and recording, moving through the point at which we crossed this vocal Rubicon (taking the telephone as the tipping point), before arriving at the phonograph. Side B traces this groove through time, examining how developments in audio technology, shifts from analogue to digital, and changes in practices and possibilities of recording, have continued to shape how we relate to the voice: I will analyse recording technologies (from the phonograph onwards), discussing these technologies in relation to media theory, philosophical and literary considerations of the voice, and how changes in technology alter the revivification of the dead voice.

It is very hard—with a 21st century mindset—to imagine a time before the voice—and audio more broadly—could be transported (with the advent of the telephone) or captured (the phonograph). Any documentation of the voice prior to the advent of recording existed only as writing, verbatim transcripts of what had been spoken; records of dead voices, in their way, but in a hugely reductive form, ‘the punctuation system of print is an attempt to fix meaning, which inheres not only in the words but in the inflections of the human voice’ (Crisell 1994: 104): the written word is still in service to the voice. In order to accurately listen back to oral speech, some means of capturing the voice was necessary, and, according to Jonathan Sterne, ‘followed innovations in other major nineteenth century industries like canning and embalming’ (2003: 26); if food and bodies could be preserved, then why not the voice too? Walter J. Ong charts technological developments in relation to the transmission of voice neatly:

There has been a sequence within this stage, too: telegraph (electronic processing of the alphabetized word), telephone (electronic processing of the oral word), radio (first for telegraphy, then for voice; an extension first of telegraph and then of telephone), sound pictures (electronic sound added to electrically projected vision), television (electronic vision added to electronic sound), and computers

(word silenced once more, and thought processes pretty completely reorganized by extreme quantification). (1967: 87-88)

Ong's sequence is useful, but considers only electronic developments. In relation to technology and the voice, there are critical mechanical precursors that should be considered, one of which is Musical Automata, particularly the work of Jacques Vaucanson:

In 1735 Vaucanson had begun to formulate plans for the construction of the first android, which was to be a life-sized figure of a musician, dressed in a rustic fashion and playing eleven melodies on its flute, moving the levers realistically by its fingers and blowing into the instrument with its mouth. In October 1737 the automaton was completed and exhibited first at the fair of Saint-Germain and later at Longueville. All Paris flocked to see the mechanical masterpiece with the human spirit; the press was extremely favorable, and Vaucanson was launched upon his career.' (Bedini 1964: 37)

Vaucanson's aptitude for the creation of automata was not limited to his flute player, he also created a pipe and tabor player (which required greater control of the force of the air into the instrument in order to produce the correct notes) as well as building a defecating duck, which could be fed and then, after a moment, shat for an onlooking crowd. As Jessica Riskin writes, 'Vaucanson's automata were philosophical experiments, attempts to discern which aspects of living creatures could be reproduced in machinery' observing that 'By imitating the stuff of life, automaton makers were once again aiming, not merely for verisimilitude, but for simulation; they hoped to make the parts of their machines work as much as possible like the parts of living things and thereby to test the limits of resemblance between synthetic and natural life '(Riskin 2003: 601 & 606). If the playing of the flute and a pipe and tabor could be mechanised, both instruments that demanded remarkable control of the breath—the spirit—to be played, why not the voice as an instrument?

Thoughts and experiments around the reproduction of the voice via automata had been taking place for many centuries beforehand but 'Between 1770 and 1790, four persons—the abbé Mical, Christian Gottlieb Kratzenstein, Wolfgang von Kempelen, and Erasmus Darwin—produced functional speaking machines' (Hankins & Silverman 1995: 186). These "speaking

machines” of the late 1700s* are an important marker for the voice in relation to technology, due to their ambition of replicating—via a series of pneumatically synthesised phonemes—speech. Each machine emulated aspects of speech production, typically by means of a bellows and artificial, mechanised glottises and lips. Kratzenstein created the earliest speaking machine in St. Petersburg in 1779 by mimicking vowel sounds through resonators that resembled the shape of the larynx for each vowel. Von Kempelen’s machine, the details of which were published in 1791, used a similar approach (instead manipulating a leather tube to synthesise the vowels), but crucially could also produce consonants using, ‘three levers on the box, two connected with whistles and the third with a wire that could be dropped onto the reed, [producing] *Ss*, *Zs*, and *Rs* (Riskin 2003: 619). Between 2007 and 2016, a replica was constructed at the department of Phonetics of Saarland University. Here is a sample of it “speaking”:

[SAMPLE] ‘Papa. Papa! Mama. Mama.’

And laughing:

[SAMPLE of replica laughing] (YouTube 2017)

The rudimentary “voice” it produces requires some work on behalf of the listener, and when unimpressed onlookers dismissed the achievement, Von Kempelen ‘claimed that it was not so much a speaking-machine as a machine that demonstrated the possibility of constructing a speaking-machine’ (Riskin: 619). Von Kempelen’s history in the field of automata is somewhat clouded by his creation of a mechanised chess-playing Turk in 1769, which was found to be fraudulent, but his speaking machine should not, argue Hankins & Silverman, be overlooked: ‘One was a complete sham—worthy of a place in a carnival sideshow (where it eventually landed)—while the other was the result of the most sophisticated research in physiology and phonetics of its day’ (1995: 196). Von Kempelen’s work was based on and in the human anatomy, but while these speaking machines worked at mimicking the human voice there was no

* There were discussions of speaking machines prior to the late 18th century, but we can be sure that the machines from the 1770s existed.

moist, warm breath to them. This voice was dry, compartmentalised codified components of sound: carried on mechanised air, not breath.

Certainly, these are not dead voices—they were never alive to begin with—but they had been modelled on voices and a socially constructed standard (in order that they might be recognised as producing speech), as well as speaking to a historic interest in capturing and replaying the voice. Walter Ong's previously discussed sequence might usefully begin with 'phonetics (processing of the oral word), speaking machines (mechanised processing of the oral word)' as two important technological stages in this process: the codification of components of speech and the uniform production of these components via pneumatic speech synthesisers. The speaking machines of the late 1700s 'nevertheless kept producing effects which can only be described with the Freudian word "uncanny." There is an uncanniness in the gap which enables a machine, by purely mechanical means, to produce something so uniquely human as voice and speech' (Dolar 2006: 7). Whilst the technology has advanced considerably since, the palpable uncanniness in speech synthesis still exists in 21st century digital voices (which I will come to on Vinyl 6). Further iterations of "speaking machines" were developed across the 1800s, but, crucially, these early mechanised mouthpieces brought the notion of a machine that could speak into the public consciousness with their displays at exhibitions across Europe.

The next technological stepping stone towards the telephone came in the form of the electric telegraph in 1844. The almost instantaneous transportation of the written word over vast distances (far greater distances than was previously possible with messages sent via semaphore) seemingly shrunk countries, indeed, it was declared by a Philadelphia newspaper in 1846 to have resulted in 'the annihilation of time' (in Sterne 2003: 146). With a human interpreter at either end, the telegraph imprinted Morse code—itsself a codification of letters—into long strips of paper. The recognised output from the telegraph began as these, primarily visual, paper-based series of dots and dashes, but there was a particularly useful byproduct of its printing process: sound. A series of clicks, not unlike the sound of teeth chattering, as the stylus was engaged and disengaged by means of an electromagnet. According to Jonathan Sterne, 'Once telegraphers started listening to their receivers, the receiver's script itself became a vanishing mediator: operators could simply listen to the machine, decode the message as they heard it, and then

discard the tape with the dots and dashes on it' (147). The benefit of “reading” the audio output—rather than the paper—was that the transcription was swifter and more reliable, ‘discerning messages more clearly and with greater speed’ (Ibid). Although at first an accident of the technology (although Morse’s original patent was for both the visual *and* sound telegraph), ‘By the end of the 1860s, sound telegraphy was the rule, rather than the exception’ (150): gradually—though unintentionally at first—words were communicated as audio.

These chattering, electromagnetic machines are not a world away from the speaking machines of the late 1700s. Certainly, they do not possess the human form that many of the speaking machines did (though required the participant of a human interpreter at either end), but the opening and closing of their mechanical jaw resulted in a distinct chatter that could be heard and understood by trained operators. Steven Connor states that ‘The most important aspect of the new talking machines was the substitution of electricity for breath as the motive power for producing and transmitting voice’ (2000: 377) and the “movement” from the mechanical to the electrical again hints towards the spectral: the medium’s creation and replication was no longer created by a visible, tangible mechanical process: it was becoming invisible. Capable of articulating, via an indexical code, up to around fifty words per minute, Morse code became a spoken language by virtue of sound telegraphy: these machines spoke with greater clarity than their forbears, the bellows-driven speaking machines. Their clicking carried only speech: no accent to speak of, no emotion, none of the distinguishing qualities of the human voice; The Times stated that the telegram was ‘the dry bones of correspondence’, capturing little of the writer and transmitting ‘mere messages’ (1877: 9). Sounded Morse code was a medium of pure information, but its lack of a voice left space for the reader to fill. Carolyn Marvin describes the actions of a defrauded Milwaukee widow in *When Old Technologies Were New*. The woman was courted by letter and telegraph, but was soon informed by her correspondent that ‘they would be unable to meet again before his departure, [and] he proposed that they should marry in a telegraphic ceremony’ (1988: 93). Shortly afterwards, as reported in *Electric World*,

the lovers were "married" by wire, the bride sending him, she said, “an electric kiss.” His reply came from England in the shape of a request for a speedy remittance of \$2,000 to help him in a business transaction. This was sent him and was followed by another request for \$1,000 (cited in Marvin 1988: 93)

Not unlike current email scams—which often target those looking for love, with headlines such as ‘Scammers target lonely hearts on dating sites’ (Hickey in *The Guardian* 2015)—the fraud was, as suggested by Jonathan Sterne, made easier by the medium ‘because of the phenomenon of *presence availability*’ (2003: 151), a term from Anthony Giddens describing factors of ‘forms of communication that that entail very small front spaces (relatively little available information) in relation to relatively large back spaces (lots of unknown factors)’ (2003: 151). These available spaces result in the gaps being filled by the imagination, and, as a consequence, ‘The telegraph is a good example of this phenomenon since the clicks of the sounder are the only information available about what is happening at the other end of the line’ (Ibid): it leaves the recipient the space for an imagined living voice. However, there is something more interesting at play in the telegraphed marriage ceremony: the “electric kiss”.

There were other examples of marriage by telegraph—including one that invited station managers in 1876 and saw the ceremony participated in by the telegrapher community (Marvin 1988: 94-95)—but the Milwaukee widow’s telegraphed wedding and particularly the “electric kiss” sees the telegraph fulfilling the performative ceremonial functions not just of the voice (in order for the marriage to take place, the vows must have been “spoken”), but also of the mouth. It was likely a relief for the telegraph operator that the marriage was not consummated by telegraph too—“DON’T STOP STOP”—but this tale of love and deception sees the telegraph legally acting as the human mouth: uttering an “I do” and sealing the marriage with a kiss. The shift from visual to sound telegraphy is a critical important aspect, and demonstrated the possibility of the transfer of information and communication by sound, but the orality of the medium is exemplified by these exchanged vows and corporeally marked by electric kisses. Any intimacy, though, was surely compromised by the presence of two—supposedly neutral—mediators in any exchange: the telegraph operators. Communication by an increasingly aural medium was possible, the next stage of carriage by electricity was surely the—seemingly—immediate voice.

This electrical carriage of the voice came in 1876 with the development and demonstration of the telephone, a tipping point regarding the voice’s relationship to technology. Alexander Graham

Bell's invention represented a huge technological shift, but was most easily communicated to the public, in effect, by a process of remediation, as articulated by Jay David Bolter and Richard Grusin:

No medium today, and certainly no single media event, seems to do its cultural work in isolation from other media, any more than it works in isolation from other social and economic forces. What is new about new media comes from the particular ways in which they refashion older media and the ways in which older media refashion themselves to answer the challenges of new media (1999: 15)

The new media—in this instance, the telephone—remediated, by way of refashioning, the old media—the telegraph. Like many new media have since, the telephone was easiest to describe in relation to a medium whose effects (if not the technological workings of) were, thirty years after its invention, widely understood; thus *Scientific American* described Bell's invention in a headline as 'The Human Voice Transmitted by Telegraph' (1876: 163). Indeed, the telephone owed much to the telegraph, and Bell's 'attempt to create a "harmonic telegraph" that distinguished variation of frequency in the electric current and enabled several messages to travel over the same wire simultaneously . . . entailed the germ of the telephone' (Hankins & Silverman 1995: 219). News of the invention travelled across the Atlantic, with *The Times* reporting on the seismic nature of the technological shift, declaring that 'A great change has come over the conditions of humanity' and 'Suddenly and quietly the whole human race is brought within speaking and hearing distance' (1877: 9). Via the telephone the first dead voices emerged—'Wherever phones are ringing, a ghost resides in the receiver' (Kittler 1999: 75)—and according to *Scientific American* they emerged 'So perfectly . . . that even a whisper is audible over long distances, and soft tones are even more distinct than loud ones' (1877: 199), arriving disincorporated but experienced as though 'coiled alongside your speaking twin, their lips pressed to your ear, and your lips murmuring into theirs' it was a 'miraculously moist medium' (Connor 2000: 380-381): it 'unites voice and ear in an especially close way' (McLuhan 1964: 290). The telephone attested to the presence of a body in a way that the telegraph never could: it carried not merely words but the sounds of the medium of the voice, the breath.

It is the disincorporating effect of the telephone that marks the critical technological change. No longer did communication refer to indexical signs, instead it carried an audible representation of

the person without their body; the audio quality would have been poor, but nevertheless ‘The known tones and inflections of the speaker . . . can be heard’ (The Times 1877: 9). The technical reasoning offered by Jonathan Sterne for this phenomenon is that ‘while telephone receivers do not produce the entire range of audible sound, we can recognize the voice at the other end of because we can hear the upper partials. Our brains then perform a bit of psychoacoustic magic, and we hear the rest of the sound, including the very low tones’ (2003: 64-65), these lower tones are the resonances of the body and chest, rather than the voice box. Whilst the breath, the key signifier of the body, was—and still is—present in the telephonic voice (by virtue of the closeness of the microphone to the mouth), the rest of the body could be imagined and created by the brain. The telephone, too, proves a useful example when asserting the voice as performatic: the performance—and difference—of the telephone voice. Upon answering a phone (prior to the advent of Caller ID), the receiver of the call did not know who was at the other end—who would hear their performed telephone voice—until the caller spoke. The difference between the telephone voice and the person can be heard via this sudden vocal shift.

The “conditions of humanity” had been fundamentally altered by the telephone’s invention, but seemingly citizens took this new development, this vocal/corporeal severance, in their stride: ‘The determination of some cultural historians to find amazement and anxiety at the coming of the telephone and the phonograph meets with a puzzling lack of evidence for cultural trauma . . . in many ways, the contemporary reaction to the coming of the telephone seems to have been “about time, too”’ (Connor 2000: 410). Mladen Dolar contradicts aspects of this, stating that ‘in the early days of their introduction there was no shortage of stories of their uncanny effects, but these gradually waned as they became common, and hence banal’ (2006: 63). The swift adjustment to their effects, though, was clear, and Connor, too, describes ‘the rapidly familiarized experience of communication by telephone’ (2000: 366). But this sense of impatience for the technology did not come from nowhere, why was it anticipated? Technologically, the groundwork had been laid: from speaking machines (a human form with a dry, sounded voice), to the telegraph (the “dry bones” of a written voice with no human form), to the telephone, uniting the moistness of the voice and its invisible—but sounding—body. The telephone’s effects were understood by the public by virtue of what had preceded it, but there was also a persistent belief in the spiritual nature of the technology, as discussed by Anthony

Enns. He states that the ‘strange, unearthly static produced by the telephone . . . for instance, presented a dilemma for early listeners, as these noises seemed to be real acoustic events yet they did not refer to any original sounds in the outside world’ and spiritualists framed this interference as ‘messages from the dead’ (2005: 13). This was not new, the telegraph, too had been framed as “other-worldly” by spiritualists, and during the 19th century ‘like the telegraph [and telephone], mediums themselves were understood as media technologies’ (Arnold et al 2018: 20). This connection to another realm, this unexplainable quality of new media, persists today (as I will explore later in this series of records), but the spiritual connection explains the ease with which the technologies were adopted by society, as described by Steven Connor:

The seance therefore doubles, or ghosts, the structure of hapto-sonorous hallucination which made the technologies of the telephone, the gramophone, the radio, and the tape-recorder, along with their contemporary refinements, so comfortable and familiar from the outset (2000: 392)

It was—and often still is—easier to dismiss the technology as other-worldly—possessing a spectral autonomy—than to understand the intricacies of its operation, but this does not mean a society does not understand its effects. From whichever realm the dead voices produced by the telephone originated, when it was first demonstrated these voices only existed “live” and remained unrecorded, but this was set to change with the emergence of the phonograph.

One year after the telephone was first demonstrated, the phonograph was created. The events of July 1877 are deftly described by Friedrich Kittler:

“Hullo!” Edison screamed into the telephone mouthpiece. The vibrating diaphragm set in motion a stylus that wrote on to a moving strip of paraffin paper. . . Upon replaying the strip and its vibrations, which in turn set in motion the diaphragm, a barely audible “Hullo!” could be heard. (1999: 21)

The invention of the phonograph by Thomas Edison was heralded by *Scientific American* but the article focused on very specific affordances of this new technology: the revivification of dead voices. The writing tells of a machine that allows the listener ‘once more to hear the voices of the dead’ promising that ‘whoever may speak into the mouthpiece of the phonograph, and whose words are recorded by it, has the assurance that his speech may be reproduced audibly in his own

tones long after he himself has turned to dust' (1877: 304). David Hendy attests to this, stating that 'it was the promise of immortality that excited people most' (2013: 256), a death-defying appeal that still resonates today. The opening paragraph from *Scientific American* closes with a sentence that still rings true in relation to recording and dead voices: 'Speech has become, as it were, immortal' (1877: 304). With the arrival of the phonograph, dead voices could finally be entombed.

Vinyl 2: “Please leave a message...” – The history of the voice in relation to technology - Side B

Societally, and technologically, the record button had been pressed. However, the phonograph—tracing a direct technological groove to the very record player you are listening to my voice using—did not emerge from nowhere; experiments in the capturing of sound had taken place for several years beforehand. Twenty years before Edison’s invention, Édouard-Léon Scott de Martinville’s phonautograph of 1857 was the first machine to be able to “record” sound, but it was simply a record that noise had sounded: his device ‘channeled human voice sounds into a conic metallic mouthpiece so as to vibrate a small synthetic membrane. A marker (Scott used a pig’s bristle) attached to the membrane would then produce a pattern of the sonorous vibrations—called, interestingly enough, a *logograph*—on a moving smoked-paper cylinder’ (McCance 2019: 85), with no means to replay these. Indeed, Scott’s etched waveforms went unplayed until 2008, when the First Sounds project converted ‘phonautographic wavy lines into bands of variable width and playing these back using software designed to handle optical film sound track formats’ (FirstSounds.org 2020). The earliest of these, known as ‘Jeune Jouvencelle’* (‘Young Maid’), is from the 17th August 1857:

[SAMPLE: *Jeune Jouvencelle* from FirstSounds.org]

From a 21st century perspective, it seems odd—given that people almost exclusively record things to play them back—that Scott’s etched waveforms were not intended to be listened to again. However, ‘Writing was the ultimate goal for Scott’ (Sterne 2003: 45), his aim was to transcribe ‘recorded sounds for visual apprehension’ (Feaster 2010: 43), evident in referring to the etching as a “logograph”; this was audio in a readable form that ‘would bear an indexical relation to speech rather than the abstract and arbitrary relationship to speech that typography was said to have’ (46). Scott’s machine used blackened paper attached to a rotating cylinder, upon which a stylus ‘attached to the membrane at the end of his conduit or funnel’ (45) would

* According to FirstSounds.org, ‘the fluctuations in cranking speed were so great during recording that the melody can’t be readily recognized from the uncorrected file’ (2008), which why it has not been transcribed.

vibrate according to the sound waves hitting the membrane and ‘made visible what, up to this point, had only been audible’ (Kittler 1999: 26). Playback and recording speed was not of concern, his particular focus was the trace, and what that would achieve in itself, although ‘Scott furnished his phonautograms with 250 Hz tuning-fork calibration traces’ (FirstSounds.org 2020); acting as a kind of timecode ‘the space between the turns of the “main” trace was dedicated to a second trace made simultaneously by a stylus attached to a tuning fork’ (Feaster 2010: 45) perhaps with a view to the possibility of future playback, indeed, Scott wrote of this possibility, ‘Will one be able to preserve for the future generation some features of the diction of one of those eminent actors, those grand artists who die without leaving behind them the faintest trace of their genius?’ (Scott 1857/2009), but his aim was for these features to be perceived and recognised by the eye, and not the ear, ‘Scott’s mind was still fixed on his belief that the printed transcription of speech—not the reproduction of sound—would be the greater benefit to civilisation’ (Hankins & Silverman 1995: 137); ultimately his intention was closer to modern day natural language processing. Scott’s phonautograph tracings were the first recorded voices, but only in 2008 did they become the first dead voices as they were played back and “given voice” once more: the telephone held that honour until then.

Scott’s phonautograph was an important technological development, and traced a path towards Alexander Graham Bell and Clarence Blake’s ear phonautograph of 1874. Their machine—by virtue of its use of the middle ear—is intrinsically tied to the body and lifted the human processes of hearing into a technological realm. It used the same principles as Scott’s—tracing the vibrations of sound on to a smoked glass plate—but instead used a human eardrum as the membrane, removed from a corpse. Jonathan Sterne writes that ‘it places the human ear, as a mechanism, as the source and object of sound reproduction. The ear phonautograph is an artefact of a shift from models of sound reproduction based on imitations of the mouth to models based on imitations of the ear’ (Sterne 2003: 33). The speaking machines—and their emulation of the mouth and larynx—were no longer the norm, and technology had moved towards the principles of the microphone diaphragm by focusing on hearing rather than speaking; the ear phonautograph grounds this distinction by way of the body, Bell and Blake ‘coupled technology with physiology, steel with flesh, a phonautograph with body parts. Wherever phones are

ringing, a ghost resides in the receiver’ (Kittler 1999: 75). Via the ear phonograph the dead forever resonate with the technological development of dead voices.

Before moving on to the phonograph, the words coined to describe these technological developments are of particular note, as observed by Jonathan Sterne:

The names for these machines were all hybrids of one sort or another: *phonograph*, *graphophone*, and *gramophone* suggest a mixture between speech and writing, *telephone* suggests the throwing of speech (2003: 50)

Sterne’s observation is correct, but it is useful to contrast *telegraph* and *phonograph* against his list by way of comparison. To borrow from Sterne, telegraph, suggests the throwing of writing, while phonograph, too, is concerned with the writing of sound (Scott’s ultimate goal), but it is the presence of “auto” meaning ‘originating within or acting on the body’ or ‘self-produced’ (OED 2020)—in addition to Scott’s subjects, which all focused on the human voice—that unites the invention with the particular individual and their voice: this was not merely a voice-writer, but specifically wrote the sound of an individual: an auditory signature. Sterne’s list unites around the presence of “phono/phone” within the word, meaning ‘Of or relating to sound or the voice’ and ‘making or relating to sound’ respectively, but “graph/gram” meaning ‘written’ (OED 2020) speaks more clearly to a shared technological lineage, and again we see a process of remediation: a refashioning of older media, building upon their antecedents by directly invoking preceding technologies in their names. One of these technologies is the process and practice of writing, necessarily invoked as “playback” as a concept was yet to be realised: a record player was conceptually some way off.

The technological building blocks, however, were in place for a new audio technology: ‘A telegraph as an artificial mouth, a telephone as an artificial ear—the stage was set for the phonograph. Functions of the central nervous system had been technologically implemented’ (Kittler 1999: 28), and the instinctive, immediate nature of the “central nervous system” points again to the invisible, spectral electricity at the heart of many of these new developments. Edison’s phonograph—which initially captured sound on tin foil by a very similar process to the phonograph—was demonstrated in late 1877 to *Scientific American*, ‘Mr. Thomas A. Edison

recently came into this office; placed a little machine on our desk, turned a crank, and the machine inquired as to our health, asked how we liked the phonograph, informed us that *it* was very well, and bid us a cordial good night' (384). The machine telling the amassed listeners that *it* was very well seems a curious dramatic choice, endowing this early iteration of the technology with a kind of personality. By not specifying the voice as belonging to a specific person and supplying some simple, low-fidelity speech, however, the phonograph was gifted with the capacity for *any* voice; it was exhibited as a space of vocal possibility, with specific models made for the purposes of demonstration, described by Edison as 'large, heavy machines which purposely sacrificed distinctness of articulation, in order to secure a loud tone which could be heard in a large room' (1888: 644): Edison had tweaked his technology for the performance of dead voices.

With the coming of the phonograph, Edison declared a number of uses for his new invention in an article for *The North American Review* in 1878 (this distilled version comes from an article he wrote ten years later entitled *The Perfected Phonograph* in which he describes his earlier pronouncements):

1. Letter writing and all kinds of dictation without the aid of a stenographer.
2. Phonographic books, which would speak to blind people without effort on their part.
3. The teaching of elocution.
4. Reproduction of music.
5. The "Family Record"—a registry of sayings, reminiscences, etc., by members of a family, in their own voices, and of the last words of dying persons.
6. Music boxes and toys.
7. Clocks that should announce in articulate speech the time for going home, going to meals, etc.
8. The preservation of languages, by exact reproduction of the manner of pronouncing.
9. Educational purposes; such as preserving the explanations made by a teacher, so that the pupil can refer to them at any moment, and spelling or other lessons placed upon the phonograph for convenience in committing to memory.
10. Connection with the telephone, so as to make that invention an auxiliary in the transmission of permanent and invaluable records, instead of being the recipient of momentary and fleeting communications. (1888: 646)

His article has an oddness to it, as recognised by Michael Chanan: ‘[Edison is] aware that the machine he has just created is remarkable but as yet too crude to be practicable, trying to awaken people’s imagination to what it might do’ (1995: 2-3). Remarkable though his invention was, how it might be used by society—and the gap it might fill—was significantly harder to predict. However, it is clear from the potential uses Edison outlines that there was a primary target for his invention, with 80% of his list focused on the voice, ‘Thus, almost before the phonograph had been invented, its special mission as preserver of the voice was set out for it. The ideology of the apparatus to a great extent pre-existed the invention of the apparatus’ (Lawrence 1988: 4): this vocally-focused “special mission” had certainly been set out before it was “perfected” and Edison’s vococentric aims were writ large in the name of his business from 1878, The Edison Speaking Phonograph Company. But despite the effective demonstrations of the phonograph in 1877 and 1878, the technology stalled:

Everyone had a wonderful time—for about half a year. Then the bubble broke. For after you had listened to the apparatus and the stunts it could perform, what was left? It was all very well to talk about dictating *Nicholas Nickelby* to the blind, but not when a tin-foil cylinder would play for scarcely more than a minute and give forth only the barest approximation of human speech. (Gelatt 1977: 30-31)

The promise of immortality was put on hiatus, and ‘voices continued to die during the decade that the phonograph lay dormant’ (32), but none were preserved.

The technological principles behind the phonograph were steadily improved—but not perfected, as Edison’s product claimed—across this decade, and Edison’s Improved Phonograph became commercially available in May 1888, offering ‘a constant speed for recording and playback, together with the superior qualities of wax as a recording medium’ (Gelatt 1977: 38). Dead voices could be committed to wax at will—played back, erased, recorded over again. The ability to replay the voice, to listen again to the ‘momentary and fleeting communications’ that Edison described (1888: 646) brings it into sharp relief, and subjects it to an analysis that was not previously possible; Edison’s use of “momentary” and “fleeting” suggests that his device could focus on the minutiae of the voice. Humanity was confronted for the first time by what Ihde terms an ‘auditory “mirror”’ (2007: 42), a particularly illustrative visual referent as a site of

introspection and self-examination, as well as one of audition and rehearsal. Any mirror is interrogated in real time, while the phonograph's recordings were perhaps closer to an "auditory photograph" of the time—a voice that 'has come apart from the moment of its product' (Connor 2000: 7)—particularly as the recording lacked the definition we are accustomed to today. Here is a clip of the British composer Arthur Sullivan, speaking at a "phonograph party"—events organised to demonstrate the phonograph's abilities—on the 5th October, 1888:

[SAMPLE] For myself, I can only say that I am astonished and somewhat terrified at the results of this evening's experiment -- astonished at the wonderful power you have developed, and terrified at the thought that so much hideous and bad music may be put on record forever (National Park Service 2015)

Sullivan's observation of music is correct, but so too could "hideous and bad" voices be preserved. Whilst the audio quality was poor, the relationship with the voice was transformed by virtue of this development in recorded sound media. As Amy Lawrence states, 'the phonograph provided unique new ways of listening and dramatically different relationships to the voice' (Lawrence 1988: 7), and, indeed, initiated a contemporary understanding of what the voice had become: the voice was fundamentally altered by this "warts and all" technology: it could be listened to, re-listened to, analysed and interrogated, actually studied. The voice had always exceeded speech, but the written word could not capture the details of a voice, and 'Thanks to the phonograph, science is for the first time in possession of a machine that records noises regardless of so-called meaning' (Kittler 1999: 85). This new audio exceeded a verbatim transcript, it went beyond speech and words, and *revealed* something of the voice. Kittler writes that 'Only technological media can record the nonsense that . . . technological media brought out into the open' (89): details of the voice emerged through this newfound technological ability, and demonstrated the fallibility of memory in relation to the voice, and the mismatch between what one thought was said and what was actually said. Appelbaum's observation that 'The audio tape of the same conversation surprises us with what was not listened to' (1990: 11) particularly resonates in relation to the dawn of sound recording and playback, as the phonograph cylinder elucidated the differences between *hearing* and *listening*. The coming of this immutable audio had, to an extent, remediated the brain. The ability to record had changed humanity's

relationship with the voice, but that would continue to change across the 20th century with more advancements in technology.

Three critical touchstones in relation to the recording of the voice followed the invention of the phonograph: the emergence of tape, shifts to digital media, and resultant technological ubiquity in the 21st century. There were, of course, many other technological advancements in relation to sound and audio fidelity across the 20th century, but I choose to focus on these three areas as they specifically pertain to evolutions in the ease of recording the “everyday” voice across the remainder of this side. The phonograph was primarily a domestic—albeit expensive—technology, with early advertisements quoting Thomas Edison as wanting to see ‘a Phonograph in every American home’ (Library of Congress c. 1890): phonograph cylinders captured voices from these domestic spaces, and ‘in middle-class homes with a phonograph, people were more likely to record and listen back to their own family members’ (Hendy 2013: 257). Edison stated that, ‘A single wax cylinder, or blank, may be used for fifteen or twenty successive records before it is worn out’ (1888: 645), offering the potential for takes and simple re-takes of these two minute long aural snapshots of late 19th century middle-class family life, as well as their preservation. As the technology of the stylus and groove developed with the coming of Emile Berliner’s gramophone in 1888 (a site of playback only, without the ability to record), its incremental refinements, and its subsequent dominance of the market and mass-produced discs; this meant people could no longer record themselves in domestic environments without very expensive equipment. Society did not see audio recording made available in the home again until the emergence of magnetic tape, and the renewed access to sound recording the technology steadily provided for people.

The technological developments from the 1930s onwards, and particularly those arising from World War II, resulted in a number of advancements in the field of sound recording and reproduction. The arrival of magnetic tape as a medium for recording was not unexpected, and recording utilising magnetised material had been experimented with in the early 20th century with wire recorders—‘which magnetically records sound on a delicate wire’ (Scherer 1947: 261), but these were ultimately superseded by the tape recorder over the course of the century. This development, however, was not led by the music industry, but instead dictated by the capture of

the voice: ‘impetus for the development of magnetic tape recording in Germany was not music recording, but Hitler's desire to record his speeches’ (Chapple & Garofalo 1977 in Jones 1992: 8). The Magnetophon, a reel-to-reel tape recorder developed by AEG in Germany in the 1930s, was the precursor to the resultant technologies of tape recording. As Friedrich Kittler observes, ‘tapes can execute any possible manipulation of data because they are equipped with recording, reading and erasing heads, as well as with forward and reverse motion’ (1999: 108), and the quality of recording and playback offered by subsequent iterations of the Magnetophon device marked an important step towards high-fidelity audio, evidenced by its use for recording and playback during World War II:

From the early 1940s [Hitler] was able to record a speech on tape in one city, for playback and transmission in another part of Germany. The Allied engineers who continually monitored Germany's broadcasts in the hope of bombing Hitler mid-speech were fooled because there was none of the hiss expected from tape, nor any of the cyclic noise of disc recordings. As far as they were concerned Hitler was there in the studio, speaking live to the nation. (Fox 2004: 46-7)

The audio had been ‘captured by a new recording system far better than anything previously available’ (Ibid), and, in transmitting ‘live quality broadcasts of his speech’ (Nmungwun 1989: 67-8), the German government undertook the deliberate, and deceptive, generation of “liveness”: the technology had been used to shift time and place, to perform a lie, to capture the voice to a previously unheard standard that sounded—even to trained ears—as though it was delivered live in a different location; it had shifted its technological bias to become space-biased rather than time-biased. Although the medium of tape ‘made manipulation itself possible’ by virtue of its abilities of ‘Storing, erasing, sampling, fast-forwarding, rewinding, editing’ (Kittler 1999: 108), this deception was one of fidelity and geography rather than splicing. Yet these new space and time-altering possibilities (that could not be achieved with phonograph cylinders) and the promised clarity of the medium would continue to impact upon the recorded voice. But time and space were not the only things changed by the arrival of tape: so too was auditory space. AEG’s Magnetophon also brought with it the advent of stereo recording and playback, and ‘AEG-RRG [Reichs-Rundfunk-Gesellschaft, Reich Broadcasting Company] researchers soon added stereo recording to their 1940 high-fidelity Magnetophon triumph. As early as 1942, they made test recordings of the Berlin Philharmonic Orchestra’ (Engel in Daniel et al 1999: 64). Audio was no

longer restricted to mono, and could begin to articulate a sense of space. AEG's early stereo devices were not, however, made available to the wider public, and 'the two-track recorder released by the US company Magnecord in 1949 was the first tape recorder to incorporate stereo sound' (Kimizuka 2012: 213).

Following the war, tape recording continued to develop. In an article from 1952 entitled *You Can Be There, Too*, Raymond E. Mahoney described the tape recorder's powers:

A dramatic new medium of communication, known as the tape recorder, has been developed during the postwar era. It can be operated by practically anyone who can operate a radio. The recorder is capable of capturing a single sound or an hour long program, holding the recorded sounds in a vise-like grip, yet reproducing them with great fidelity, whenever you choose and as often as you care to listen. (1952: 141)

Whilst primarily considering the possibilities of disseminating information through the American Library Association, his article speaks particularly to the medium's abilities to transport people aurally to places and spaces: with the tape recorder *you* could be there too. The technology also enjoyed many outings across popular culture, 'showing up everywhere in the late 1940s and early 1950s; on stage in Arthur Miller's *Death of a Salesman* (1949), in numerous B-grade spy movies, and on the new medium of television in the *I Love Lucy* show in 1954' (Morton 2000: 140), and—a work I will examine on Vinyl 4—Samuel Beckett's *Krapp's Last Tape*. This exposure of the technology, and the demonstration of its powers contributed—alongside advertisements espousing the benefits of tape recorders—to a surge in popularity, 'After 1952 and the first big jump in sales of home high-fidelity equipment, the tape recorder . . . remained the only form of home sound until the 1980s' (138). As its prevalence steadily increased, so too did the affordability of these mass-produced devices. By 1958, the Portable Knight manufactured by Allied—complete 'With microphone, 600-ft. reel of tape and take-up reel' (Allied Advert 1958)—cost \$94.95. The development of the cassette tape by Philips in the mid-1960s—'a [small] reel-to-reel tape in a cartridge' (Cunniff 1967: 70)—and the ease it offered to users, further cemented the dominance of tape as a medium for recording and playback.

The tape recorder's abilities were numerous, but in relation to the voice it brought home-recording to a place of much greater fidelity than had previously been possible, but particularly, there were far greater possibilities in relation to time: the medium allowed for far longer recordings than the phonograph, it could be edited and spliced, and, as Steve Jones states, 'the inclusion of fast forward and rewind controls on tape recorders shows a bias toward time' (1989: 3). This bias towards time, and its altering and shifting of time (as demonstrated through its use in World War II), as well as the seemingly infinite possibilities of takes (due to the affordability and availability of the medium of tape itself) altered the collective understanding of the voice in relation to recording: the voice was no longer bound by real-time. The voice could be recorded out of sequence, in studio environments it could be multi-tracked and layered, and it could be played and replayed easily by virtue of increased control (fast forward and rewind). The notion of the distilled, short—by necessity of the medium—recording was no more: the length of recording offered by tape allowed for the capture of the extraneous, the everyday, the unintended; the space was there to be filled. Re-recording, too, was simpler, but editing was possible for the first time: the voice could be re-auditioned and refined through technology, via re-recording or outright omission. With the arrival of the tape recorder (in its various guises) and its ease of use, dead voices had become newly alterable.

Across the decades fidelity and sound quality in relation to media continued to improve, but, critically, so too did microphone technology. The evolution of the microphone, which Michael Chanan reminds us means 'small-voice' (1995: 4), inevitably forms a critical part of the capture of dead voices in relation to media, and its name speaks to the initially and predominantly vococentric nature of the technology, but I will speak on recording processes in more detail across the next vinyl. Taking established recording practices as the principles upon which newer sound technologies based themselves (which had largely been established by the affordances of tape), the pronounced shift to digital technologies across the latter part of the 20th century brought further developments, and did away with the requirement for a physical medium to record to. Tape—as a medium—had greatly expanded the possibilities of time, but the hard disk removed the cost of the physical medium, as gigabytes filled with digital audio. Digital media, too,

compounded the alterability of time, as explicated by Matthew Causey in relation to performance:

The ontological nature of performance being in the now (the PLAY function) is altered through analog and linear technology (magnetic audio and video tape played on motor driven cassettes) into a sequentially alterable but real-time dependent structure (the REVERSE, FAST FORWARD, PAUSE functions). Performance, through digital technologies, enters the simultaneous (INTERACTIVITY, RANDOM ACCESS) whereby the virtual image appears concurrently with or precedes the production of its referent. (Causey 2007: 39)

Recording was becoming clearer and had greater fidelity by virtue of technological developments, but digital technology's simultaneity and lack of linearity also allowed for random access. The control of time initially established by tape was now even greater: points of recordings could be accessed at random. The rise of the visible digital waveform brought with it a greater ease of editing, which had become non-destructive.

While the waveform was visible, the medium had become invisible. Prior to this leap, audio recording had a linear "movement" to it: phonograph, wax cylinders, tape, all moved a time-based storage medium across recording and playheads. The audio had a spectral quality to it, but each medium was more tactile, understandable. Vocal recordings, increasingly, are totally invisible, spectral, and innumerable: any smartphone user is capable of recording audio, and a technological ubiquity in western society has been achieved. Digital audio still retains some movement—in its steady procession of a playhead—but the tangible, physical nature of the medium has gone, and in any representation of the audio the *playhead* moves, rather than the medium. What, though, in voice recordings "moves" the listener? Across the next vinyl, we will find out.

[Answerphone: Clicks, then beeps, before announcing: "End of tape"]

Vinyl 3: The Record's Needle - The Aural Punctum - Side A

This vinyl is an examination of the voice, more broadly, in relation to recording and recording technology, the following disc digs deeper into playing back specific voices; this is followed by the absence of voice (death), and then, finally, reconstitution. In relation to the thesis as a whole, this is the point at which the voice hits the microphone, the point of recording. You will have noticed that I, Ciaran, do not speak this vinyl. This is not my voice, it is my father's voice, Russell Clarke, speaking my words; I have not changed the pronouns, and my father refers to himself in the third person throughout. The recording takes place in the back room of the house in which I grew up, and you may well hear the occasional seagull behind my father's voice. In order to ascertain some of what I hope this vinyl might reveal, it is important that this is not my voice: *who* is speaking this matters in a way that words cannot convey. This recording is a—deliberately futile—attempt to create a kind of “Winter Garden Phonograph,” a media artefact of a parent, but in audio form: as Ernst Von Wildenbruch observes in a poem ‘it seems to me the phonograph is the soul's true photograph’ (in Kittler 1999: 79), while Seán Street remarks:

A photograph is a moment in time, a split second of existence. The sense of a place or the person immediately before or after its taking is lost to us. It can be an aide-memoire, but it can seldom compare the to experience of listening to a sound for a sense of the living human. (Street 2015: 79)

It may well be, then, that some of the *revealing* within this vinyl occurs as I listen back to it years later, likely after my father's death, but this can only be achieved if *he* records it in the first instance: my own voice cannot contain a *punctum* for me.

On Side A of Vinyl 1, I stated that the living voice was ‘unrecorded, live . . . my voice prior to these words hitting the diaphragm of this microphone’ (2021), but this is not totally correct. As I record my voice, I am conscious that it is being documented (with this microphone and pop-shield in my immediate view, how could I not be?). As a consequence, I am keenly aware of its possible reproduction, even re-constitution. Roland Barthes in *Camera Lucida* speaks of a similar phenomenon in relation to the photograph:

But very often (too often, to my taste) I have been photographed and knew it. Now, once I feel myself observed by the lens, everything changes: I constitute myself in the process of “posing,” I instantaneously make another body for myself, I transform myself in advance into an image. (1981: 10)

As he speaks these words from a script into a microphone, like Barthes my father, too, is “posing,” He makes another voice for himself; a voice that he is capable of—even comfortable—performing. Is it him? Does that matter? As I listen to these takes, do I hear my father within them? Do I hear a version of my father?

To begin this vinyl with Barthes feels correct: it is intended as a kind of *Camera Lucida* for sound. However, where Barthes examines *photographic* memory, this confronts *phonographic* memory, considering the voice and recording on this vinyl, before moving on to examine the recorded voice more specifically in relation to person across the next. The final two records concern death, and posthumous possibility. I will be elucidating the differences between the (a)live and recorded/dead voice at the very point which marks the ontological difference between the two. Barthes is concerned with the photograph, but many of his observations regarding photography be extended into the aural by simply replacing a “t” with an “n”: ‘that rather terrible thing which is there in every pho[n]ograph: the return of the dead’ (1981: 9). There are, inevitably, some parallels in the examination of a medium that preserves and its relationship with death.

There is, obviously, a vast difference between each medium, one that goes well beyond the substitution of letters or words, and it is the particularities of audio recording that this vinyl will focus on, examining this terrain for sound and voice. However, Barthes’ observance of “the return of the dead” in photography is even more present in audio: there is a “deadening” taking place at many stages of recording. Across Vinyl 1 I spoke of the living and dead voice, and its relationship with reverb. However, this sterility and deadening of voice recording goes beyond a room: the removal of the life and liveliness takes place through the technologies employed and in the awareness of the subject. It is possible, while recording, to make dead voices, deader.

To describe this vinyl as a *Camera Lucida* for sound begs a question: what is the *punctum* of the voice, or of audio more broadly? Barthes' description of the *punctum* in photography is elusive. He identifies it as, 'that accident which pricks me (but also bruises me, is poignant to me)' (1981: 27), a detail 'which attracts or distresses' (40). Barthes' *punctum* is not any one thing and throughout the text he offers many different specific examples of the *punctum* within photographs: a 'belt worn low' (43), 'one child's bad teeth,' 'the slightly repellent substance of [Andy Warhol's] hard nails' (45), 'the other boy's crossed arms' (51). These are 'certain details' (47) as Barthes puts it, and not the surface level subject, or *studium*, of any of these photographs, but something in the photograph that disturbs this: 'will break (or punctuate) the *studium*' (26). There is, for Barthes, a deliberateness to the *studium*, it is where we 'inevitably . . . encounter the photographer's intentions' (27) but, for the spectator, is never 'delight or . . . pain' (28), while the *punctum* is 'an addition: it is what I add to the photograph and *what is nonetheless already there*' (55). The *punctum*, then, is *brought to and from* the image by the viewer. Michael Friel describes it as 'an artifact of the encounter between the product of that event and one particular spectator or beholder' (2005: 546): it is a reciprocal, unanticipated point of exchange between the image and the viewer, but one that does not happen in the moment of reception and 'should be revealed only after the fact, when the photograph is no longer in front of me and I look back on it' (Barthes 1981: 53). The *punctum* is an interplay between image and memory.

What, then, is the aural or vocal *punctum* in recorded sound? What, in audio, "wounds" or "pricks"? What is the record's needle? To get towards this, some brief differences between the media merit explicating. A photograph is image only, a pictorial documenting of a time and place within a set frame, captured in a splitsecond: the arrangement of light as it hits the camera's lens in that moment is preserved. An audio recording is sound only, it is the aural documentation of time and place; captured temporality: the arrangement of sound as it hits the microphone's diaphragm across that time is preserved. A photo is static, sound is durational. The resolution of photography and audio can be improved depending on the technologies deployed in capture. Following the technical processes to bring both media to a point of reception, the photograph does not subsequently change, while audio is contingent on the technical arrangements of playback devices. A photograph can be held, sound (in playback) cannot. In drawing these distinctions I am not seeking to make a case for either medium being superior or

offering greater verisimilitude, but these technological niches mean that the nature, even palpability, of the *punctum* in each is markedly different. The *punctum*—if it is there—of a photograph exists in a single, present entity (the photograph); the time-based nature of audio means that the punctum may be present, but fleetingly; it is not necessarily a persistent detail. The aural *punctum* is already nebulous, cloudy, but the media—as it often does—mediates, it gets in the way. In this instance it is an obstacle to an understanding of its sounding, in part because processes and practices of recording mask it: the aural—and particularly the vocal—*punctum* is silenced. The elements of the capacity for the punctum have been professionalised or technologised out.

The search for the vocal *punctum* is complicated further by its carriage of speech. Particular spoken *words* might pierce, or puncture, while the containing medium—the voice itself—does not: unexpectedly hearing phrases that evoke a specific memory might “prick” while the speaking voice has no *punctum*. I am more interested in the latter, and its presence or absence relates directly to life and its deadening in audio. Let us consider the recording setup in front of my father that I referred to at the start of this vinyl, because this represents the critical tipping point between the living and the dead voice outlined on Vinyl 1. He sits in the back room of his house, a few inches in front of his mouth is a pop shield, another couple of inches beyond this sits an Aston Stealth microphone, which connects to a Zoom L8 where the audio is digitised as a WAV file. As observed previously, these technologies are *vococentric*, they privilege, prioritise, and purify the voice and erase the body: ‘a cleansing wave of the body in sound recording, a toilet of the voice, filtering, tapes edited and carefully purified of all laughs, farts, hiccoughs, salivations, respirations, of all the slag that marks the animal, material nature of the words that come from the human body’ (Novarina 1993: 100). In these processes there is a deadening of the life, and erasure of potential traces of the *punctum* within it. In endeavouring to create a “dry” recording, there is an effacing of the “wetness” of the body and of life.

The pop shield is a physical intermediary between the speaker and the microphone, to eliminate noise in recording. Their constitution is simple:

sound passes through the fine mesh with just a little high-frequency reduction, but plosives are stopped dead. As the puff of air from the mouth hits the mesh, it breaks up, becomes turbulent, and loses its coherence, so what starts off as an organised mass of air ends up being randomised so that the air molecules are no longer all pushing in the same direction. (*Sound on Sound* 2005)

The pop shield eliminates some of the voice's carrier, the breath, as well as other sounds of the mouth such as a prominent "P" or "B," two letters that carry—even emphasise—the presence of the mouth and the lips. Barthes, when discussing the idea of 'writing aloud' in *The Pleasure of the Text*—rather than *Camera Lucida*—speaks to this bodily presence in the voice:

the language lined with flesh, where we can hear the grain of the throat, the patina of consonants, the voluptuousness of vowels, a whole carnal stereophony: the articulation of the body, of the tongue, not that of meaning, of language . . . and make us hear in their materiality, their sensuality, the breath, the gutturals, the fleshiness of the lips, a whole presence of the human muzzle . . . it granulates, it crackles, it caresses, it grates, it cuts, it comes: that is bliss. (1975: 66-7)

It is this—the breath of the author, if you will—that more conventional vocal recording (radio, audiobooks, etc.) seeks to remove much of. In the *Death of the Author* Barthes suggests that there is a level of meaning that is not necessarily in the written text: 'a text's unity lies not in its origin but in its destination' (1977: 148), the reader, or listener. There is something in the interpretation of what is heard which possesses an additional level of meaning beyond the words that are spoken, the 'language lined with flesh' to which Barthes refers (1975: 66). If a *punctum* is to exist in an audio recording, it likely resounds in this space (and it is clear that these details "attract" and "animate" Barthes in a manner not dissimilar to the *punctum*). Barthes states that the '*studium* is ultimately always coded, the *punctum* is not' (1981: 51), meaning that the voice's *punctum* is likely to reside in a space beyond speech, in paralinguage. Yet vocal microphones are engineered to prioritise the frequency range of speech, while other "unwanted" noises of the body are removed in post-production. In an edit, the preferred takes—those without errors, or coughs—will be utilised, and subsequently mixed to emphasise the voice, but beyond this further refinements are possible: the "iZotope RX 8" is a 'de-clicker that is finely tuned to detect and reduce mouth noises such as clicks and lip smacks' (2021), while the chillingly named "DeBreath" plugin offers the opportunity to 'truly take their breath away' (Waves 2020), a kind of post-production Ventolin. Recording environments, too, deaden through acoustic control,

reducing the reverberatory characteristics of a space and sound-proofing away traces of life beyond the immediate subject. Christopher Thompson, Senior Producer for audiobooks at Penguin Random House UK, stated, [SAMPLE] ‘I’m very aware of a tendency, particularly in engineers and editors to want to remove everything’ (2021), but if “The Breath of the Author” is based in polysemy, the technological arrangements in recording and editing reduce the polysemic possibilities, closing down the “writerly” space in the text, encouraging the listener to only hear what is wanted. The voice has its flesh removed: it is dried, desiccated, only its bones remain. This deadening in the processes of recording, however, is not only technological and spatial, it is also brought about through the concept of the “neutral accent,” its pervasiveness, and additional erasure of life.

I am aware that my father’s natural voice is a socially-constructed RP voice, a so-called, neutral or non-accent. An accent is the space where ‘Speech and place intertwine’ (LaBelle 2014: 164), and according to Dolar these sets of vocal characteristics are ‘a norm which differs from the ruling norm—this is what makes it an accent’. Yet my father’s non-accent *is* an accent; if he lived in, say, Newcastle, his voice is the accent: southern, white, middle-class; nothing neutral about it. This labelling of it, too, is in no way neutral, as Dolar goes on to state, ‘The ruling norm is an accent which has been declared a non-accent in a gesture which always carries heavy social and political connotations’ (2006: 20). Nevertheless, this non-accent is somewhat “stateless,” it lacks a place and therefore cannot ‘intertwine’ with speech in the way that LaBelle asserts. This supposedly unaccented speech is, simply, speech, and few traces of a history can be ascertained. Andrew Crisell observes that ‘because RP is not a dialect with specific regional roots (its speakers are encountered all over the country) it has also acquired the status of a ‘non-accent’, and thus minimizes the element of idiosyncrasy and even of ‘personality’ in the voice’ (1994: 99). There are parallels here with Marc Augé’s notion of the ‘non-place’ (1995). Places, Augé argues, require three characteristics: ‘identity’, ‘relations’ and ‘history’ (52), while non-places are homogenous spaces—motorway service stations, airport departure lounges—creating ‘neither singular identity nor relations; only solitude, and similitude’ (103). The neutral, or non-accent achieves this too, effacing characteristics and historicity in the voice: the life lived beyond the recording is not hinted at (beyond safe assumptions regarding class, sex, and race), and its neutrality is unlikely to “prick” or “pierce” any listener as any attachments to place, space, or

culture are removed. The overwhelming prevalence of the white, male, middle class, English accent in media results in a kind of vocalic “non-place”, and its homogeneity deliberately asks few questions of the listener. This, in itself, represents a deadening of the voice both in its erasure of traces of a life lived and its palpability within the voice, as well as its perpetuation and propagation of the notion of the non-accent.

This brings the deadening back to Barthes and the concept of “posing” he offers. There is certainly a vocal equivalent to this posing, a performance of self that is both “myself” and “not myself”. This is, I suppose, my father’s performed, presented academic register, adopted because he knows that this take is being captured; I might not even use *this* take, but he knows one *will* be used. From a vocal perspective this performance manifests itself through a certain vocabulary of language, a slightly more received pronunciation accent than he might usually have, and he is probably making an unconscious effort to sound more authoritative and knowledgeable. This, also, has been scripted, words (not his own) have been placed into his mouth, but given the awareness of the processes of writing, recording and editing—and the context in which you are listening to this vinyl—you can be confident that, through a process of writing, speaking, redrafting, followed by mis-takes, and re-recording, this version is the definitive one. Indeed, it has been pressed to *vinyl*, reiterating that authority and knowledge through the finality of this version. That he is reading from a script is one thing, but that this script does not allow for paralanguage, too, deadens that sense of self: where is the laughter? What can be clung to as a *punctum* when I listen back to this? Unfortunately, however, my father is “posing” in the same way that Barthes describes: ‘I do not stop imitating myself, and because of this, each time I am (or let myself be) photographed, I invariably suffer from a sensation of inauthenticity, sometimes of imposture’ (1981: 13). My father, too, performs himself, or a version of himself in this domain, and as I listen I can hear the difference. Barthes goes on: ‘the Photograph (the one I intend) represents that very subtle moment when, to tell the truth, I am neither subject nor object but a subject who feels he is becoming an object: I then experience a micro-version of death . . . The Photographer knows this very well, and himself fears . . . this death in which his gesture will embalm me’ (14). There is, inevitably, a kind of internal mediation of the self when confronted with such a prominent arrangement of recording equipment, in much the same way as having a camera pointed at you: we become aware of our constitution and presentation. The vocalic

deadening taking place is in this performance of self: both the denial of the person and life behind the voice, and the barrier to the subject erected in the knowledge of being recorded. Where the photograph embalms through image and, according to Marshall McLuhan, [SAMPLE] ‘Writing was an embalming process that froze language,’ professional audio recording does not embalm—as Jonathan Sterne asserts (2003: 298)—as it does not preserve the body. It becomes bones in isolation from its speaker, creating a fracture between the voice and the self, perceptible by a listener who knows the speaker, as well as the speaker themselves.

These desiccated dead voices (the one you are hearing right now included), can be “warmed,” they can have post-production “flesh” added. It is possible to apply the requisite equalisation of tone to my father’s voice [*EQ is applied*], to add reverb [*Reverb is applied*], but the clinical nature of the recording process results in a skeletal, disembodied voice (beyond it being audio only). This scripted, anodyne, professionally recorded voice is, likely, bereft of any *punctum*, it is pure *studium* (even if the voice is my father’s). The technological arrangements at play in capturing voice recordings serve to silence the possibility of any *punctum*, and the reasoning behind this was outlined earlier in the thesis, [SAMPLE] ‘the voice on radio adopts the reverberatory characteristic of the space it sounds within. Radio emerges into a room as uncoloured as it can be’ (2021). This recording of a voice is taken away from the specificity of the moment of its resounding through its isolation to allow for re-sounding: time cannot be easily discerned in this arrangement (which takes were recorded when), nor the space in which this audio is captured, and it contains no obvious aural markers. There are parallels here with the notion of “deadness” which, according to the term’s creators Stanyek and Piekut ‘speaks to the distended temporalities and spatialities of all performance, much the way all ontologies are really hauntologies’ (2010: 20). Part of the process of modern recording is to allow for its transportability, its reusability, what they term “recombinatoriality”: the potential for something to be recombined and ‘the capacity toward articulating what are taken to be discrete, non-identical parts into new arrangements’ (19). These “new arrangements,” however, should not necessarily be assumed to be new pieces of audio—as Stanyek and Piekut assert—but how these audio artefacts might recombine and re-sound within technical and spatial arrangements and exist within a room, taking on a new spatial colouring. The more neutral the artefacts are, the more readily they can absorb the conditions of a place, as well as the conditions of a new

arrangement of sounds. Stanyek and Piekut ‘do not conceptualize deadness as the other to liveness’ (20), indeed you could not manufacture Auslander’s conception of liveness (1999: 53) without the qualities of deadness, it is contingent upon it. It is perhaps more useful to conceive of (a)liveness as opposed to deadness, those characteristics found in the living voice outlined on Vinyl 1.

Stanyek and Piekut’s analysis of Nat and Natalie Cole’s voices on *Unforgettable (Duet with Nat King Cole)*—to give it its full, if slightly misleading title—speaks directly to what can be achieved through the use of these effects in recording. Listening to the song it is difficult to tell whether the differences between the vocal recordings are real or imagined. Do I hear an additional cleanliness on Natalie’s vocal part? Are the limitations of 1950s recording audible on Nat’s track? This ‘intermundane collaboration’ (2010: 17) is not without its parallels with *Camera Lucida*, although Barthes does not speak directly about photographic manipulation in his work, which would provide the most obvious comparison. However, it is the persistent presence of death in Barthes’ text that entwines the two: ‘Whether or not the subject is already dead, every photograph is this catastrophe’ (1981: 96). This same catastrophe is discernible in *Unforgettable*, and like historical photographs that have ‘a defeat of Time in them: *that* is dead and *that* is going to die’ (Ibid), the threat of death is palpable in the Coles’ time-defeating collaboration. Even if Natalie was still alive, her vocal would not be immune from this haunting: both voices are dead, but both voices were dead when Natalie’s was recorded in 1991, and the same “catastrophe” is present in every recorded voice. Where Barthes, in considering a historical photo of two young girls states, ‘they are dead (today), they are then *already* dead (yesterday)’ (96), Nat and Natalie’s duet speaks candidly to this notion, but the hauntological nature of all voice recording persists.

The concept of *Deadness* is particularly useful in this territory, especially in relation to how deadening occurs in recording, which, in turn, drives us towards the *punctum*. Deadness describes some of this erasure of aural markers, the four decades apart duet could not be achieved *without* this vocal deadening that allows Nat and Natalie Cole to reunite in the same constructed aural space: these recordings are deliberately separated from time and place, and can be recombined as a consequence. That is not to say that the recording is not without a *punctum*,

doubtless Natalie will have been “pierced” by *something* in the recording of her father, but perhaps not in the vocal takes used for the final mix, which could not really contain an ‘unexpected flash’ (94). In his discussion of grief, Lawrence Scott states that ‘The emotions in the necklace and sewing box are so expected that when their lot is shown there are no surprises. Unlikely things stab at you’ (2018: 46-7). Her deceased father’s vocal line is expected, and it is what sits outside of it that may have contained a *punctum* for Natalie: the unprocessed, the offcuts, the unused takes, the mis-takes. Disregarded for non-conformity or non-standardness, what is not useful in life becomes more valuable in death.

A closeness (in time and space) is fabricated in *Unforgettable*, a closeness it is possible to achieve because of the even more deadened, dead voices fractured from the time and place of their original recording. This separation makes it harder to locate the vocal *punctum*, but where it might reside is pointed to by its absence: it is the sound of the body, it is paralinguistic, it is what rings true in the person, and the ring of a reverberant space; it is what ends up on the cutting room floor. This idea of closeness will be explored further in relation to the vocal *punctum* on the next side, considering distance, presence, and performance.

Vinyl 3: The Record's Needle - The Aural Punctum - Side B

This side draws nearer to the elusive vocal *punctum*. Its location sits somewhere in what is often removed from professional vocal recording, and the availability of the *punctum* in the voice is a choice made by the recordist and editor. This choice, however, impacts only on its receptibility and not, necessarily, *what* it is. It cannot, after all, be coded, and is *brought to* the work by the listener. To delve deeper into the availability of the *punctum*, I will look at the closeness of recording in specific examples: Radio 4's late-night programming, Ewan MacColl, Peggy Seeger, and Charles Parker's *Radio Ballads*, and Janet Cardiff's *Forty Part Motet*. This mixture of spoken and sung, fiction and non-fiction, radio and sound art may apparently have little in common—but they can bring about an understanding of the *punctum* of the voice, particularly by considering closeness in recording and production.

Radio 4's *Book at Bedtime* is an institution: 'giving audiences the pleasure of being read to as sleep beckons' (BBC 2015) since 1949. David Hendy notes 'a small but consistent' nocturnal turn towards radio, as audiences 'drift away from television and back to radio at the end of the evening' (2010: 216). *Book at Bedtime* sits as part of this, and the programme's soporific and personal nature, according to Kate Chisholm in *The Spectator* '[takes] us back to childhood and the luxury of being read to as we drift off to sleep' (2014). It feels personal, as though the listener—and only the listener—is being read to, a construction of closeness that ensures a resultant sense of intimacy: 'There's something special about the voice at night, coming out of the darkness. The contact between host and listeners is intimate' (Keith in Hendy 2010: 217). This intimacy, while undoubtedly present in *Book at Bedtime*, maintains a sense of personal space. It does not intrude, it is never overly close, it keeps a polite distance between the voice and the audience.

The means of capturing the voice for this purpose will inevitably result in some of this closeness, but it never tips towards mouth noise and breathiness. The polite distance of radio is achieved via a certain spacing from the microphone and merely generates the 'illusion of spontaneity and intimacy' (Shingler & Wieringa 1998: 37). If, for example, the voice leans forward to get closer to the microphone [Speaker leans closer] (like this), the audio becomes invasive, unpleasant to

the ear: you can hear the mouth and the breath more readily. When readying for bed (the time of which is decided by Radio 4), the listener is offered a resonating connection back to childhood through slower, deliberate radio. Yet is is, in its over-intimacy, more personal, and this more invasive nature opens a window to the *punctum*.

My own preference for late-night, soporific radio is the nautical nonsense—to my ear, anyway—provided by the *Shipping Forecast*. Broadcast in some form since 1925, and on Radio 4 since 1978 (Compton 2016: 10), the *Shipping Forecast* has a popularity beyond its obvious use, its surface-level *studium*. Jarvis Cocker named *Sailing By* (the piece of music that leads into the broadcast at 00:48) as one of his Desert Island Discs, saying, [SAMPLE'] I've for many years used this as an aid to restful sleep. I find something very comforting about listening to it when you're laying in bed' (2005). Much like *Book at Bedtime*, the broadcast has a closeness and intimacy. Charlie Connelly speaks of the special place it holds for the British public:

Oddly comforting though the shipping forecast is, to most of us it is totally meaningless. A jumble of words, phrases and numbers which could be thrown in the air and read out at random and most of us wouldn't be any the wiser. It has, however, accompanied most of our lives from childhood, a constant unchanging reference point (2004: 2)

The comfort felt by listeners to the *Shipping Forecast* is, ultimately, at odds with the importance of the broadcast for its intended audience: it contains life or death information, warning sailors of meteorological dangers in waters around the United Kingdom. Within its often poetic constitution, Seán Street observes, 'there is great drama here, these names are the clues to spectacular, often unforgiving places where the weather can mean life or death' (2012: 88). The *Shipping Forecast* has two simultaneous audiences: both, in their own way, are "sailing by".

Continuity announcers are doubtless aware of these two audiences, and several of Radio 4's well-known voices have commented on the public's affinity with the broadcast. Chris Aldridge recalls that 'As soon as I say I read the Shipping Forecast, a light goes on in people's faces' (in Compton 2016: 3). Peter Donaldson expands on this, describing it as, 'a mantra, it is people listening, probably at their most vulnerable, last thing at night, and it just imbues itself into their

psyche,’ while Charlotte Green stated, ‘I love it—and it seemed to touch a chord in people because a lot of people would write and say that they particularly liked me reading it and the way I read it’ (in Elmes 2007: 315). This focus on the delivery of the words suggests an attachment to the prosody rather than the information, and, like *Book at Bedtime*, the announcers cater for an audience tuned in for its soporific quality. Each of these readers, too, possess non-place, neutral accents I spoke of on the previous side.

I have been lulled to sleep many times by this ‘cold poetry of information’ (Street 2012: 88), the time when, according to Charlotte Green, ‘the continuity studio had a womb-like quality to it’ (in Compton 2016: 15). I can, however, absolutely recall times when the *Shipping Forecast* “pierced,” when this broadcast—delightedly bereft of *punctum*—has seemingly pricked me. It is a rarity, but to hear the sea state described as “Violent” on the broadcast cuts through. But this is a word, this is not the voice; it pricks my ears but not me. Spoken so coolly in a neutral accent, its delivery seems unrelated to, at odds with, the word itself. Both *Book at Bedtime* and the *Shipping Forecast* offer a fabricated closeness to the voice, but the vocal *punctum* is inaccessible. Both of these broadcasts prioritise the words: paralanguage cannot rise to the surface, prevented by the technology, but also the nature of the station: ‘Radio 4 is a station for anyone interested in intelligent speech’ (BBC 2020). This is speech and not voice, it is totally rehearsed and immaculately performed, the words take precedence, and the vocal *punctum* is unavailable.

As my father performs these words—with what I recognise as a gap between this presentation of him and “him” as I know him—the presence of the mediating technology inhibits, even marks, his performance, similar to Barthes’ observations regarding posing discussed on the previous side. Yet performances can and do transcend the technology. By way of an analogy, consider the microphone as a stage: when a mark is placed on it, that is where an actor is lit, the space and scope within which they can perform and will be seen. In film, too, marks are placed at the boundary of the frame. The microphone does the same thing: its presence precipitates an internal constraint of the self, while the technology itself makes additional demands of the performance: [be breathy] do not be too breathy; [move too close] do not move too close; [shout] do not get too loud, [whisper] but don’t be too quiet. It is possible to exceed the boundaries of the

technology by not being within its dynamic range, but as a listener it is possible to mistake—or believe in—this lack of technique as more “real” somehow. There is a sense that a professional performer will hit the mark and still convince within the boundaries of the technology; the trick is being able to do it. The performer has to understand the nature of the media and the technology in order to be able to convince in this realm.

Early documentaries offer a good example of technology as inhibitor in the protracted process of vocal capture. Historically, the BBC’s process for televisual and radio documentary work would involve recording ordinary people on location, re-scripting their words, then bringing that person into a studio in order to re-record them in person, a technique pioneered by radio producer A.E. Harding (Crisell 2002: 42).

A similar approach was attempted by producer Geoffrey Bridson in his programme *Harry Hopeful* (1935), ‘a blend of fiction and real life’ (Ibid). He

jotted down their stories, noted their dialect and tricks of speech, and constructed a script whose parts he posted out to the original speakers. He then recorded them in their own homes, listening to the outcome in headphones in a car at their front gate, and inviting their families to criticise anything that sounded unnatural. (Cox 2008: 66)

Those voices “in the moment” were transcribed and then re-recorded, the mouths in which those words originated being re-populated with versions of them, but in a way that—while geographically correct and, for *Harry Hopeful*, subject to audition by relatives of the speaker—sounded reproduced, without the spontaneity or access to the speaker that recordings in the moment (had they been possible at the time) might have permitted. A similar effect can be heard in the repetition of words when using more portable and modern recording set-ups, as producer Matt Thompson observed in 2001:

I always use the first take. If you get the interviewee to repeat themselves, the second time is always dead, maybe because their subconscious knows you already know what they’re about to say. (Hendy in Crisell 2003: 184)

The re-performance and repetition, aptly, renders the voice dead. Sheila Dillon makes a similar observation of the voices in *On an 'Opping 'Ooliday* (1934); the title alone marking the particularly objectionable—for the BBC at the time—difference of accent. This was a BBC Radio documentary which saw the capturing of ‘its first sound actuality’ (Crisell 2002: 42), and saw the crew taking a recording van to Kent. On listening to the programme as part of a celebration of 90 years of radio, Dillon remarks that they sound [SAMPLE] ‘so desperately ill-at-ease,’ but that it represents ‘the beginnings of radio technique: of trying to get people to sound natural’ (BBC 2012). Her words suggest that this natural voice was not achieved, with each instance a barrier to the *punctum*.

Can, then, the *punctum* be found in the radio documentary via actuality? Radio 4’s predecessor, the Home Service, from 1958 to 1964 broadcast the Radio Ballads, a series of narrative documentaries conceived of and made by Ewan MacColl, Peggy Seeger, and Charles Parker. Their approach was different, and—at the time—revolutionary, recording actuality and utilising the unscripted members of the public in programmes interwoven with songs written using the recorded voices as a stimulus. The programmes were critically acclaimed, The Observer stated that ‘nothing in radio kaleidoscopy, or whatever you are to call it, will ever be the same again,’ (Ferris in Cox 2008: 49). These works granted listeners access to the voice in a way that had not been heard on radio before, ‘speakers engaging with their world rather than attempting to recall it in a sterile studio’ (Street 2015: 115), allowing for spontaneity and truth, and—tantalisingly—the elusive vocal *punctum*.

The Radio Ballads were not initially intended to be so groundbreaking: MacColl explains that he wrote ‘a dramatic reconstruction of the events’ (MacColl 2008: 302), in a similar manner to established radio documentary practice. However, when MacColl and Parker returned from collecting their initial set of recordings they found ‘over forty hours of recorded actuality’ (Ibid). MacColl recalled the process of playing back the recordings:

It wasn’t merely that the recorded speech had the true ring of spontaneity; there was something else—the excitement of an experience re-lived and communicated without dilution of additives . . . I was convinced after listening to the first playback that the Axon story would have to be told by the railwaymen themselves and not by actors imitating railwaymen. (302-3)

They had collected, according to MacColl, ‘living speech un glossed by author’s pen or actor’s voice’ (303); these words had not been rewritten or respoken, these voices possessed a spark that had not been heard in radio documentaries before. And so, having realised that ‘the vitality and authenticity of their speech belonged at the heart of their programme’ (Karpf 1999), the Radio Ballads gave voice and a platform to previously unheard people and stories.

Within the reams of actuality taken—this “living speech”—particularly for the second Radio Ballad, *Song of a Road*, MacColl and Peggy Seeger began to notice particularities of the voices they had recorded, which speak to the vocal *punctum*’s absence through professionalisation:

In the course of playing back the road builders’ actuality, we had observed that there were basic differences in the way in which words were used by our manual workers on the one hand and by the planners and white-collar staff on the other. The latter, though educated and ‘articulate’ were tedious to listen to. . . . We found that our concentration would begin to dissipate after a few minutes. To our ‘uneducated’ speakers, however, we could listen for long periods without any decline in concentration. We tried out a listening test on friends, on BBC typists, canteen-workers and messenger boys. The result was the same. They could remember whole passages of the West Country man talking about the beds in the hostels but couldn’t remember the sequence of this or that technique or the components of cement. (306)

There are, of course, sizeable differences between the subjects being discussed here: one might be complex industrial processes with technical details, while beds in hostels are more human and relatable. However, the performance of professionalism presents a barrier to the person. MacColl continues:

We made a rough analysis of the speech in a number of tapes chosen at random . . . The managerial contributors tended to use an extremely small area of the vocal-effort spectrum. Irrespective of the subject under discussion, they scarcely ever varied the tempo of delivery. Almost all of them made constant use of the impersonal pronoun. . . . They spoke *at* you rather than *with* you. . . . And it was dull. . . . The workers were speaking for dramatic effect and watching the result, not just giving information. (306-7)

MacColl, Seeger and Parker’s approach to these tedious voices in *Song of a Road* can be heard in the work, these voices are largely front-loaded then detail features more sporadically with music behind, but the voices of [SAMPLE] ‘the blokes who’ve got to shift the muck’ (1959) “sing” all the more for this juxtaposition.

If these voices “sing” then is the vocal *punctum* in these works? Doubtless it *is* there, but in different places for different people. In his autobiography, MacColl writes about listening to the voice of Dot Dobby—a teenager from Salford recorded for *On the Edge*—in words that would not be out of place in Barthes’ *Camera Lucida*: ‘Is it nostalgia that that gives these words the power to move me so deeply? Or is it the memory of the voice that utters them? It is a young voice carrying echoes of my own childhood’s hopes and fears’ (2008: 321). This is a vocal *punctum* for MacColl; his own memories are brought into coincidence with that voice, and it resonates accordingly. Accessibility to the vocal *punctum*, however, given the reams of actuality taken, sat with one man: Charles Parker.

There is a sense in capturing the voice that there is always a plasticity to the medium, that the recordings themselves are malleable in the hands of those who are going to refashion them: picking, moulding, and integrating and interweaving these voices with the songs. The everyday experience has been comprehensively captured, but although these people are speaking for themselves and their own voices are used, they are still operating as the workable material of the artist. Seán Street observes of the Radio Ballads:

the control remained with the producer; in place of a blue pencil cutting words on a page, a razor blade cut tape . . . The voice was real, but it was mitigated through the decisions of the programme maker (2017: 87)

The recorded voices contained within the hours upon hours of actuality were—like the earth moved for the construction of the M1—the clay to be reshaped into another, much smaller, frame: the voices in the Radio Ballads are not really speaking for themselves. Given my overall frame of *Camera Lucida*, a useful parallel from photography is that of the picture editor: cropping a photograph and placing a caption underneath anchors the meaning. Seán Street again:

Charles Parker argued that by editing, the broadcaster aided meaning through releasing the thought from a cage of speech patterns that sometimes concealed or blurred the sense intended by the speaker. Parker claimed that in doing so he was setting the thought like a jewel in a ring (2019: 141-2)

The hypothetical photo and the vocal actuality are re-anchored in the context in which they are consumed. The source material is truthful, but it then goes through processes that refashion it for a specific purpose: the voices in the Radio Ballads are not free-floating, these people are not speaking directly for themselves: there is always a compromise. MacColl speaks of ‘the magnificent contribution made by Charles Parker as a tape-editor’ (in Seeger 2008); his process was critical, and Parker’s jewel was lifted from a mine of actuality: honed and polished through technical processes, and then set into the programme. But what remained in the mine? The Radio Ballads offer an example of the availability of the vocal *punctum*, professionalised (in the performance of white-collar workers) and technologised (through the technical processes of editing) to compromise its presence. The *punctum* is personal, and in the case of the people speaking, their families would have a wholly different sense of what really mattered. The case made for the Radio Ballads as a democratic impulse can be overstated, but not necessarily within the context of their time. When they are considered as a celebration of voices it should be noted that the wider public do not necessarily know the names of the innumerable people involved—John Axon excepted—beyond MacColl, Seeger and Parker.

Janet Cardiff’s sculptural artwork *Forty Part Motet* consists of forty speakers arranged in an ellipse, playing a recording of the Salisbury Cathedral Choir. Each singer has been closely recorded, with each speaker carrying that singer’s voice. The piece is not simply about hearing (perceiving the sound) or listening (actively engaging with it), but forces a more complex exploration of both audio and physical space, which the co-present audience and Cardiff’s speakers occupy. In experiencing this work, the audience explores the physical space to create their own unique mix of the piece: their position in the room and distance from each speaker (which they can vary across the fifteen-minute piece) modifies the work. While the audio is identical, the number and positioning of the audience members and the acoustic qualities of the exhibition space ensure that no two experiences are the same.

These speakers, and the mediating technologies involved with the recording and production of the work, offer a different relationship with the piece than one possible with live performers, particularly when considering the relationship between sound and space:

[SAMPLE] People might hear a sound and a voice coming from their right, and then they'll hear the music move over to the left . . . and sometimes I imagine it's almost like ripples in a river, how the sound moves. (Cardiff 2015)

This is a unique aspect of the work, serving to remind us of how we hear, but the loudspeaker arrangement and volume also makes it possible to effectively “solo” a single chorister. When recording the work, according to Josée Drouin-Brisebois, senior curator at the National Gallery of Canada, [SAMPLE] ‘Cardiff devised a complex recording process in which she captured the voice of each singer individually . . . So, in a way, each time that we’re approaching one speaker, it is as if we’re approaching that singer specifically, and we can hear *their* voice’ (2020). When walking towards a particular chorister’s speaker and standing right beside it other voices disappear into the background. Janet Cardiff has spoken of the intimacy this offers the listener: [SAMPLE] ‘To me the connection with the intimacy of this piece became really apparent, because no audience members would stand up to a singer and stand right next to them, but technology is invisible to the audience, so they feel very comfortable where they walk up and they move around’ (Cardiff in Tate 2017). It would be wildly intrusive to do this to a live performer, offering your ear to their mouth in order to listen closely to the detail of their part, yet *Forty Part Motet* positively encourages it, allowing the audience to play the role of producer in the playback of the audio.

The song itself is undoubtedly beautifully performed, but within the singing there is no *punctum* available. It is hard to hear any flicker of emotion or person in these angelic, professionalised voices. There are two moments of the *punctum* in the work: a point of *access*, and a more concrete *example*. The point of access, where it flickers tantalisingly, is the point where the voice has been neither technologised nor professionalised out of the recording: the time during which the performance dissipates as, between takes, the choir is recorded without their knowledge. Genuine interactions between choristers are captured, again with that same closeness of recording, but slightly off mic, with their heads turned for idle conversation. The technology of

audio capture can be left running; a photograph cannot. Our awareness of a camera forces a pose; these open microphone channels, surreptitiously recording, allow for the “non-posed” voice:

[SAMPLE] Voice 1: Nineteen to twenty, the last bar and the first bar, and then that first one on the last page. We always get that wrong.

Voice 2: What do we do when we get there?

Voice 3: Well, get it right. (Cardiff 2001)

These snippets of conversation may not contain a *punctum* for me, but they open up the availability of the *punctum*. Although off-mic, and further away sonically, these off-cuts grant a closeness to the choir that the choral, harmonious singing does not. The spoken voices do not merge, they remain distinct, and their unguarded nature offers a window to the private persona. As Cardiff herself said, [SAMPLE] ‘This little bit of intermission was so important because it made the people into real people’ (Cardiff 2015).

Forty Part Motet, in its arrangement of speakers and the manner in which it was recorded, is as close as it is possible to get to the voice through mediating technologies. The example of the *punctum*, for me, resides in one moment: when the choristers inhale prior to the first note. Not every chorister, but from a handful of Cardiff’s speakers the noise of bodies taking a breath in unison “pricked” me, not because of what it preceded but what it ended; chatter fades away, feet shuffle, and choristers inhale, at the moment that marks the transition from people to choir; from individuals to a singular, singing entity; the beginning of the performance.

Where, then, does the vocal *punctum* reside? The *punctum*, as Barthes confesses in *Camera Lucida*, is personal, and the vocal *punctum* is no different: it exists in vocally individuating characteristics, the kind that are professionalised out (in performance) or technologised out (removed in production). There is, as discussed, something different about the personal recording and the performed recording: the performed recording is the best recreation of emotion within the technical constraints of the medium, while the personal can be ignorant of these. The access we have to a person is a determining factor in this, how well we know them, our relationship with them, and *how* we experience them: the *punctum* is a personal response. It could be the nature of the voice, the nature of how something has been said: its power is in its specificity, its

particularity. If our access is only through the performed and not the personal—David Bowie, for instance, whose death I will speak about on Vinyl 6—the *punctum* can still be found, but on the terms of that pre-existing relationship.

The *punctum* is not a question of fidelity, necessarily: in playback, a piece of audio containing a *punctum* for a person could be heard just as easily on a high-end listening set up as a car radio, ‘we tolerate listening to certain pieces of music in circumstances where the sound is but a pale reflection of what it ought to be’ (Chion 2016: 206). The *punctum* transcends questions of fidelity, even quality, and can be captured in a rough, off-mic manner. Indeed, it is perhaps more likely to be captured in a voice that is not inhibited by the presence of a sizeable recording set-up. David Hendy observes that the smaller scale equipment of radio documentary production and reception can help to achieve ‘an unforced naturalism among its subjects; the medium’s lack of visual clues only serves to increase the radio documentary’s associational powers, rewarding the listener with a more involving—because more open—text’ (Hendy in Crisell 2003: 187).

Hendy speaks of the medium’s lack of visual clues in *reception* here, but the lack of visual clues matter at the point of *capture*, and are also critical in granting access to the “unforced naturalism” in the voice. This openness of the text is also critical to the vocal *punctum*, being audio only. With audio, the brain does the work, as observed by Peter Lewis: ‘encourages the listener’s imagination to visualise what he is listening to, to create for himself the visual dimension he is apparently deprived of’ (Lewis in Shingler & Wieringa 1998: 76). The recorded voice works similarly: the mind populates the gaps with the missing information, the sound serves as a fire-lighter for the imagination. Christian Metz writes of *Camera Lucida*:

the only part of a photograph which entails the feeling of an off-frame space is what he calls the punctum, the point of sudden and strong emotion, of small trauma; it can be a tiny detail. This punctum depends more on the reader than on the photograph itself, and the corresponding off-frame is also generally subjective; it is the “metonymic expansion of the punctum.” (Metz 1985: 87)

Vocal recording has a frame: a subject that a microphone will be positioned in front of, an intended performance, the aims and ambitions of the resultant edit; this is its *studium*. What happens outside of this, beyond the boundaries of the microphone and its polar pattern, beyond

the parameters—including before and after—of performance, beyond the focus of the edit; this off-frame opens up the availability of the vocal *punctum**. The imaginative space is opened up by this off-frame audio, the visual element of the off-frame is populated from memories and experience, and the *punctum* is brought forth through this interplay. As Barthes states, ‘[the *punctum*] will break (or punctuate) the *studium*’ (1981: 26), brought about by the listener’s memories and experience conjured through the off-frame audio. While instances of the vocal *punctum* are personal, the conditions for its availability are more universal.

* The vocal *punctum* for my father’s voice can be found on *The Punctum EP*, contained on a 7” single in the thesis submission.

Vinyl 3: The Record's Needle - The Aural Punctum – EP – Side C

Thanks Da. I appreciate that, but I think *I* need to speak this section on *The Punctum EP*; extending the play, and set apart from your words, but using the same microphonic arrangement in the same room.

When I listen to my father reading that record, where does the elusive vocal *punctum* reside for me? I may be wrong, and the subsequent years might prove this assertion incorrect, but this section of audio, I think, provided my gateway to the *punctum*:

Russell: ...what they term, 'recombin-' ... 'recombin- atoria-' ...? 'recombinatoriality'? Let's start that again! Part of the process of modern recording is to allow for it's transportability, its reusability, what they term, 'recombrinatori-' [slight laugh]... What they term, 'recombinatoriality' nah, Jesus wept! What they term, 'recombinatoriality.' What they term, 'recombinatoriality.'

His dictated words do nothing for me: it doesn't really sound like my dad and they are expected, scripted, I have written them. The accidental moment, the out-take, and his repeated takes as he endeavours to get it correct—then better again—is where I hear something unexpected, where I hear—surprisingly in this context—*him*. That is what pricks me, that is this record's *needle*: I am pierced by the emergence of both his off-script voice and his repeated commitment to the words. Yet that moment of voice is precisely what was removed: these words did not make the final edit of that section because his voice and the numerous attempts did not serve the text. The vocal *punctum* remains nebulous and elusive, but it may be more available via digital recording than analogue because of its seemingly infinite and comparatively inexpensive nature. Recordings can be left rolling without expensive physical media being used up. Yet the availability afforded by digital media is simultaneously problematic, as the percentage of vocal *punctum* in lengthier recordings is likely far smaller as a consequence. Reviewing the tapes, the focus of the next vinyl, becomes a far trickier task.

Vinyl 4: Clarke's Last Tape - Side A

This vinyl sees me “reviewing the takes,” as it were. Considering vocal legacies, recorded media, and memory, and interrogating what my dead voice is on this collection of vinyls. Here, I take my cues from *Krapp's Last Tape*, Samuel Beckett's tape-based, one-act play in which he explores the voice, memory, and recorded media; across this vinyl I will be “listening back” and examining the finality of any recorded voice and the interplay with memory, discussing recorded media artefacts more broadly, and bringing in—and sampling from—two radio documentaries across these discussions: Seán Street's *Home Recorded Voices* (2008) and Clare Jenkins' *Dad's Last Tape* (2012). This vinyl touches on death in relation to recording, as my voice steadily spirals—over the course of these records—towards this inevitable conclusion. Where the previous vinyl examined and defined the availability of the vocal *punctum*, this vinyl carries this forward in relation to the impulse to record, the persistence of recordings, and the interrelationship of sound and memory.

Krapp's Last Tape provides a useful lens for this study, and, formally, I have endeavoured to recreate aspects of it. This does not see me lifting sections of text, though there will be similarities. I sit at a desk to record this vinyl, and you will hear me handling and “playing back” from cassette tapes—some of which are old recordings of myself—in this practical consideration of person, medium, and memory. I begin this play, pause, stop with Beckett's Krapp, sampled from the audio recording of a previously performed version of this vinyl:

[SAMPLE] Sat before the fire with closed eyes, separating the grain from the husks . . . The grain, now what I wonder do I mean by that, I mean... (*hesitates*) ...I suppose I mean those things worth having when all the dust has—when all my dust has settled. I close my eyes and try and imagine them.
(Beckett 1958: 11-2)

And what are these grains? What are these “things worth having” to which I—Not “I”: Beckett, Krapp—refer? The processes of recording, editing and playback perhaps offer us a lens through which to consider this: in any initial decision to record, there is a desire to preserve a moment. This perhaps leads us towards these “things worth having”, these things of significance. Additionally, there is crossover here with Barthes “grain” of the voice: in closing his eyes and

attempting to remember, Krapp opens up the imaginative space, ‘isn’t it the truth of the voice to be hallucinated? isn’t the entire space of the voice an infinite one?’ (1977: 184). In Barthes’ consideration of *The Grain of the Voice*, he builds upon Julia Kristeva’s concept of the pheno-text and geno-text, discussing the pheno-song (‘all the features which belong to the structure of the language being sung, the rules of the genre, the coded form of the melisma, the composer’s idiolect, the style of the interpretation’) and the geno-song (‘the volume of the singing and speaking voice . . . it is that apex (or that depth) of production where the melody really works at the language - not at what it says, but the voluptuousness of its sounds-signifiers, of its letters’) (1977: 182). Beckett, too, wrestles with the pheno/geno distinctions in *Krapp’s Last Tape*: Krapp records his voice to capture memories, he does not diarise in writing. Amy Lawrence in *The Pleasures of Echo* discusses Barthes’ “grain”, stating that ‘the speaking voice is involved in producing language and sound. When recorded, the voice, so often lost track of in the attempt to capture the meaning of the sounds articulated, reemerges, becomes a captureable object, a source of pleasure separable from its function within the symbolic field’ (1988: 9). While not always pleasurable, in Krapp’s writing aloud he attests to the voice’s ability to go beyond words: offering up vocalic tells that might betray Krapp’s emotions. Barthes—in *The Pleasure of the Text*—states ‘Writing aloud is not expressive; it leaves expression to the pheno-text, to the regular code of communication; it belongs to the geno-text, to significance’ (66). Krapp’s “things worth having” are bound up in geno-text: this grain is significant because he has committed it to tape through his voice. The significance is not just that they can be *replayed*, but that they made the “*pre-edit*”: they were not omitted from Krapp’s recording as he described his thirty-ninth birthday.

The “grain” is, however, different to the vocal *punctum*. Krapp’s “grain” is intended, it can be the *studium*: the *punctum* is, as discussed on the previous vinyl, unintended and is brought to the work by the listener. The “grain” sits with the recordist, and the decision to record and capture the *studium*, the “things worth having”. The significance, the grain, has already been ascribed in the *choice* to record. These are memories wrapped up in voice, committed to tape.

[SAMPLE] I have just been listening to an old year. I did not check in the book, but it must have been at least thirty-two years ago. At that time I think I was living with my parents on Ballysally Road,

Coleraine. Well out of that, Jesus yes! Hopeless business. Hard to believe I was ever that young whelp. The voice! [Tape is stopped]

Clarke's first tape, albeit VHS. But what saw this moment in 1989 recorded? [Ballysally Road audio plays, underscores the following] It is innocuous enough, no special occasion, my older sister has a cold, I am crawling around: no words, gurgling, babbling. Two minutes, if that. But why this? In all likelihood, it was simply access to recording equipment. Borrowed from the University of Ulster, one would assume. Yet this thirty-two year old tape now forms part of my memory, in a similar manner that Lawrence Scott describes: 'Since my English childhood was only visited by cameras twice . . . I can strongly feel their effects on my memory' (2018: 80), this was my first visitation. When I look back on this year that is gone, I see myself, I recall no camera aged one; it is not a memory, and yet it *is* a memory. My recollection of it—and indeed the room in which it took place—is exclusively mediated, my memory is the document.

It is tempting to conflate human memory and storage media, thinking of the brain as a kind of tape-recorder. This perception of memory has, in part, come about due to a collision of developments in the nineteenth century, as observed by Alison Winter:

newly developed sciences of mind coincided with a proliferation of new media: technologies for recording, transmitting, and recreating sounds and images. Photography, the phonograph, and the moving image all developed between 1850 and 1900. They became identified with memory processes in a series of associations that shaped both how those processes were understood and how the technologies themselves would be used (2012: 13)

A parallel had been recognised by the public in newly-emerging mediating technologies that made sense of memory in ways that could be—if not completely understood at a technical level—recognised by its effects: 'The psychophysical sciences . . . embrace the phonograph as the only suitable model for visualising the brain or memory' (Kittler 1999: 33). This view was, however, incorrect: 'Despite what many people believe, memory is not a repository of past experiences but a dynamic mechanism that ensures the stability and coherence of the self across situations' (Lynn et al 2015: 541), these questions of subjectivity do not stand up to comparisons with tape-recorders, in part due to memory's fallibility. Yet due to the persistence of this

culturally held belief (exacerbated by the interchangeable use of “memory” and “storage” in relation to data), people often *think* about their memories in this way: imagining them as media artefacts despite the differences. For Krapp, however, there remains a crossover between media and memory, brought about by his reliance on the medium. As an increasingly mediated society, we are ‘Relying on our computers and the information stored on the Internet for memory’, consequentially studies have found that ‘We are becoming symbiotic with our computer tools . . . growing into interconnected systems that remember less by knowing information than by knowing where the information can be found’ (Sparrow et al 2011: 778). Krapp’s predicament is similar to this 21st century condition, and other studies have found that ‘cognitive ability was associated with less Smartphone use and less time spend using online search engines’ (Barr et al 2015: 478). The tape recorder is ‘a memory machine’ (Street 2015: 7), and Krapp’s is far more involved, intricate and tactile than the kind of cassette deck I have in front of me that began to dominate home recording from the 1960s onwards. It sits somewhere between—not just chronologically—the vinyl on which you listen to these words and the audio cassette in its demands on place, space, and tactility. Krapp’s memory has become a hybrid of tape and brain: he is seen struggling to remember specific incidents prior to listening, with stage directions detailing his confusion ‘(*He raises his head, stares blankly front. Puzzled.*)’ (Beckett 1958: 11). Krapp’s recording is time-consuming and laborious, and he deemed what he recorded important enough to document, but not important enough to remember. Krapp can no longer recall *without* his vast—if haphazard—library of tape recordings: his brain has been changed by the medium.

The interplay between sound and memory is particularly potent: audio can both inform the inscription of a memory, a certain song playing during a moment of significance, and can also take a listener back to a time and place, with the audio acting as a trigger for memory. It is possible for people to recall sounds, particularly music, and “play” these back (a crude conflation of technology and memory), but a memory of a voice can prove trickier to re-awaken: ‘calling up the recollection of a voice as we would a melody seems sometimes, although not always, distressingly difficult’ (Street 2015: 144). The recording and preservation of sound and voices on tape (or on audio formats more broadly) is a pursuit that exists far beyond Krapp’s den, with members of the public recording the voices of friends and family as a means of preserving voices and memories. In *Home Recorded Voices*, the potency of voice recording and memory is

examined: here Seán Street discusses recording and playback with Tony Crimlisk, who had recorded his life for almost fifty years prior to the documentary:

[SAMPLE] Street: Sitting- Sitting in your home surrounded by family photographs and now drawings from some of the- the grandchildren, all part, if you like, of the fabric that we all have in our lives. Do you see that the recordings that you've done over the years are actually a part of that same process? Of gathering that material-

Crimlisk: Oh absolutely, yes. I think I've always been aware that time passes very easily, very quickly. And things that you think are permanent today are gone, so quickly. And it's nice to capture these moments and it's particularly nice to sit back fifty years later and look at them or listen to them.

Street: I mean is that what it is er-, effectively, a sound recording, a picture, does it have the same emotional impact?

Crimlisk: Oh absolutely, absolutely yes.

Street: It's that moment?

Crimlisk: Yes. Oh yes, yes. It brings back the moment, it brings back the emotions, it brings back the feelings of that period. (2008)

Sound acts as a fire-lighter for memory, as discussed on the previous vinyl, by demanding that the listener fill in the visual gaps: insisting that the brain works harder. Clare Williams, who interviewed patients at St. Luke's Hospice in Sheffield observes: [SAMPLE] 'A voice can be such a powerful and evocative thing to listen to, and it can really bring back a person' (2012). As both a site and igniter of memories there is perhaps a sense—at least a hint—of death in any recording made (all recordings being “dead voices” aside), and ‘Sound-recording technologies have always been associated with death’ (Stankyek & Piekut 2010: 16). Consequentially, when being consciously recorded—or recording another—there is a wish for the document to be a “true” reflection of the person and/or the situation, and ultimately there is an acknowledgement of absence in this process. This is not necessarily death, but once a document exists, there is an awareness of the potential that it may be required to “speak” in a person's stead. They will want it to show them as they recognise themselves, unequivocally, because they may not be there to aid it. For her radio documentary *Dad's Last Tape*, Clare Jenkins spoke to a woman with terminal cancer who had been documenting her memories for her soon to be born granddaughter:

[SAMPLE] A voice is very much- It's part of you, the way you phrase things, the way- the kinds of words you use are very different. I can hear my mother in my voice, can hear my father in my voice. My voice is very important, yes. (2012)

Amy Lawrence writes that, 'The voice heard during playback is always the voice of the Other—crucially, even when it is the listener's own' (1988: 8). There is a gap between the perception of ourselves and the presentation of ourselves. Jenkins' patient goes on to say:

[SAMPLE] My voice is not very good today and I was upset about that. I want- I thought, "My voice doesn't sound like my voice". But then I thought, "That's the way you are at the minute. You can't do anything about it. Maybe the baby will understand that you're ill, and that's the best voice you've got." (2012)

This gap is even more palpable between the voice as it manifests itself with a terminal condition and as it is remembered: a gap I encountered when recording poems for two friends who were renewing their wedding vows after learning of a terminal diagnosis—another person recorded the words because the terminal condition prohibited full use of the voice and did not represent them as they wished to be heard: [SAMPLE] 'My dearest Pete' (2019). This "gap" is, in part, created by an awareness of the self in relation to recording and playback—examined on the previous vinyl—and can, according to Steven Connor, be heard in *Krapp's Last Tape*:

Though Krapp's spoken journal into the tape recorder may sound spontaneous, it is not. The voice and style of the younger Krapp suggest speech under the particular stress that the awareness of a recording brings with it, speech darkened by the threatening shadow of repeatability. This may account for the nervous hesitations in his speech; it is as though the threat of repetition redoubles itself by forcing moments of self-critical review at the moment of vocal delivery. (Connor 2006: 144)

In any recording there is a loss of agency, a loss of authorial control. Even when not thinking explicitly about death, there is a consideration of absence, about how a piece of media might be received without the subject there to help negotiate that narrative: when a person dies that authorial control is gone, as evidenced by the terminally ill contributor in *Dad's Last Tape*. But, crucially, Krapp is his own audience; these tapes, we can assume, are not made for anyone but him, while the recording of memories for Jenkins' cancer patient are intended for her family,

resulting in concerns about the truth of “her” voice. The notion of the intended audience can also be heard in *Home Recorded Voices* as Séan Street and Russell Barnes, a collector of early recordings, listen back to wax cylinders from 1917:

[SAMPLE] Street: They seem to be having fun, I mean they seem to be really uninhibited, which is interesting because this is audio, er- if we look at a photograph of that same family of the time it would probably look very formal and posed and so forth. But there’s a sense in which, perhaps, the very fact that it’s audio that makes them relax and enjoy themselves more.

Barnes: Erm- they were relaxed, and I think that they were in a familiar atmosphere. (2008)

The people in the audio were recording themselves for *themselves* (they were, likely, the only people they knew who could play the recorded material back), and as a consequence they sound comfortable: it was for them and not intended to be listened to by millions on Radio 4. Where worries about the performance of the self might exist when a recording is intended to be heard by others, any concern is lessened where the audio is unlikely to be replayed for an external audience hearing these words anew. Krapp’s problematic and unreliable memory, however, *does* see him hearing these words for the first time. While his body has uttered and heard them before, his memory cannot recall them: he represents a new, internal audience and the impact upon him is palpable.

[SAMPLE] Aged one, what is my relationship with the recording from Ballysally Road? I am not mindful of possible reconstitution. I do not understand the technology in front of me. Yet the users (my mother and father) *do*. Whilst I am not aware of its possible reconstitution, my parents are. My mother delighted by my videated image on the screen, my father—his presence perhaps clearer for only being a voice—operating the camera. Moments. Her moments, my moments. A short, old, black VHS tape. I’ll never forget the video of Ballysally Road.

I may never forget the video of Ballysally Road, Coleraine, but as I speak these words I have 26,693 photos and videos stored in my iCloud drive, amassed since 2010. Navigation of this vast archive is aided by geotagging and dates, however I do not doubt that there are images contained in that archive that I will never view again and have no memory of capturing. But why so many images? As a consequence of the lack of constraints that digital media offers, rather than one photo, three or four will be taken instead. The instantaneous nature of the technology means that

the images can be instantly reviewed, and if there is something that's not happening when the photographer is seeking the "grain" that they are aiming to capture in that moment then the offending—seemingly untruthful—photo will be swiftly removed. The photo might have contained an accidental recording of truth, or relationships that the subjects do not wish to be relayed, and can immediately be deleted.

[SAMPLE] "This image does not constitute us as the obviously happy family that we want to appear as."

[SAMPLE] "This doesn't say what I want it to."

Photos can be re-taken, video can be re-filmed, audio can be re-recorded until the media artefact achieves the stated aim. With the availability and immediacy of recorded data and recorded material, we are always in the moment. Immediate: that is, without mediation. I have taken this photo or video, I want people to see it, and it can be instantly uploaded to Facebook, Instagram, TikTok to be "liked" by its intended audience. The digital footprint grows ever larger. There is a constant now. The ever-present nowness. The permanent condition of now:

We live increasingly in a kind of permanent present, pushed by technology and societal peer pressure into a future towards which we are propelled with little time for consideration. The memory of how things were, initiated by a sound that brings with it its own nostalgia, causes a hiatus, a pause in this headlong rush (Street 2015: 82)

Seán Street's words—reminiscent of Jameson's observations about contemporary society, which I will draw from on Vinyl 6—are particularly pertinent in relation to Krapp's tapes: Beckett shows Krapp both delighting and wallowing in his old words. However, there is no sense of "rush" in Krapp's media artefacts, nor in the innumerable examples of recordings across *Home Recorded Voices* or *Dad's Last Tape*. The medium is key to this, and considering the nature of the media that is recorded on to and how that is captured. Krapp commits his voice and memories to Tape, archiving and writing down the contents of each. When recording to film in the 1970s its users were acutely aware that they were shooting something expensive, each frame had a monetary cost (not just in the medium, but subsequent development too). With the emergence of video tape and the VHS the cost of capturing a moment became minimal, and the

format allowed for re-recording, shifting the way that the medium was approached and how society thought about media more broadly. With the advent of digital media, and the seemingly infinite amount of storage it offers, media is now so plentiful that many photos taken by people may never be looked at. There is an abundance of media now, while we can see Krapp choosing when to record and what to record. It is clear, from Beckett's stage directions that he has a great deal of recorded material—'*a number of cardboard boxes containing reels of recorded tapes*' (Beckett 1958: 9)—in addition to his ledger, but the very fact that he is engaging with this archive of tape-based memories and listening back suggests it is not too vast or unknowable. Audio, generally, tends not to be recorded in the same way as photographs or video, even with the advent of digital media: sound and voices are typically recorded more purposefully. Its capture is not done quite so casually, even when using a mobile phone to capture a "Voice Note" rather than the more focused microphone set-up I have put together to record this vinyl. The more purposeful nature sees audio recording articulated more towards Barthes' concept of the *studium*, something *particular* is being recorded (even if, as I will examine later, the *particular* thing being recorded is intentionally more general).

Once recorded, any resultant media artefact is typically edited. It is framed. It is tweaked, altered, and augmented, often in post-production software for photographs, video, and audio. Here the *studium* can be accentuated further, negating the other aspects that have *punctum* potential. The mixing of audio is this process: consciously aware of the intended subject and using the "correct" takes and plug-ins to bring this to the fore. But Krapp is a recordist, the capture of his voice is purposeful and deliberate, and there is no evidence of the splicing or excising of tape in Beckett's stage directions, no attempt to shift the meaning through an editing process. However, editing is not simply after the fact: it takes place before the cutting room. Editing begins at the moment a person thinks, "This warrants capturing". It is when a shot is framed or a microphone is positioned. Increasingly, because of the immediacy of reviewing and knowledge of reconstitution, we pre-edit: deleting what does not constitute the intended subject or intended truth; this editing takes place in choosing when to press record and press stop. Like Krapp, people choose what they want to listen back to, pressing stop at points that prove uncomfortable or unconfontable. The "grains" that do not fit the curated self are dismissed as "husks", and they are kind of [hesitates] effaced. Krapp's inability (or reluctance) to edit means that he is exposed

to things he does not wish to re-hear, ‘All that old misery’ (19). His fallible memory, too, contributes to this, but in (deliberately?) forgetting these now painful memories—‘Farewell to—*(he turns page)*—love’ (12)—his mind has edited his past. When confronted by it again, he skips past it, frustrated, he is, ‘an editor and reviser of his autobiographical records, who tries to make a synthesized self from the mechanically reproduced recorded voice’ (Iwata 2008: 34), but any editing is not achieved with ‘an open splicing block, a razor blade and a steady hand’ (Hellyer 1970: 181), it takes place in his unreliable memory and in playback: like Krapp, people fast forward, people rewind, and they flick through the abundant carousel of—as well as individual—media artefacts. In a sense, what people are trying to do with any of these things is control the presentation—whether Krapp or the terminally ill—of themselves.

That control of presentation, and its relationship with memory, will continue to be explored across Side B.

Vinyl 4: Clarke's Last Tape - Side B

I begin this side with my *first* tape (not VHS tape, but tape tape: TDK-90), or what I am confident is my first tape: it consists of a news report that I made for a homework assignment in the year 2000, aged 12 (more specifically, I would guess the end of February or very early March as I read the headlines, [SAMPLE] 'MP and wife killed in a blaze at their country home and Leicester win the Worthington Cup,' which happened on the 25th and 27th respectively). For my English class in year 7, homework was set each week, and across the course of the term we were writing the story of our class disappearing on a flight in the Indian Ocean and becoming stranded on a desert island. The week in question (entitled *Chapter 6: Shock! Horror!*), our class were asked to prepare a newspaper report, but I asked whether I could prepare an audio version, a radio broadcast. My father and sister ably assist: him playing the roles of a correspondent on a search boat and my school's headteacher, her as a continuity announcer after technical difficulties interrupt the broadcast. I perform as [SAMPLE] 'Russell Labey', offering a curious slightly Northern Irish lilt, I think arising from a confusion between television and radio presenters (Russell Labey hosted Spotlight, the BBC's regional news programme for Cornwall and Devon).

Listening back is an odd experience: the quality is fairly terrible and echoes can be heard where the layers have imprinted on one another due to the age of the tape: [SAMPLE] 'there are more worries for the children on the school trip that went- [SOFT TAPE ECHO HEARD]'. I cannot recall much of the tape's creation, but assume that it was recorded directly to the tape itself, via an analogue mixer, without a digital audio workstation. It is clear that I am reading, and on several occasions I stumble over my words: [SAMPLE] 'as 27 sch- schoolchildren are missing, feared dead, after their plane crashed into the Indian Ocean last night', [SAMPLE] 'Now in the studio I have Ar- Arthur Hosken, the headmaster at the school', [SAMPLE] 'but are you pleased with what is being done to find your sch- pupils?' As I listen it does not sound like my voice, I am affecting a curious accent, and the overall experience is strange. I recall aspects of the audio, including an upward inflection in delivery of a line by my father, but as an artefact, it does not represent me as I would wish to be represented, nor is it an important memory.

What is more interesting is not the tape itself, but why I have kept it. It has remained in my drawer of possessions for two decades and gone unlistened to; having heard it I don't much care for it, and I am unsure why I have held on to it, yet I think I still will. Reasons for keeping recorded audio, while not making use of it, can be hard to pin down. Clare Jenkins—having dug through old cassettes, minidisks, and DATs (digital audio tapes)—observes of recordings she took of her deceased father from 1985, [SAMPLE] 'But why have I kept them? I'm not planning to archive them and I've not listened to them for years' (2012). Preserving important audio is a theme that comes up across *Dad's Last Tape*, with many reasons offered by contributors. Rony Robinson's recordings of his mother—that he had not listened to until the documentary was being recorded—kept her present in his home, [SAMPLE] 'So yeah, she's still in this room now'. Jenkins drills down into this audio oddity:

[SAMPLE] Jenkins: And why have you not listened to them before?

Robinson: Part of me is scared that they're not there, y'know these are pretty primitive cassettes, that they'd snap and that would be goodbye to my mother forever. (2012)

The medium's inherent fragility is inextricably linked to her presence in his home. As complete cassettes she is present; should the tape break (though the material itself retains the sound) the cassette, and his mother's voice, becomes unplayable: any damage to the tapes represents a second death. Volunteered recordings for this project have also attested to the need to keep media artefacts and recordings, one person spoke about keeping answerphone recordings of their mother captured while she was in hospital [SAMPLE], 'And all of those are now saved erm- on an MP3 player. So I save the voice recordings, and I've also recorded the voice recordings on an MP3 player, and I've sent them to my sister. So I've triple backed them up. Erm. All of it stems from the fact that I don't want to lose any memories' (2021). In relation to the recordings of his mother, Rony Robinson goes on to say: [SAMPLE] 'Though I bet when you've gone I'll never listen to them again' (2012), thus keeping his mother and her voice in this tape-based aural stasis, not checking if the medium is intact or not: a kind of Schrödinger's DAT.

Krapp's tapes are also kept (perhaps to prove that, like the recorded people, they "happened") and as Beckett shows, these do not go unlistened to; they are enlivened through playback as he

revivifies his memories. Audio revivifies and reanimates not just the memory, but the recorded person too. Sally Goldsmith, Robinson's partner, takes the time to listen to recordings she has of her mother, and remarks on this act of vocal revivification: [SAMPLE] 'Y'know, actually hearing her voice today, there's a- there's a real person there, y'know a voice is somebody's, sort of oral signature, I suppose, in a way' (2012). Sound activates memory in a profound way, but according to Rudolph Lothar, 'Nothing excites memory more strongly than the human voice, maybe because nothing is forgotten as quickly as a voice. Our memory of it, however, does not die—its timbre and character sink into our subconscious where they await their revival' (in Kittler 1999: 45). Whilst in the subconscious, awaiting particular "revivals" it is, as Seán Street observes, possible to imagine these voices:

I can 'hear' my father's voice, recorded there in my mind, but I cannot reproduce that sound as a physical tape or memory card could; I cannot share it, except perhaps in some kind of genetic way, in which I may deliver unconsciously in my own speech and sound patterns echoes of ancestral voices. (2015: 79)

Street elucidates a critical, if obvious, distinction between media and memory: that of the reproduction of sounds and voices that have been committed to memory—any playback exists for him alone. Revivals of these voices can be triggered by listening to specific recordings, but memories connected to those recordings are not limited to the time and place they were recorded. Sally Goldsmith remarks of listening to the recording of her mother in *Dad's Last Tape*, [SAMPLE] 'Y'know I can hear her saying those sorts of things' (2012). It is "*sorts of things*" that is particularly crucial here: what comes cascading back is not simply the recording of her at that point, but the nature of how she spoke more broadly: the *things* she said, not the *thing* she said. Mary Stewart, Oral History Curator at the British Library, remarks:

[SAMPLE] 'I love listening to people's voices, and I think you can gain so much more by listening rather than simply by reading or by looking at a photograph. All of those things together can really, I think, help animate: there's that text, or that image, and bring a person to life a bit more or- The voice carries so much inflection, emotion, so much colour, it really brings that person that you knew back to life again' (in Jenkins 2012)

The voice acts as a powerful gateway to memories: Krapp's voice reminds him of moments, but with recordings of others crucially the reanimation is of the *person*, rather than the *moment*. Audio recording's focus and intentionality bringing the *studium*, in this instance the person, to the fore.

In playback a voice can fill a room, it resonates once again in a familiar space. But that space can also often be heard on a recording: *where* the voice resounded, and its identifying acoustical qualities, forms part of these sonic memories (it is why I have chosen to record my words in specific places). David Toop observes that 'We hear space all the time, not just its echoes and foreground signals but also its subliminal undertow, the presence of atmosphere' (2004: 47): Krapp's tapes bear no reverberant inscription, his den does not echo and his recording setup is vococentric, but the growing interest in different modes and methods of spatial audio recording is reinstating a sense of space and the passage of time in sound recordings, particularly binaural, discussed here, and ambisonic, discussed on the next vinyl. It is not that these technologies did not exist prior to now—Stephan Paul's exhaustive paper on the history of binaural recording technology traces experiments back over one hundred years, but notes that 'The sixties and seventies can be considered a golden age for binaural technology' (2009: 767-773)—rather that society has re-found an interest in this territory for a range of different reasons: growth in headphone usage and developments in the technology, the ease of sharing digital stereo audio, the immersive qualities of the medium, and its effectiveness in video games. The combination of these developments have renewed an interest in space and place in audio recording.

Memories of place and distinctiveness of reverb particularly came to the fore in my own practice in the creation of *Bleed*—a piece of live, binaural stand-up comedy exploring the self—which I co-created with Edinburgh Comedy Award winner Jordan Brookes and producer Bríd Kirby. Seán Street observes that,

an echo is the memory of the sound that produced it . . . We have seen throughout this journey how Place memory can engage us through sound; and of course, because we inhabit life in terms of a series of places, be they office blocks, tents, cities, condominiums or caves, we carry their memory (2015: 155-6)

As well as an echo functioning as “the memory of the sound”, it also carries an inscription and memory of the place in which it sounded. In playing at the boundaries of live performance and recorded media, and the “real” and “not real” that the binaural technology offered the piece, we encountered a particular problem when transferring the work from the Pleasance Beside to the Soho Theatre. A number of sound effects had been recorded for the piece in the original venue in order to keep our audience unsure whether what they could hear was happening live in the auditorium; when the piece changed rooms, so too did the reverberatory signature of the performance space. As a consequence, many of these recordings sounded “wrong”; the audience’s memory of place and space (and a room’s individuating reverb) would betray the work, ‘Reverberations and echoes govern us, and we listen for other voices and sounds to help place us in the world’ (Street 2017: 13). As humans we are very good at this, as noted by Blesser & Salter, ‘learning is the dominant component of acquiring echolocation skills. We are not, however, speaking of 20 hours of practice but of thousands of hours. Say you are a 20-year-old adult. You have already spent well over 100,000 hours listening to the physical world of spaces’ (2007: 44). People are well-practiced at identifying space through sound and to ensure this discrepancy could not be heard we re-recorded many sound effects in the new venue, making further changes when the work toured to Melbourne.

I include this as an example of people’s immediate capacity for aural memory of space, but the medium’s capacity to transport the listener to and immerse them in *another* space is profound. Sound artist Francesca Panetta, who specialises in binaural audio states:

If we had a sonic recording of, say, our family at Sunday lunch twenty years ago, and we listened to that on headphones, there would be a strong sense of being there, in a way that a film would not convey, because once there are moving pictures we are outside the experience. With a sound recording, you are reconstructing yourself in the moment you are remembering—sound can do that better than pictures, where you’re just so removed (in Street 2015: 109)

There is a sense that people are more interested in the aspects of a place in sound than they used to be. These technologies also have more capacity for accident, happenstance, serendipity, the *punctum*. When utilising binaural recording it is, in part, to capture movement; the technology encourages the comings and goings rather than the typically fixed nature of audio recording:

there is no instruction for the subject to sit and be six inches away from the microphone, no use of a *particular* microphone in order to exclude typically extraneous sound. With binaural recording there is a conscious decision to include all of the things that a cardioid microphone would not ordinarily capture. This changes the provisional nature of encouraging accident, or being less controlled than more formal recording set-ups. To extend Don Ihde's observation that, while people can look away, they cannot 'listen away' (2007: 115)—except in playback, as Krapp does—or Steven Connor's observation building on this that 'we have no earlids' (2000: 17), in order to mimic the ear and how we hear—and all of the accidents and moments that find their way into our auditory field—binaural recording should not "listen away" either. This is not limited to the nature of *what* is being recorded, but also to the accuracy of time and space in this auditory field: the technology, while it doesn't prohibit editing, does not embrace it either. Stitching together two takes, because of how accurately the sense of space is articulated to the listener, does not work unless the spatial arrangements are incredibly similar. Any jump in time (betrayed via a change of proxemics) sounds incorrect—after all, people know how they hear. The technology accommodates—even celebrates—consistent, uncut, movement through space and time: there is a desire to capture the everyday, the diurnal, when recording binaurally.

The manner of recording binaurally is, additionally, generated and made real by the body (or dead, inert mannequins): the microphones are of little use unless spatially arranged in a person's ears. When recording for *Bleed* I found that there was no substitute for the human body; a wooden head did not create the psychoacoustic affect in the same way as the head and ears did. This, however, was not limited to the neck up. As the action escalates in the work, the audience hear the following, [SAMPLE] 'Sorry, excuse me, I need to get out', "feeling" a tap on their shoulder followed by Jordan's insistent whisper. With just the voice, I felt that the sound cue would have little impact, but experimenting with the added "tap" on the shoulder beforehand saw audience members' heads swiftly rotate to see who, on their left, wished to leave. Although the tap exists only as audio, audience members repeatedly "felt" this sound, bringing the listener's lower body into the psychoacoustic illusion. Binaural recordings thrive with movement, they want bodies and footsteps, but the body is also a critical part of this microphonic arrangement, and binaural recording is a technology of space, time, and the body.

Krapp's recordings would gain nothing from engagement with binaural technologies, they are produced for him, intended to prioritise his voice, and he is alone as he records: they do not offer him anything. Yet for the participants and recordists that can be heard in *Dad's Last Tape* and *Home Recorded Voices*, there are interesting possibilities offered by the medium: allowing the possibility of "home" to be recorded and inscribed in a different way, but potentially compromising the "voices". Amateur recordists have already experimented with the possibilities of stereo recording, as can be heard in some of the donated tapes for *Home Recorded Voices*, [SAMPLE] 'people played around with it, people had fun with the speeds, people had fun with the stereo, erm- the two channels' (2008). Two families—one in the United States, the other in Belgium—communicated via tape, one occupying the left channel, the other the right:

[SAMPLE] Belgium (left channel): 'Good evening, Marian and Henry.'

United States. (right channel): 'Good evening, Jackie.'

Belgium: It's now five to ten in the evening. Monday the er- What? 14th.

United States: (Across previous line) Well, it's only two o'clock here.

This stereo separation *feels* like a conversation, but the American voice on the right channel is commenting, rather than conversing: responding to—even talking over—an inalterable, dead voice. Another recordist—Eric—created a conversation with himself, utilising stereo to create the two sides:

impossible to be done via cassette, but with reel seemingly all things are possible, and it certainly is here

Eric L: Yes, I'm on the left. Where are you?

Eric R: Where am I? Well, of course, I'm on the right hand side. Oh, is that you Eric, on the left hand side?

Eric L: Yes, I'm on the left. Where are you? (2008)

Mixed and edited in order to fabricate a, slightly curious, conversation with himself, Eric's recording and the U.S./Belgium collaboration point to the particularly inert nature of dead voices. Even if enlivened through stereo separation, conversation is not possible as one side is always fixed; beyond alteration if the original speaker has died. There is a trick in the edit, but not one that results in revivification.

[SAMPLE] What I suddenly saw then was this, that the belief I had been going on all my life, namely—[Clarke switches off impatiently, winds tape forward, switches on again] We are trying to govern our reception with our audience. What we have always struggled to keep under is in reality our most—[Clarke curses, switches off, winds tape forward, switches on again]—unshatterable association until my dissolution of storm and night with the light of the understanding and the fire—(Beckett 1958: 16) [Clarke curses louder, switches off, winds tape forward, switches on again]—my face grinning and my sister beside. Sat there, trying not to move. Yet constantly shifting at the wrong time. Before the cut. Running to my father.

Pause.

Out of frame. Never knew the boundaries.

Pause.

Here I end—

Clarke switches off, winds tape back, switches on again.

[SAMPLE] —family tape, this time from Walsall. Another camera in the house, more deliberate this time. A staged magic trick, to demonstrate to students: a cut at the right point. My sister and I. My father filming. My grandmother present. “I will now make this young man disappear,” she said. The young man, me, too impatient to wait until the camera had stopped rolling. The gap between the intended edit and the actual edit for all to hear, as my father became increasingly irate. Actors, eh? They never do what you tell them. There I am, my face grinning and my sister beside. Sat there, trying not to move. Yet constantly shifting at the wrong time. Before the cut. Running to my father. Out of frame. Never knew—

Clarke switches off.

This VHS was my second encounter with recording equipment in my childhood, again brought to us by my father. I am aged 3 or 4, and, given my inability to wait until the camera stops recording, I still do not understand the technology that is capturing those moments. My father's irritation clearly boils over, [SAMPLE] 'Ciaran, I- can you just stand still until you're told, alright? Go back over there and sit down, alright'. There are so many takes, the recording starts and stops repeatedly: the various joins are obvious. It is important to note that while Krapp starts and stops his tapes when listening back, he does not do this when recording: the stage directions tell us he pauses, yes, but there is no sense that he has edited beyond his telling. It is assumed, then, that the tape that can be heard playing is a continuous, honest reflection. This particular VHS tape has that honesty too, but its truth lies in the number of starts and stops that can be heard. There is no "one take wonder" here, and the microphone capturing the annoyance in my father's voice after many, many futile attempts reads as an honest, if unintended, appraisal of the day.

Just been listening to that stupid bastard I took myself for . . . hard to believe I was ever as bad as that. Thank God that's all done with anyway . . . [Broods, realises he is recording silence, switches off, broods. Finally.] Everything there, everything, all the— [Realises this is not being recorded, switches on.] Everything there, everything on this old muckball, all the light and dark and famine and feasting of... [hesitates] ...the ages! [In a shout.] Yes! [Pause.] Let that go! Jesus! Take his mind off his homework! Jesus! [Pause. Weary.] Ah well, maybe he was right. [Pause.] Maybe he was right. [Broods. Realises. Switches off. Consults envelope.] Pah! [Crumples it and throws it away. Broods. Switches on.] Nothing to say, not a squeak. What's a year now? . . . Revelled in the word spool. [With relish.] Spooool! Happiest moment of the past half million. [Pause.] (Beckett 1958)

The Ballysally video: me, mum, dad, the sister. Not everyone had a cameraphone then. Now it's non-stop. A non-stop now. Had it been recorded today, it wouldn't have been kept because the sister had a cold. It wasn't the idealised notion of what the child was like: shedloads of snot pouring from her nose. In a way this is Clarke's Last Tweet, Clarke's Last Post, perhaps. Social media, the machinery of reminiscence. The artificial machinery of reminiscence. The now. A hybrid of internet and brain. You can pick and choose your memories, delete the things that don't

seem right. I am, quite literally, trying to “make this young man disappear”. Alakazam. That disappearance is an active process: a conflict between the memory of the event—even the undeniable *document* of the event—and the way that I am insisting that memory operates. Play. There is a part of that person that, at times, does not fit the narrative that *I* want. Pause. That farcical news broadcast? Rewind. There is a physical element to this, and an element in the processes of memory. Re-record. Or, with digital media: delete. There is too much to ever review the tapes. It is possible to remove the things that don’t tally with your “now.” The only problem with death is that someone has turned off the “now.” All that other stuff that you think you have controlled just becomes the evidence for other people to make the judgement. You expended all that energy positing that self, and then it is gone. You are no longer curator. The now is all over with, it is just history. Someone else interprets it, looks back on it. The evidence sits with them. It is an almost pointless, desperate waste of effort. If it’s about control and wanting to have authorship of your own story: you can’t. It is the death of the author. But that is an inevitability. It has happened in your lifetime as well. The reading of you sits with your audience, the interpretation is elsewhere. When you think about the precursors to social media: the missives, the round robin letters, you’d read them and the writer would tell you how sophisticated and urbane they were, and half the time you read it and think, “Twat.”

Go on with this drivel in the morning. Or leave it at that. (*Pause.*) Leave it at that. (*Pause.*) Lie propped up in the dark—and wander. Be again in the dingle on a Christmas Eve, gathering holly, the red-berried. (*Pause.*) Be again on Croghan on a Sunday morning, in the haze, with the bitch, stop and listen to the bells. (*Pause.*) And so on. (*Pause.*) Be again, be again. (*Pause.*) All that old misery. (*Pause.*) Once wasn't enough for you.

Long pause. He suddenly bends over machine, switches off, wrenches off tape, throws it away, puts on the other, winds it forward to the passage he wants, switches on, listens staring front.’
(Beckett 1958: 19)

[SAMPLE] —disappear,” she said. The young man, me, too impatient to wait until the camera had stopped rolling. The gap between the intended edit and the actual edit for all to hear, as my father became increasingly irate. Actors, eh? They never do what you tell them. There I am, my

face grinning and my sister beside. Sat there, trying not to move. Yet constantly shifting at the wrong time. Before the cut. Running to my father.

Pause. Clarke's lips move. No sound.

Out of frame. Never knew the boundaries.

Here I end this record. Vinyl—[Pause.] —Four, Side—[Pause.] —B. [Pause.]

Perhaps my best years are gone. When there was a chance of happiness. But I wouldn't want them back. Not with the fire in me now. No, I wouldn't want them back.

. . . The tape runs on in silence. (Beckett 1958: 20)

Vinyl 5: The Empty Space: death, bereavement, and space in audio recordings - Side A

Take a moment please, to close your eyes and imagine that I have died. As you listen to this, potentially years after its pressing, I may well have. Does my death change the nature of this recording? This vinyl confronts death, bereavement, and audio recordings in this domain: examining voices from the archive, interviews with the bereaved, and the persistence of the recorded voice—and space—in grief. Parts of this vinyl will be more broad, while others will refer to specific people, such as examining the posthumous presences of Bill Mitchell—theatre designer and former Artistic Director of landscape theatre company, Wildworks—as well as interviews conducted with his widow, Sue Hill. Throughout the course of the vinyl you will hear the voices of people touched by death and bereavement: Side A examines death and bereavement, while Side B looks more closely at the posthumous affordances of audio recording, this spectral medium, and its relationship with place and space. How does the voice echo in death and grief?

The audio for this vinyl is captured in the building where—all going to plan—I, one day, will be cremated: Penmount Crematorium. The curtains drawing closed for the last time, my casket will trundle towards the cremation chamber, and I am finally physically disincorporated. As I cannot be certain *which* chapel the service will take place in prior to my cremation, I record this side in the Trelawny Chapel, the larger of the two, while Side B is captured in the more intimate Kernow Chapel. Indeed, such is the nature of audio recording that you may be listening to this vinyl *after* I have been cremated in this building. Does that matter to me? It wouldn't, it *couldn't*, if I was dead: as a consequence of my death I am unable to have a perspective on that. These records are intended to outlast me, to be cut into a physical audio medium; ante-mortem it is my intention for them to be listened to once I am gone, but if they are played I am unable to know or hold an opinion. I have articulated my preference while I am alive, it is recorded, but as Geoffrey Scarre notes, 'even where our interests are posthumously fulfilled, that fulfilment will bring us no pleasure' (2007: 107). The vinyl itself, while not physically changed by my passing, is altered by my death, even if the medium cannot be aware of the alteration: this person—me—is dead. There is, of course, an inevitability to this change: at some point in time I will die.

While “death” might seem obvious to define—it represents a distinct and (largely) impermeable binary and is fundamental to the human condition—it is necessary to explicate what is meant by death. However, its opposing state—life—is additionally tricky to pin down: “‘Life’ is not as easy to define as may at first appear; indeed, the development of medical science and technology has made it more complex than it was before, and yet it is the basic feature of human, as of other forms of existence’ (Davies 2005: 60-61). Advances in medical science have blurred the boundaries between life and death, with technologies able to preserve the “living” body when the brain has ceased to function. In considering terminal illness, Peggy Phelan notes:

The uncertainty of this body challenges the fundamental binary of Western culture—the living and the dead. But this binary is itself crumbling. Legislatively, psychologically, and emotionally, we are beginning to face the uncertainty of our notion of when and how the body lives and dies, who does and does not inhabit it, who can and cannot speak for it when it is beyond the comforting amplifications of metaphor. (1993: 177)

Death is not necessarily just a moment, but a process, a temporal frame before which to complete bucket lists, or capture memories (which I will examine later). Geoffrey Scarre states that ‘death is the end of us as distinct and self-conscious selves’, describing it as ‘personal extinction’ (2007: 18) and it is this definition of death that I choose to focus on. This distinction of the death of the self-conscious self—or the identifiable individual self to the bereaved—becomes more pertinent with the global increase of people suffering from dementia, a trend that is predicted to continue, and ‘expected to increase to 82 million in 2030 and 152 million in 2050’ (WHO 2021). However, as this study concerns posthumous legacies, it is critical then not only to consider the death of the self, but also the death of the “other”: bereavement, and the posthumous reception of the recorded voice and its continuing, spectral, presence.

The dead voice, then, requires some additional investigation in this domain. In the state of death, a vocal recording, a dead voice, *feels* more alive than the deceased subject, but—taking this vinyl as an example—if I am dead then this record undergoes a relational, or, so-called, Cambridge change. This term was coined by Peter Geach, communicating where something ‘satisfies a description at one time that it does not satisfy at another’ (Oxford Dictionary of Philosophy 2021): this recorded voice was alive, it is now dead. Geach dismissed these as “*mere*”

Cambridge changes (in relation to audio, should a change that is not material but feels real and vivid be considered an “Ambridge Change”?). Yet whether I am dead or not as you listen, it is, as with any recording of a person’s voice, bound to be true at some stage if it is not already: the dead voice becomes additionally, permanently, inalterable. When I die I am, as stated previously, unable to have or hold an opinion regarding the recording, much less alter or re-record it. The “living voice” becomes an impossibility, the “dead voice” has to have already been committed to media; as I stated on Vinyl 1, [SAMPLE] ‘the presence of the body at the point of production and reception is what differentiates between the living voice and the dead voice’ (2021), that body is no longer present. The loss of agency in death, the cessation of one’s ability to be, to do, to speak, even, brings into sharp relief the ante-mortem desire articulated on the last vinyl for recordings to “speak” in our stead, to be truthful and accurate to our understanding of our selves. However, the “mereness” of any change in relation to the vinyl does not sit with *me* (my state is obviously fundamentally altered, but in a manner that I can no longer perceive); rather, it sits with the listener. The recorded voice becomes a question of bereavement and grief; Scarre notes that ‘I cannot achieve a full sense of the significance of my own death without reflecting on the impact it will have on others’, going on to reiterate that ‘the meaning that my death has for me cannot be divorced from the meaning that it has for those whom I leave behind’ (2007: 37). The significance of the recording, of the posthumous vocal presence, and the impact of this relational change, is contingent on the listener’s relationship to the recorded voice. In death, as Peter Marris states, ‘The person on whom so many purposes turned, to whom so many pleasures, conflicts, anxieties related, is suddenly gone’ (1986: 23). Whether private or public, close or distant, known or unknown, these ante-mortem and post-mortem relationships with the recorded voice—for both the recordist and the bereaved—will be examined across the course of this vinyl, and into the next.

I composed and recorded this vinyl during Covid-19, when deaths are going unmarked, or are not being marked in the same way. Last goodbyes in person with family members have not been possible due to stringent controls on access to wards, and the memorialisation of people has been changed—possibly permanently—with the sudden growth of the live-streamed funeral. The inability to grieve through physical connection is pronounced, and the rise of the so-called “virtual funeral”—or at least part live-casted—has come about due to ‘the number of people

allowed to attend the funeral’, with different restrictions on numbers in place across the U.K. As a consequence, ‘Funeral service providers around the world have adopted a number of alternative methods to ensure bereaved families still have an opportunity to participate, through live-streamed ceremonies accessible online’ (Lowe et al 2020: 3). The combination of these restrictions means that ‘many grieving families feel that they can’t give their loved one the kind of funeral or memorial they deserved. This can intensify feelings of loss’ (Virtual Funeral Collective 2020: 4). The technology makes some connection possible, but the rituals of grief and bereavement have had to change, and do not comfort in the same way. Without these rituals, or due to the altered (sometimes non-existent) nature of them, many bereaved people have not been able to process, or come to terms with, deaths; Adrian Barrett, vice-president of the Australian Funeral Directors Association, notes, ‘All the things we know about funerals and how they can help that transition in people’s lives when they’ve lost someone have been taken away’ (in The Guardian 2020). Death rituals from different religions and countries have also been compromised. While the rituals humans have to come to terms with the reality of death and bereavement are not perfect, they are learned, adopted, and acknowledged as “necessary”. Their inherently human and co-present nature means that the digital substitute pales in comparison, it becomes a question of whether the funeral—or simulacra of the funeral—can be effective for those grieving. The person within the box does not and cannot have an opinion, their needs are never going to be satisfied. Whether or not the people who attend find they get anything from it that they are seeking is the thing that will be discovered in the fullness of time.

The funeral—during both Covid-19 and before—bears consideration in relation to the recorded voice. As spaces of celebration of a person’s life, they are peppered with media artefacts, yet it is not commonplace to play audio recordings of the deceased at funerals. The funeral is a highly-charged and personalised part of the grieving process, a celebration of and about the deceased. Scarre notes that ‘Funerals are a way of emphasizing that a person’s death matters because his life has done so’ (2007: 135), and they are, naturally, personal and tailored in their nature, with Davies stating that ‘The choice of non-biblical readings from poems or literature often replaces or complements scriptural material and is used to express the personal relationship with the deceased or to highlight some aspect of the life and experience of the one who has died. It is the personal and individual note that is struck’ (2005: 58). In this celebration of the person, media

artefacts are often made use of, and typically these are photographs: still, inert snapshots of the deceased, carefully curated to “speak” to the person. Occasionally, video is also played, and the room in which I record boasts, ‘a large screen at the front of the chapel to display digital images or video clips. These can be pre-loaded to show during the funeral service’ (Cornwall Council 2021). It is, however, more rare to hear audio recordings of the voice as part of funeral services: Penmount Crematorium’s website does not acknowledge it as a possibility, and though it likely would be possible, its absence suggests it is not commonplace.

But why is this? It is common to record the voice and its capture is increasingly everyday (although perhaps more purposeful, studious, than photography or video), but there is a sense that audio-only vocal recordings would be unwelcome as part of a funeral service—indeed, Arnold et al refer to a particularly unwelcome example of ‘the short-lived practice of funeral phonography, in which deceased preachers presided over their own funerals’ (2018: 22). Within this observation about posthumous vocal presences at funerals, there is a critical distinction that can be made about the nature of the voice and its recording and playback, particularly in relation to death. Compared to other media artefacts, audio re-animates in a different way: ‘Photography . . . by virtue of the objective suggestions of its signifier (stillness, again) maintains the memory of the dead *as being dead*’ (Metz 1985: 84), its stillness confirms the subjects “deadness”, and Jonathan Sterne states of audio that ‘people are used to treating things that they can hear but cannot see, smell, touch, or taste as “present”’ (2003: 153). It is this *presence* that sound can achieve that would prove unwelcome in a societal ritual that, critically, ‘says there has been a death’ (Gill & Fox 1997: 11); one that is intended to solemnify *absence*: the playback of a recorded voice would insist otherwise. A useful example of this vocal presence comes from Ireland in 2019, at the funeral of Shay Bradley, an Irish Defence Force veteran:

[SAMPLE] “Let me out, it’s f***ing dark in here” calls a voice from the coffin that’s just been lowered into a grave in front of mourners . . . a ripple of laughter sweeps across the crowd at the grave . . . The voice continues, [SAMPLE] “Where the f*** am I? Is that a priest I can hear?” and the laughter grows even stronger. (The Independent 2019)

Achieved through the use of a speaker at the graveside, Bradley’s presence is reanimated in a way that only sound can manufacture: the visual referent is the still, inert coffin, but the

recording of his voice speaks to his—inevitable—presence within it. The recording is *purposeful*, it has been captured for precisely this moment by a person who, ante-mortem, wished to shock mourners at their funeral. Sound’s invisibility makes this moment of aliveness possible, it has the potential to surprise in this way, but its ghostliness is reconfirmed by the event, and it speaks directly to death. Michel Chion states that, ‘Ever since the telephone and gramophone made it possible to isolate voices from bodies, the voice naturally has reminded us of the voice of the dead. And more than our generation, those who witnessed the birth of these technologies were aware of their funerary quality’ (1999: 46). The “funerary quality” to which Chion refers is doubtless *not* the example from Bradley’s funeral, but his isolated voice resounding beside his dead body—not, as I said on Vinyl 1 [SAMPLE], ‘in coincidence with the presence of its sounding body’, the coffin is a wooden intermediary referenced through sound effect—confirms his deadness via the spectral nature of the medium. Yet Bradley’s dead voice *feels* alive, and it is precisely the recorded voice’s invisible, spectral nature that allows for this reanimation. Walter Ong notes that ‘Even the voice of one dead, played from a recording, envelops us with his presence as no picture can’ (1967: 101), but why is this? The time-based, linear nature of the voice, as well as its ghostliness, can fabricate this presence, making it—ordinarily—unwelcome at a funeral, but Bradley’s joke is aware of this tension: the service and burial as a liminal zone between life and death for the mourners in which, suddenly, his voice speaks. As Connor notes ‘The voice’s continuing power to animate, in the absence of a body which it should both be animating and be animated by, is distasteful and unnerving’ (2000: 12), this is particularly true when the subject has died, though Bradley’s prank thrives in the discomfort of this: recognising and “speaking to” the purpose of the moment.

The photograph at a funeral (that is, the printed photograph of the ante-mortem subject: photographs are not often *taken* at funerals), in its stillness, is acceptable and momentary, but the voice being time-based and linear means that it occupies space in a non-negotiable manner. The listener is required to deal with and process it in the moment, and cannot choose not to. As I detailed in my consideration of vinyl across the course of the introduction, there is something about linear media that means that the listener shares their life with it across those moments: demanding attention in terms of time-span. The photograph is momentary, fragmentary; a limited frame from the broader timescale of the deceased’s life, and, if it unsettles, it can be looked away

from: the eyes can be closed. The ears cannot: audio fills, even dominates, a space—and, indeed, *lives* within it—in a way that a photograph or video is unable to—as I have discussed previously, audio takes on the acoustic qualities of the space in which it sounds. The invisibility of audio, too, plays a part in this: sound cannot be *seen*, and as a consequence it is often forgotten that it fills a space in a way that, say, light will not. Shadows show the eye where light falls and does not, but there is no sonic equivalent of the shadow, and sound—barring a quirk of acoustics—will invisibly fill a room: that resounding takes on the individuating reverb of a space (particularly the larger spaces in which funerals often take place that really reverberate). I have touched on differences between photo/phono across these records, but there is, according to Jonathan Sterne, ‘no doubt that the philosophical literature of the Enlightenment—as well as many people’s everyday language—is littered with light and sight metaphors for truth and understanding’ (2003: 3), this use of language, argues Don Ihde, demonstrates ‘a preference for vision which may already conceal a latent inattentiveness to listening’ (1978: 7). It is difficult to pay attention to that which we cannot see, but in a similar manner to the vococentric ear discussed on Vinyl 1, meaning is prioritised: mourners hear the eulogy, not the echo of the chapel. As a consequence the effects of sound in space—and space on sound—are, aptly, overlooked: its reverberations and resonances can be too much, too present, too full, too boundless. I will return to the dilemma of the relationship between sound and space on the next side.

A photograph cannot populate a room again, it does not exceed its frame. Audio can, and does. There is a kind of time leakage to audio that photographs cannot possess, an ability to bleed from its temporal frame in its re-sounding in space, and while the voice is *specific*—sounding like a person at a particular time in their life—it can, as observed by Ong (and Mary Stewart, Oral Historian, on the last vinyl), animate the person. At a funeral, as an important part of the grieving process—‘helping [the bereaved] to adjust emotionally, spiritually and practically to life without the deceased’ (Scarre 2005: 136)—it is a coming-to-terms with death and this re-animation is problematic. Bradley’s post-mortem intervention actively speaks to his own death, and is less troubling as a consequence; other vocal recordings might attest to an aliveness. The disembodied and invisible nature of the voice, though, remains ghostly, but, as noted by Steven Connor, promises much: the microphonic voice ‘promises the odours, textures, and warmth of another

body. These sounds are not merely the signs and reminders of bodies in close proximity to our own; they appear to enact the voice's power to exude other sensory forms' (2000: 38): these textures, in death, can no longer be accessed.

As part of my research, I received a donated recording from a friend of their deceased father:

[SAMPLE] Yes, er- Arthur McClaren Edmonds. McClaren is really rather an odd Christian name, which perhaps I'll go on to in a moment but er- I was born in Abersychan, just about 4 or 5 miles north of Pontypool in Monmouthshire. Anxious to stress Monmouthshire, because I believe a lot in that. (Edmonds 2020)

Excerpts from this recording, as described by his son, Andrew, were played at Arthur's funeral*:

[My wife] Karen explained a little about my fathers early life, then suddenly said, let him tell you himself, and the audio started. I was pleased at the theatre of it, Karen said that the audience looked absolutely horrified and quite perplexed for perhaps 4 to 5 seconds and then realised what was happening and then started to enjoy it, my father had a rather nice voice which was easy to pick out and it was as if he was also in the audience with them. . . . It was I confess deliberate theatre, I wanted to engage the audience and give them a sense of involvement rather than being mere onlookers. (Edmonds 2020)

In this moment of 'deliberate theatre', the shock of the congregated mourners is palpable, described as looking "absolutely horrified", but this shock emanates from Andrew's observation that his father "was also in the audience with them". To hear the deceased's voice in the context of a funeral was surprising enough, but as Michel Chion notes, 'The ear attempts to analyze the sound in order to extract meaning from it—as one peels and squeezes a fruit—and always tries to localize and if possible identify the voice' (1999: 5). The vocal identification could take place, memories of mourners are re-enlivened, but as the played-back recording takes on the reverberatory characteristics of the room, the process of localizing hits a stumbling block: this speaker is dead.

* Both Andrew Edmonds and Cally Gibson offered to supply their own voices for this record.

The sense of death in all recordings, discussed on the last vinyl, becomes ever louder when death is particularly close, Seán Street in *Home Recorded Voices* notes [SAMPLE], ‘One of the most important reasons for making home recordings was, and always will be, the preservation of family stories, memories and history. Before it’s too late’ (2008). Ante-mortem recording can work as a kind of pre-grieving. Many people in the documentaries referenced on the previous vinyl discuss recording so that they—or their descendants—don’t completely lose access to the voice and memories, and there is a palpable awareness of the inevitability of death, particularly from the terminally ill cancer patient: [SAMPLE] ‘I want the baby to be able to hear my voice’ (Jenkins 2012). In my conversations with Sue Hill, she recalled recording Bill Mitchell prior to his death, and the unspoken reasoning for it: [SAMPLE] ‘I need you to sit down with you and these books and record what you say, but that’s a tough ask . . . I need you to ta- tell us about this because we both know the reason that I’m doing this is because you’re not going to be with us for very long’ (2020). That is not to say that any vocal recordings are forced, however, but the notion of being “too late” inevitably plays on the mind of both the dying and the imminently bereaved. There is, inevitably, an optimum moment for recording: on the last vinyl you heard the same patient frustrated with the sound of her voice. As recordists, too, there is a wish for the subject to sound as we want to remember them, without traces of dying in the voice. It is for this reason, perhaps, that the answerphone message—for an unexpected death—is treasured:

[SAMPLE] Answerphone: Received: 3:41pm on the 29th of October.

Keith: Happy birthday to you, happy birthday to you, happy birthday dear Cally [INDISTINCT],
happy birthday to you! [Audio fades beneath the following]

This is John Keith Gibson, with a birthday message left for his daughter, Cally, ten days before he died in 2011. The message is, according to Cally, ‘a tear jerker because it’s almost cheesy how painfully wrong he was about his diagnosis’ (2020). While the message is hard to listen to, because it is full of life, the bereaved may find a recording like this preferable, hearing that person in the full flush of their being.

Bill Mitchell himself discussed the clarity that a terminal diagnosis brings in relation to passing his thoughts and plans on, as part of two audio recordings he undertook with Cornish politician, historian and bard, Bert Biscoe, in the days before his death:

[SAMPLE] Bill: I can't tell you how sharp your vision becomes when you t- when you are told you've got terminal cancer. You know, you are really focused. At that point I go: what's bullshit? How many meetings can I take? Actually what matters? And what y- what you hope is what happened here: is that filter for me, has clarified my h- my mind, cause I never knew how long I was going to go for and, y'know, at one point somebody said "Oh you'll be fine for ten years" and I thought, "Well, I'll be careful and say six, or five" and if I can get five strong shows described, out there in the world, then actually I can...'

Sue: (Softly) You can... Go.'

Bill: I could probably go. And er- y'know, that process started. Unfortunately other processes have been- faster than I thought, so I'm having to pass it over quicker in some- in some ways. And that's- That's really galvanised me. And Sue's been very supportive with that, y'know. She could have said, "No, let's go on a cruise or let's whatever-"

Sue: We didn't do the bucket list.

Bill: No...

Sue: We haven't done the bucket list.

Bill: She's known what was important and has been very unselfish about that. I think. (2017)

While Bill is discussing artistic processes and theatrical plans, the recording was primarily taken to capture memories and histories, but there is a distinct, communicated awareness of the approach of death, with Mitchell himself conceding: [SAMPLE] 'So, I'm more than happy to have another visit and another- but I might not be able to make it' (2017). Bill's death did not come suddenly, and Sue spoke of his confrontation with mortality through his artworks, [SAMPLE] 'You can- you can- you can see him looking it in the eye' (2020). Barbara Altounyan of the Hospice Biographers, 'a nationwide charity that trains and mentors specialist volunteers to record the biographies and life stories of those with life limiting conditions' (Hospice Biographers 2020), described people's reasons for recording such stories, [SAMPLE] 'Most people like telling their life story, they want to leave a legacy' (2020). For Bill Mitchell, his legacy was not his memories, but his artistic works, [SAMPLE] 'We never had kids. We never had a long conversation about that, it was just obvious that our- our children were our works and we'd see' (2017). Legacy, in itself, is problematic: it relies on time and Bill's legacy was his mature work, created across decades of refining his practice. This elucidates a tension that exists in the recorded voice: the element of the voice that wants recording may be youthful and full of life, but the things that resonate—the experience, the memories—are more likely to be found in a

more mature voice: the older the subject gets, the more legacy there might be. Nevertheless, the ante-mortem desire to exist in some way, beyond death is a recurrent one:

People do seem to think it important to continue to be around somehow. The root notion seems to be this one: it shouldn't ever be as if you had never existed at all. A significant life leaves its mark on the world. A significant life is, in some sense, permanent; it makes a permanent difference to the world—it leaves traces.' (Nozick in Benatar 2010: 74)

There is a whisper, then, of media as a form of afterlife, as a means of leaving the “traces”, grooves, perhaps, to which Nozick refers. These traces, and the forms they take, will be examined over the course of the next side.

Vinyl 5: The Empty Space: death, bereavement, and space in audio recordings - Side B

The dead voice as a trace, particularly its “living on” at a funeral remains troublesome to mourners: the specificity of the sound of a person’s voice that makes it difficult in that moment. The funeral’s role is to formally recognise or solemnify the *absence*, to grieve collectively. The *presence* insisted upon by the dead voice is awkward—deliberately so in Bradley’s posthumous vocal intervention. It appears that mourners reconciled themselves to the voice of the deceased quite quickly in Andrew’s retelling of his father’s funeral, but his vocal presence involves the congregation in a more active way—‘as if he was also in the audience with them’ (2020)—changing their relationship to the funerary moment: reanimating and re-enlivening in tandem with the space and attesting to the deceased’s impossible presence *within* that space. This is not to say that sound is not of value to the bereaved, it is clear from testimonies across these vinyls that it *is*. It is those very qualities that are unwelcome at a funeral because of its function, then, that become valuable, allowing for a “living on” in an animated manner. This “living on” arises ante-mortem for the dying, but is a post-mortem requirement for the bereaved: [SAMPLE] ‘When people haven’t got proper recordings they’ll sometimes make do with a last answerphone message, a snatch of a song or a poem, or a joke recorded on a mobile phone. Anything, just to hear the voice again’ (Jenkins 2012). Its reanimating and revivifying qualities are mostly sought after by the bereaved, but its revivifying capacity is not always welcome, as observed in *Dad’s Last Tape*, [SAMPLE] ‘Some people love the fact that the erm recording exists but ah- really don’t want to listen to it because they’re quite apprehensive about how they might feel about listening to the voice of someone, particularly if they’ve died’ (Stewart in Jenkins 2012). Sue remarked to me, [SAMPLE] ‘I’m lucky in that I’ve got a lot of- cause Bill was interviewed so much, I’ve got a lot of vocal and visual records of Bill’ (2020), suggesting that there is little reticence around relistening to Bill’s voice. Primarily, though, Bill’s traces are in his work: this is his intended legacy. Sue told me that Bill said to her:

[SAMPLE] Sue: I just need to have as many of my ideas that are in my head at the moment out in the world. So that was- August 2015.

Ciaran: Right.

Sue: And he died April 2017. And that’s what he did. He worked.

Ciaran: That’s incredible.

Sue: He just worked, and worked, and worked, and worked. Erm- And a lot of that, those- that, y’know that work, kind of exists in the pieces of work he made in *Wolf’s Child* and in *UnEarth*. (2020)

Both of these WildWorks productions were performed after Bill died, and a “living on” took place through his ideas—made real, physical—in these works. Bill’s funeral, too, was an artistic event; one that he helped to plan—[SAMPLE] ‘Bill did the funeral, he worked on the funeral’ (2020)—which took place at St. Euny Church, Redruth. Because of the length of his illness, he was able to make decisions:

[SAMPLE] ‘Cause he was able to choose, cause he knew, he knew, we knew in time for him to design his coffin and to- the dress code. He said, “Alright, I don’t want any of this nonsense about wear what colour you like because it was a joyful thing.” He said, “I want people in black and white, possibly a bit of grey, it’s got to look like a- it’s got to look like one of those amazing Italian funerals! I want you in full widow outfit!”’ (2020)

This position was, comparatively, fortunate, and Bill was able to “go” in the way that he might have preferred: imparting his ideas, as well as crafting, designing, and directing his own funeral, “living on” in this transitory ritual and Wildworks productions performed after his death, his presence resounds in this space, although his actual voice did not: he was, after all, a director and designer, rather than an actor. Bill’s words to Sue after changing his mind on cremation— [SAMPLE] ‘With hindsight I’d rather be bones than dust’ (2020)—resonate with this perspective; tangible, concrete ideas as a legacy. His eventual decision to be buried, though, and his gravestone, had implications for Sue’s own mortality:

[SAMPLE] We worked on the design of it together, and there was something really extraordinary about- because I’m going to go there too. To design a gravestone which has got Bill’s name on it, but to do the design I had to put my name on it too . . . To write your own gravestone, and to think- to really think about it (2020)

Sue took me to see Bill’s—but what will be “their”—grave in St. Euny churchyard:

[SAMPLE] Sue: So this is our lovely stone.

Ciaran: It's beautiful, Sue.

Sue: Isn't it a lovely thing?

Ciaran: And you were saying that there's- there's room for you on it?

Sue: There's room for me, so I- when I was working out the design- I go here- My name goes here.

(2020)

This beautiful, simple slate stone, carries an empty space—a blank tape—for Sue's name to be, eventually, recorded on to. This process, according to Sue, was an example of [SAMPLE] 'Those moments where you accept something into your life that is about your death' (2020). These moments are jarring, as our lives tend to be occupied by living, rather than dying. It is very hard for me to conceive of a world in which I am not alive, because to do so requires active thought, it requires me to use a consciousness that I will no longer possess: in any imagining I have of this world that will be, I imagine the impossibility of *myself* viewing it. Nevertheless, death occasionally creeps into our thoughts. Geoffrey Scarre remarks:

Yet if the idea of our mortality is not generally at the forefront of our minds, it is there in the background as as one of the human constituents of our specifically human form of self-awareness. If we compare life to a piece of music, it is a recurrent leitmotif (2007: 23)

Comparing life to a piece of vinyl, death is the crackle: ever-present, but largely inaudible, until the lead-out and unending silence of the locked groove. Memories of the record that has been, though, will continue to resonate. However, in order for a person to live on, the trace—that groove—has to be *meaningful*: like Krapp on the last vinyl there is an interplay here between memory and meaning, and people tend to remember that which has meaning and significance. A life is spoken of as having resonance, that it reverberates, bringing me to my examinations of sound and space in Bill Mitchell's attic.

I spent time capturing ambisonic recordings of "the attic", with the stated ambition of creating an audio rendering of the space (the recordings of which form part of a virtual documentation of the room). The room was Bill's primary studio space, and he spoke about its creative possibilities to long-time friend and Wildworks Board Member, David Micklem, prior to his death:

[SAMPLE] Bill: To actually think about, let's- we'll call it "art", but to think about that, you do have to go to a different place.

David: Yep. And interestingly that I've had the very unique er- experience of being in your loft, your attic, which is sort of- which is a physical manifestation of that space.

Bill: It helps. It helps because it's like a little mantra. If I go up there I'm only surrounded by the things that are- that are there. And it gets me into that place much easier.

David: Yep.

Bill: It's easier to do creative things up there than anywhere else.'

David: Yeah, yep. (in Morris 2018)

While the attic acted as a creative studio space for Bill, it also housed countless objects that he had collected across the decades in order to fire his imagination, and [SAMPLE] 'Every single thing is an expression of that man, that lovely man' (2020). I remarked to Sue that I found recording in that space was [SAMPLE] 'Like being inside someone's head' (2020), pre-echoed by Sue's offer to Bert Biscoe as they recorded Bill in the days before his death, [SAMPLE] 'I'll take you to the attic and- which is kind of Bill's brain' (2017). The attic felt like a collection of thoughts and ideas made manifest: a collection of innumerable objects brought together, taken-apart, recombined, arranged into semi-permanent artworks and sculptures on the desktops. Sue spoke to me about the ante-mortem steps that Bill undertook in the Attic with designer Mydd Wannell, now Artistic Director of Wildworks:

[SAMPLE] Sue: And there was a day when- when Bill said, "Will you spend the day in the attic with me, Mydd?" Because all these things, y'know- the things you've seen that are constantly in motion, nobody- They weren't made as- as artworks.

Ciaran: Yeah.

Sue: They were thoughts. . . . It was Bill acknowledging that people might want to see them. He said, "Let's fix them down, because they're not going to change any more". (2020)

The artworks were set, some objects and installations were tied-down (hanging from ropes and the rafters), and ideas around keeping and maintaining the collection as an artistic tool were swiftly discussed by Mydd and Sue, which were then pitched to Bill:

[SAMPLE] Sue: And Bill was so thrilled, that all these lovely things that he'd-

Ciaran: Yeah!

Sue: ...had, he'd collected, some of which he'd played with, some of which he'd not had *time* to play with-

Ciaran: Yeah.

Sue: ...were gonna go on and have a life. (2020)

The objects, then were granted an additional life, but so too was Bill. This space and its contents, a physical manifestation of his thoughts—his brain, the creative room at the top of his house—would continue to fire the imagination of artists, to be played with, for years to come. In an interview used for Chris Morris' film, Bill stated, [SAMPLE] 'Of course you die twice: your physical body dies, but you die again when everyone who knew you dies' (2018): the Attic's preservation—digitally (the space and objects) and physically (the objects)—means that second stage of death may never take place, as Bill's traces, his memory and legacies, are re-enlivened through creative play and the ignition of new ideas.

Recording in the Attic space was, initially, not easy. To begin with, I approached it as a death, treating the Attic as a museum, or shrine, rather than an artistic space. I discussed this with Sue:

[SAMPLE] Ciaran: I had this moment up there. Because I- I- I- My concern was, "Oh God", there's a sense of reverence.

Sue: It's a shrine. A shrine.

Ciaran: It's a shrine! Exactly! And- and- Or a sort of... y'know, velvet rope, do not touch, sort of thing. And then it was only when you kind of open the windows and stuff starts moving and you hear this wind chime. This is supposed to move . . . It was that moment of, "Shit, I don't need to be- This isn't about not touching stuff, this is *about* touching stuff.

Sue: Exactly.

Ciaran: This is about tactility and play.

Sue: Absolutely.

Ciaran: There wasn't- I think going up there first I was like, and there's a kind of, "Gosh this is all very delicate, and these are all ornaments."

Sue: (Laughing) Yes.

Ciaran: And they're not, and- There's a collection of bells: you don't *look* at a collection of bells.

Sue: You *ring* the bells!

Ciaran: You ring the bells! Exactly! And- And er- And y'know the "Fear of Flying" birdcage stuff, having the wind chimes on that and the ropes and the movement and y'know, it's- it's all there to-

move and play with. Erm- And it was only when I got *that* that I kind of went, “Shit this isn’t a- it’s not a shrine.” It has shrines in it:

Sue: Yeah, yes.

Ciaran: ...it has things that people have made and constructed, but the overall thing of it is it’s not- This isn’t the Louvre, you know?

Sue: No. No. And in fact, it’s the opposite of the Louvre. (2020)

The Louvre is a space for static, finished, completed artefacts: dead, in their way; Bill’s Attic is a space of initiation and creation, igniting the imagination through a collection that can be recombined in different ways and continues to grow (last year Sue told me a train set was donated by Sir Nicholas Serota). The playfulness—the aliveness—to the space was, at first, lost on me, but the ropes that suspended installations from the rafters were intended to rock and sway, clockwork toys were supposed to be wound, and new configurations of objects meant to be created. I captured the ambisonic audio from various points in the room, recorded the sounds of many of Bill’s objects—such as bells [SAMPLE], an alarm clock [SAMPLE], and clockwork toys [SAMPLE]—and also recorded a series of impulse responses in order to recreate the reverberatory qualities of the room while it was populated with the collection. My intention was to capture the audio of the room as completely as possible, in order that it could be recreated virtually. If you put on a pair of headphones—in order to listen to the audio more closely—I can transport you from the chapel in which I currently recite this to Bill’s Attic.

[SAMPLE: *Ambisonic audio captured in Bill’s Attic plays beneath the following, Ciaran’s voice has Bill’s Attic reverb applied*]

This is the sound of Bill’s Attic, captured in September 2019. You can hear the wind-chimes animated by the open windows, a dog barking at a distance, and the recreated reverberation of the room—populated with all the objects Bill had amassed—in my voice. It gives a sense of the space, painting an accurate—if reductive—sonic picture of the room, capturing its individuating characteristics: ‘There is then, a dynamic at work, a movement, of air, that is carrying sound, and it is the way the space interacts with it, that defines where we are’, and one that is ‘affected by the creation of objects that themselves generate variations in the soundscape’ (Street 2020: 13 & 123). The room “sings” in its own, completely individual way, inscribed on the previously clean

recording of my voice providing a sound source in order to, as Blesser & Salter state, ‘illuminate the space’ (2007: 16): I can easily take the added elements away [*background audio and reverb removed*], like so in order to mark the difference. [*Effects are added back to the mix*] This particular room, however, no longer exists: structurally, the attic remains in place, but it has been cleared of Bill’s collection (which has been re-homed as a creative resource at the nearby arts space, Krowji), and you are listening to an aural reconstruction of Bill’s Attic. I am recording this section *after* my visit to Penmount Crematorium, in the same recording studio in which I am about to record Vinyl 6. The inscription of time here is haphazard, further complicated by the soundscape recorded in 2019, the ability to revive the reverberatory qualities at the click of a button, as well as the enduring presence of the vinyl on which you listen. Sonic “illumination” of the space took place in September 2019: capturing the ambisonic recordings and exciting the space with a sine-sweep through a range of frequencies, which sounds like this: [SAMPLE of Sine Sweep]. The impulse response, perhaps, is the closest thing in this study to an aural photograph, capturing and maintaining a sonic imprint of the space. However, it is only half of an aural photograph: to extend the light and sound metaphor from the previous side, the impulse response is a pitch-black room; sound—my voice, for instance—is the flash of light that “illuminates” it.

In order to sound present in Bill’s Attic again, I have recorded my voice in a studio, in a manner that, as stated on Vinyl 1, ‘adopts the reverberatory characteristic of the space it sounds within’ and on Vinyl 3, ‘is taken away from the specificity of the moment of its resounding through its isolation to allow for re-sounding’ (2021). This example, even presentationally, as previously discussed, ‘speaks to the distended temporalities and spatialities of all performance, much the way all ontologies are really hauntologies’ (Stanyek & Piekut 2010: 20). But the hauntological nature of this goes, I think, a step further: the collision of different times notwithstanding, the individuating reverberant characteristics of Bill’s Attic—so often described as Bill’s head—have been captured and applied to my voice in order to “illuminate” the virtual sonic space, but in order for you, the listener, to experience that fully, there is a need to wear headphones. The consequence of this, is that you can either be in this aural space, this life, or your own—by removing your headphones—but you cannot be immersed in both simultaneously. The close listening taking place blocks out the space in which you currently reside, and to experience the

sound fully there is a need to insulate yourself from your world. There are parallels here with life and death and the impossibility of being in both spaces at the same time: in order for my voice to convincingly occupy Bill's Attic, it has to be recorded in a way that denies, or carries no trace of, the existence of the room that it originated in. The room, then, can "sing" and Seán Street, in his contemplation of space and sound, notes that, 'I wish I had sometimes allowed the place its voice a little more', before going on to encourage recordists to 'Honour the sound of the room. Allow it to speak' (2020: 133 & 134). The Attic, too, has a voice: it possesses individuating sonic characteristics, clues to its contents and history, resonating with and imprinting upon Bill's vocal tones as he spoke and created works there. Yet this is the critical distinction, the characteristics of the room can be recreated, other listeners can occupy it, but the real value is Bill within it: it is not possible to occupy the space he occupied unless he speaks within that space. Bodies and rooms are both chambers in which the voice echoes, the captured impulse response is the room's own dead voice. The space has been recreated, synthesised, but the sound of the being in the space is what really resonates. Let us return now to Penmount Crematorium.

The Attic's voice, then, has been captured, but is the space still alive? When discussing grief and bereavement with Sue, she spoke about a particular moment when she went up to the Attic:

[SAMPLE] Sue: And I went- I hadn't been up to the attic for a- for a few weeks and I went up and...

It was really upsetting, everything was covered in dust.

Ciaran: Oh really?

Sue: There was a layer of dust over everything and- When Bill was alive it was never dusty.

Ciaran: Of course.

Sue: He never *dusted*, but he handled everything.

Ciaran: But it's presence, isn't it?

Sue: It's constantly moving, and being used, and touched, and put away, and got out again, and everything was in motion.

Ciaran: Yeah.

Sue: So it never- There was never dust. There was never dust. And I- It was really- For me it was a- It was a- a really sad moment, which is- I suppose- At that moment I felt the place had died, the place- that space was dead. You talk about it being inside somebody's head and it's like- His- Completely, the space had died. (2020)

This painful feeling of the space dying, the film of dust on the objects, resonates with Bill’s own views and the notion of a “second death”. This particular moment, however, saw Sue—who was having second thoughts about the objects leaving their home—firmly settle on making it available as a creative resource:

[SAMPLE] Sue: This has got to live, and it’s got to go and be played with.

Ciaran: Yeah.

Sue: And go on its own journey and be let go of and...

Ciaran: Yeah.

Sue: ...loved by other people and handled and broken.

Ciaran: Yeah, absolutely.

Sue: Y’know all those things have got to happen to it. So it was kind of- It was a powerful thing.

(2020)

The Attic, and the space that it was, died, but the objects and what it stands for have not. It is a living, evolving collection that continues to inspire artists. The voice of that dead room, however, has been captured, and like a dead voice, it can be replayed.

Rooms matter in this arrangement between voice and space: Barbara Altounyan of the Hospice Biographers, whose interest in this area began when she recorded her own father, spoke to me about this:

[SAMPLE] Barbara: And that’s what’s so nice about it, that’s why I wanted to do it in the family home. And that’s why it- it absolutely worked: because you can absolutely hear the interruptions of my family coming in. . . . And it all evokes memories of that time which obviously don’t exist any more. (2020)

The space in which a voice resounded forms part of vocal memories too, provided it can be heard. Seán Street states of the sounds of rooms that ‘There is a connection between the physicality of the place as it existed then, the medium and the sound as artefact, memory and abstract presence in the mind’ (2020: 132): an active interplay of the elements of residence, resonance, and reminiscence that informs conceptions and memories of people and place. Bill Mitchell described his practice in a very specific way: [SAMPLE] ‘He called himself a collagist’

(2020). There is an element of collaging at work here, in a manner that—as with Bill’s own practice—has a chaotic inscription of time, exemplified through the manner in which he used his notebooks, [SAMPLE] ‘So I suppose the notebooks are me communicating back with me. Or is- It’s a part of my imagination that is communicating back with me’ (in Morris 2018): his notebooks were never “done”, instead informing and inspiring creative works across his life. After showing me some of his notebooks, Sue said that [SAMPLE] ‘He would work back and forwards over material’ and [SAMPLE] ‘He would overwrite stuff’ (2020), there was not a linearity to them. Post-mortem the bereaved are collagists too: bringing together different artefacts and layers from across time to reconstruct the person who is gone. The voice’s capacity for revivification within this collage means that it can reanimate in an uncomfortable and unwelcome way at times: stillness feels more appropriate in the space of death.

As a consequence of this collage of artefacts through which the memory of the dead is resurrected, a lack of linearity is also found in grief, as Sue communicated to me:

[SAMPLE] Sue: There are some of the memories of our life together which are really present and the last week of his life is kind of- just has- this sort of- epic, kind of heroic quality, care he did it so beautifully.

Ciaran: Yeah.

Sue: Y’know- He left so beautifully. But there’s great flashes coming from much earlier in our lives together, and it’s- it’s almost like the same thing: the red string is dodging backwards and forwards across our lives . . . And kind of what my- My grief memories are about. They’re all- Our whole lives together, the forty years, are present (2020)

She referred me to Simon McBurney’s *Desert Island Discs*, in which he speaks about a cross-section of earth belonging to his father:

[SAMPLE] Simon McBurney: I remember on his wall there was a huge section of mud, and in it you could see all the sections of- of-

Kirsty Young: Sort of stratification-

Simon McBurney: Er- Of stratification of one of his digs. So I remember thinking from an early age that time is somehow vertical, rather than horizontal. . . . Things from the deep past are very often very close to us. (2012)

Sound recording of the dead brings these things from the deep past closer: revivifying memories of people and the spaces they occupied in this post-mortem territory. A kind of cultural sedimentation is at work here, as things fall in and on to each other, carrying an imprint of what lies beneath. Michael Chanan notes that ‘the domain of recorded sound has become a kind of continuous present, in which, as old recordings are recycled, memory can be confounded’ (1995: 22). In this “continuous present” the dead live on in a collage of media artefacts, and Sue’s grief “across time” is more akin to Random Access Memory, interactivity, and the digital than linear audio technologies, though revivification through linear audio technologies re-enliven these memories.

Bill’s collection, which could have died, lives on through play and recombination, yet recorded voices are dead: you can’t do this—or perhaps, you *don’t* do this—with a dead voice of the deceased. However, the technological potential to do this with dead voices exists: to break them apart and play with them in order to create new works. The position of the dead voices of the dead in the 21st century, recorded legacies, and the digitally-enabled possibilities of them speaking anew, will be examined across the next vinyl.

Vinyl 6: User not found – Sound and the *Intermortem* - Side A

Allow me, if you will, to rewind for a moment, or to echo the past, and take us back to the end of the previous vinyl. Michael Chanan raises the prospect of a ‘continuous present’ in audio recordings (1995: 22): a swirling galaxy of voices that, in their replaying, are re-enlivened, resounding and re-sounding in the now. His observation is reminiscent of Fredric Jameson’s assertion that the Western social system ‘has begun to live in a perpetual present and in a perpetual change that obliterates traditions of the kind which all earlier social formations have had in one way or another to preserve’ (Jameson in Foster 1985: 125), an erasing of history through this retention of media artefacts: sound’s capacity to take on the characteristics of a space, as well as the inherent life within a voice, sees playback of recorded material occupying the present. Sue Hill referred to her grief across time and bereavement’s lack of linearity as it punctuates the everyday, while Rony Robinson, in Clare Jenkins’ *Dad’s Last Tape*, notes that [SAMPLE] ‘our voices will be kept in all sorts of ways forever, and, well, perhaps people will never listen to them either, but accidentally people will fill their houses with the voices of the dead forever’ (2012). These vocal recordings—these dead voices—too, are “across time”—and, as examined on the last vinyl, across space—it is not necessarily one voice, but one person’s multiple voices through their life, inscribed across—and with—different times and different spaces.

The time and space when I record this vinyl is late spring 2021, fittingly—for a record—aged 33 and a 1/3, in a vocal booth within a recording studio at Falmouth University. I stress this because, as you can hear, there is no indelible reverberatory imprint on the sound; it is uncoloured by the space in which I am recording, and there are no tell-tale interruptions from birds that might suggest a time of day or year. As a consequence this audio slips into and adapts to the context of your “now” readily and easily: it is wherever you are listening to it, I am *there* with you, taking on the characteristics of and occupying your space. Friedrich Kittler observes that, ‘What remains of people is what media can store and communicate’ (1999: xl)—vocal recordings carry the communication of person and space—before going on to state that ‘The realm of the dead is as extensive as the storage and transmission capabilities of a given culture’ (13). Our culture, in the early 21st century, has a remarkable array of capabilities across analogue

and digital media and recording technologies within which the dead remain and “live on”: the voice in space reanimates within this domain (as demonstrated on the previous vinyl), and, as Scarre notes of media artefacts, ‘As a result of all these animating processes, the dead retain a social presence and consequently a moral status . . . Dead people can exercise a profound influence on the living, but only through the traces they leave behind them’ (2007: 131). This mediated ghostliness—Žižek’s ‘spectral autonomy’ that has haunted these vinyls—is a state not wildly dissimilar to Auslander’s considerations of “liveness”—which ‘overlooks the most material manner of marking the live, namely death’ (Causey 2006: 16)—nor Stanyek and Piekut’s theory of “deadness,” but instead refers to the revivibility in sound recordings: aliveness in death. What should we call this state, and what exactly *is* this state? Across this vinyl, I propose a theory of *intermortemity*: drawing together the distinct properties of sound discussed across these records, its enlivening qualities, and subsequent posthumous reanimation of the deceased. The term speaks to a quality of aliveness in death, an *acknowledgement* of the state of death, but the sense of a space in between, a limbo state created through engagement with (and the application of) sound: I will use this side to unpick and position the *intermortem* as a quality of sound recordings and dead voices, while Side B analyses this in relation to celebrity, legacy, and technology’s role within this territory.

The notion of the *intermortem* is not to say that there is *agency* in this transient, mediated space for the dead—death is still death—agency is impossible after ceasing to be, but the traces continue to resound and resonate, as heard across Vinyl 5. The dead voice that is any vocal recording’s ghostliness usefully carries us towards a conception of the *intermortem*: its invisibility and ability to re-sound within a space. Yet this spectral quality has been normalised across decades of acousmatic voices speaking from “nowhere”. In his consideration of the Victorian seance Steven Connor notes that ‘The paralleling of the phenomena of radio in the seance acts simultaneously to point up and to normalize the ghostliness of these media’ (2000: 368), and radio’s capacity to take on the qualities of the room it resounds within, as though originating within that room, is a useful parallel. In Henry Scott Holland’s funeral sermon for King Edward VII in 1910, he suggested that ‘Death is nothing at all; it does not count. I have only slipped away into the next room’ (in Knowles 2014). As you heard on the previous vinyl, we cannot be in, or occupy, two rooms at once; the reading—which has become a popular one

for funerals—reverberates in the *living* room, intended as a consolation for the bereaved; the words are meant to be an expression of the person who has died, to assert a continued presence and availability of the dead to the living. The reading is a philosophical position rather than the embodiment of a person, a mourner is already speaking those words on the dead’s behalf because they cannot. Yet the traces, the artefacts of recording—particularly the voice—were created in and continue to resonate in *this* room, the *living* room, ‘The losses anticipated in the face of death and felt in its aftermath reverberate in the physical domains occupied by the body and its lived material environment’ (Hallam & Hockey 2001: 214). These traces are not, necessarily, archival accidents—you have already heard the terminally ill deliberately commit their voices to recordings—but a collection of analogue and digital artefacts amassed across a lifetime, and those that remain are kept by the bereaved, forming part of a kind of composite—or, to channel Bill Mitchell, collage—of the deceased, in a reciprocal combination of sound and memory. This is the *intermortem*: the revivifying qualities of sound and voice in playback after death and its interplay with memory. There are similarities and crossover with the aural *punctum* from Vinyl 3, certainly, but the *intermortem* is a specifically posthumous phenomenon.

The emergence and prevalence of new media forms across the centuries has undoubtedly altered the ways in which, as humans, we deploy our memory, but also how our memories are affected by media: Krapp’s tapes are an obvious instance examined on Vinyl 4, and storage media’s impact on memory more broadly, but Hallam & Hockey note the actions of a bereaved woman after watching the funeral of Diana, Princess of Wales, demonstrating ‘the reception of mass media images as triggers for meaningful, localized memory-making’ (204). To be clear, however: the *intermortem* is a sonic phenomenon, it is unique to sound. There is evidently a relationship between all media artefacts and death, but there is something specific and unique about the audio artefact and the way it works on people—although similar effects can be divined in other media artefacts. Across this series of vinyls, I have examined the particular qualities of sound, this invisible but impactful medium: sound is not something that can be touched, and its uniqueness as a sensory experience is what sees the cultivation of the *intermortem*. It is intangible, ghostly, without the visual, and, consequentially, enlivened within the imagination: much of the reconstruction of time and place from the playback of a sound is from the memory, bringing forth something intensely personal in terms of the relationship to the aural artefact.

Videos and photos fill in the blanks too readily and precisely, they steer the viewer towards a specific place and time, without the need for memory to enliven the artefact. As Hallam & Hockey note, ‘Photographs are created with a view to the future - they are a means to preserve, in the form of a ‘transparent’ image, the present moment for later contemplation’ (1995: 143), but in a manner that reduces the available space for personal memory to occupy. The apocryphal story often retold when considering the visual and the aural, the origin of which is uncertain, rings true here: ‘Loads of people bought televisions in Britain, partly for the Coronation. There was a woman who decided to give up her television on the basis that in her view “on the radio the pictures are better”’ (Rebellato in Lachman 2013: 268). The sonic space is one that embraces and ignites the visual memory without pre-determining it. Michel Chion observes that, ‘in explicitly depriving us of one element, both radio and silent cinema cause us to dream of the harmony of the whole’ (1999: 125): sound—as you have heard across these vinyls—can capture and communicate the intricacies of place, but does not tend to carry additional, more pointed clues within the *mise-en-scene* of a room, which allows the re-animation to take place *between* playback and memory: ‘pure sound can act on our senses to open doors to individual worlds of imagination’ (Street 2017: 27), the “better” pictures, the details, are supplied by the listener’s brain. That any playback always re-sounds in the “now” and takes on the characteristics of and fills a given space—as my voice is doing now if you are listening through speakers—amplifies the *intermortem*’s affects by reanimating the person.

There are parallels with Stanyek & Piekut’s aforementioned conception of “Deadness”, and its examination of the ability for fragmented recorded audio to be recombined into new forms, but theirs is a focus on the characteristics of recorded audio in post-production environments. The *intermortem* is a space between sound recording and memory. Deadness speaks to the processes in professional recording, the “*inter*” of *intermortem* is conjured in the space between the memories of the living and sound recordings of the dead, and the interplay between the two: the space between the two rooms. However, the “space between” is becoming less and less distinct; Joseph Roach in *Cities of the Dead* speaks of ‘a revolutionary spatial paradigm: the segregation of the dead from the living’ (1996: 48) that has taken place across the centuries:

At one time in European tradition, as in many other traditions worldwide, the dead were omnipresent: first, in the mysterious sense that their spirits continued to occupy places among the quick; second, in the material sense that medieval burial custom crowded decomposing corpses into hopelessly overfilled churchyards and crypts, whence they literally overflowed into the space of the living. (Ibid)

Yet there was, across the enlightenment, a movement away from this, and a movement towards separation of the dead and the living. He goes on:

Under a regime of newly segregationist taxonomies of behavior in several related fields of manners and bodily administration, the dead were compelled to withdraw from the spaces of the living: their ghosts were exorcised even from the stage; their bodies were removed to newly dedicated and isolated cemeteries, which in New Orleans came to be called “Cities of the Dead.” (50)

The space of the dead was clearly demarcated, to areas typically on the outskirts of settlements, ‘the place of burial was moved from local churchyard to distant park, the dead were more likely to be remembered (and forgotten) by monuments’ (Ibid). In the 20th and 21st century, too, we still endeavour to conceal death, ‘We can do our best to push death to the margins, keeping corpses behind stainless-steel doors and tucking the sick and dying in hospital rooms’ (Doughty 2015: ix) and Hallam & Hockey note that ‘Differentiated ‘death’ spaces exist and are generally avoided unless specific visits are necessary’ (2001: 91). Yet over the past two hundred years cemeteries have been absorbed into increasingly sprawling urban conurbations, no longer distant to towns, but part of them. This physical blurring of boundaries between the living and the dead has been mirrored in the growth of analogue and digital media artefacts from lives lived that persist after death, and the increasing permeability of this membrane: if the dead in digital culture no longer solely occupy differentiated physical ‘spaces’, how can they be avoided?

The inventor whose phonograph commenced humanity’s ability to capture sound, Thomas Edison, offered his thoughts on life and death in an interview with *Scientific American* in 1920:

I believe our bodies are composed of myriads and myriads of infinitesimal entities, each in itself a unit of life, which band together to build a man [. . .] I believe that each of us comprises millions upon millions of entities, and that our body and mind represent the vote or the voice, whichever you wish to call it, of our entities. (Edison in Lescarboursa 1920: 446 & 458)

Edison considered these units able to survive death, and, provided that those composing the memory were not fragmented, he reasoned that it should be possible for personalities to survive death in the form of these units. If this was the case, he hoped to detect them, ‘I am now at work on the most sensitive apparatus I have ever undertaken to build, and I await the results with the keenest interest’ (460). This proposed invention, referred to in periodicals—but not by Edison—as a “spirit phone”, was a hypothesised means of communicating with the dead for which no prototype was ever found, borne from his theory that there are remaining artefacts of the dead which are traceable, and could—in a sense—be reactivated. Edison’s conception of these units of life—not without their parallels to DNA—are more akin to sonic artefacts from a person’s life: invisible units able to survive death from which the sense of a person can be ordained through a process of recombination of these materials, each individual recombination of these may be different or emerge in different ways based on personal memories. In the 21st century, the burgeoning number of media artefacts—more broadly—attesting to a life lived, and the ability for these to permeate into the lives of the living, complicates the traditional segregation of the living and the dead: when things resound in the present, they are part of people’s experience of Jameson’s aforementioned constant now, a state that is antagonistic to the notion of the death rituals that, as a society, we have always had.

Like the cemetery, pre-digital artefacts of people’s lives were physical, contained. They could be “visited”, but kept elsewhere; a bereavement could be kept at bay because of the separation from everyday life that could be created: a box containing an array of keepsakes—letters, photographs, various personal effects, the opening of which is a choice. Rony Robinson’s tapes of his mother, too—which, on Vinyl 4, we heard [SAMPLE] ‘She’s still in this room now’ (Jenkins 2012)—are present, but compartmentalised—the audio can, like a grave, be “visited”. The physical nature of these objects and spaces means that, in bereavement, people know where to find them and the spaces for mourning could be effectively demarcated. In digital culture and a society that inhabits both physical *and* online spaces, however, these boundaries become increasingly blurred: the dead no longer occupy a space at the “outskirts” but continue to exist in digital spaces; whether in unknowably vast personal media archives or in social media spaces, the dead continue to speak up:

Our understanding of the relationship between biological death and social death is challenged by media that enable the living to animate the dead through online conversation - or computational processes such as algorithms that directly animate the dead by automating the dead's social media posts. (Arnold et al 2018: 4)

The automated posts, speaking up from beyond the grave, problematically animate the person once more in a manner indistinguishable from ante-mortem social media posts. The social media “Memory” tool—common across a number of platforms—sees the regurgitation of posts triggered by an algorithmic time-based cue, ‘You’ll see things like your Facebook posts, posts you were tagged in and anniversaries in Memories. You can’t turn off Memories, but you can control what you see in Memories’ (Facebook 2021). As Vinyl 4 examined, the responsibility of memory is relinquished to a machine, one’s ability to remember is increasingly compromised, and in a societal abdication of the responsibility of remembering, the lack of permanence and fragility of the technological memory is brought home. Online spaces, though often referred to as separate to the “real world”, are not immune from market forces and politics, and the preservation of these memories are contingent on a given platform’s continued existence. A site such as Facebook is, increasingly, a virtual graveyard, a digital necropolis, a space of memorialisation with no local authority committed to its upkeep: the Cloud is, perhaps, as fleeting and fragile as its name might suggest.

All kinds of media artefacts persist, then, and the boundaries between the living and dead are increasingly blurred, so what is particular about sound that renders the *intermortem* a purely sonic phenomenon? It is, as I have stated, the interplay between audio playback and memory, but could this interplay not take place with a photo or video? No, due to the particular conditions of sound and the way it works with the imagination, while any picture-based medium works *against* the imagination. Sound in isolation is, by its very nature, incomplete, it is not resolved by all of its attributes—there is no accompanying visual—and resolution takes place by and within the listener’s imagination. Rewinding back, briefly, to the woman in 1953 who preferred the “pictures” on radio versus those provided by her 405-line black and white television; distilled to the technological conditions of the period, the pictures of radio likely *were* better: scientifically, the pictures on television were *not* good, they were subject to the limitations of the technology,

prone to interference, and unclear. Radio, while pre-FM and not high fidelity, allowed the listener to colour in the picture, their imagination given the freedom to fill in the gaps. The ability for our ears to tune out the excrescences of audio, too, played its role: when listening to something on tape, the ear quickly ignores the hiss, prioritising the meaning, and so radio interference was less of an issue than televisual—as these vinyls wind on, the deterioration in sound quality, too, is somewhat tuned out. In 2021 we have gone, perhaps, the other way; picture quality is now ultra-real, and the advent of 4K televisions boasting remarkable resolution sees pictures, as it were, resolved, without the need for the imagination: the imagination and our memories cannot occupy a visual space in the same way, while sound—because it excites the imagination so strongly—casts it as an antidote to the ultra-real. The imagination, too, is a highly personal and private space: the resolution of audio taking place within it is unique to each listener, and what makes it particularly personal needs to be untethered, freer; a picture-based medium tethers the imagination: image is a setting, doubly so, in the sense that it sets a scene, but additionally because it is gelatinous in its setting, it concretises through its insistence of the visual frame—these media artefacts create anchorage. Sound is more fluid, and consequentially less constraining, it exceeds the boundaries of its frame and populates new spaces in playback; as I speak, my voice intermingles with the background sound in whichever space you listen to this recording: the sound of traffic, birdsong, passers by, my voice coalesces with your now. Videos and photos are contained within frames, and cannot seep from these, nor excite the imagination in the same way due to their insistence on and predetermination of the visual: the space between our ears, and the memories contained within, are private, personal, individual, and *brought to* the playback of audio: this, in the space of death, is the *intermortem*.

As I sit here typing what will eventually become the spoken words pressed to vinyl (a sentence I have recomposed and tweaked several times until correct), I pause. I think about the process that these words will go through—spoken, rewritten, recorded, mixed, etched into a material—the *finality* of that: it is as though they will be carved into stone; a gravestone, no longer flexible and editable—consider Bill and Sue’s from the previous vinyl: his name carved, her space pre-determined—as they are in this word processing document, replete with its blinking cursor. This feeling of finality is, in its way, why some might resist the tethering and anchorage of visual media; people do not want these things to be etched into stone, instead wishing to retain some of

the fluidity and creativity of negotiating their own relationship with material: sound offers that space. There is something appealing about the ability to revisit media and find that life experience has provided more that can be brought to it; the meaning of a given sound or vocal recording is more writerly in Barthes' sense of the term: this is the space where the *intermortem* exists.

It is correct to say, then, that the *intermortem* will, eventually, come to an end. Bill Mitchell's observation on the previous vinyl that we "die twice" reverberates here: as an interplay between sound and memory, it expires [SAMPLE] 'when everybody who knew you dies' (Mitchell in Morris 2018): at that stage, living memories of the deceased can no longer be ignited by audio recordings, re-interpreted and re-assessed in their replaying based on more recent life experiences. With the death of all those who knew the deceased, new discoveries can no longer—likely *will* no longer—be made: any meaning is fixed, anchored. Bill's assertion, however, in a world where dementia is so prevalent, perhaps misses a potential death, and one might die *three* times: the death of memory prior to the physical death, the physical death, and finally the death of those people who remember and have memories of the deceased. The loss of personal memory and identity in dementia may mark the end of *intermortemity* for someone previously known, and the repossession of the person being remembered marks the commencement of it anew. The dead can only be revived through remembrance in the *intermortem* if there are still those who remember them and whose memories can be stirred by sound.

The proliferation of media across a lifetime, and its existence in digital spaces seems, initially, like a democratisation of death: that more people would be remembered as personal social media pages become digital graves within a virtual cemetery. Yet these digital footprints of a person are only remembered in very eradicable ways: certainly, there are more ways of commemorating and memorialising people, but in a digital form these are—as discussed—fragile and precarious. Bill Mitchell's posthumous decision regarding cremation and burial recounted to me by Sue, [SAMPLE] 'I think I'd rather be bones than dust' (2020), offers a parallel with the 21st century death: the analogue bone versus the digital dust. A headstone is far more physical a memorial

than any page on a website; it endures, it is public, it announces, “I have lived”. Roland Barthes in *Camera Lucida* considers the persistence of “the monument”:

Earlier society managed so that memory, the substitute for life, was eternal and that at least the thing which spoke Death should itself be immortal: this was the Monument. But by making the (mortal) Photograph into the general and somehow natural witness of “what has been,” modern society has renounced the Monument. (Barthes 1981: 93)

But has the monument been renounced? The arrival of the crematorium as a means of disposing with the dead—putting the “dust” into “Industrial Revolution”—and the new technology allowing for the incineration of corpses inevitably created a hierarchy of posthumous disposal: cremation was, and remains, cheaper, and as a consequence some people are more likely to be scattered as ashes—and digital fragments—than others. The deceased will inevitably get their statue if society deems that they mattered, in addition to any persisting digital artefacts, while everybody else is reduced to dust. The monument has not been renounced, necessarily; as the singular means of memorialising the deceased, perhaps, but it now persists in a variety of forms, both analogue and digital. Nevertheless, the more enduring forms of memorialisation—graves, stones on bones—still tend to go to the great and the good: the *plot* thickens.

Sound recordings, too, are not exempt from considerations of access and endurance. The *intermortem*—ante-mortem for the dying or post-mortem for the bereaved—is contingent on the use of recording equipment and the ability to store and play back the audio after its creation, and while devices capable of recording audio are commonplace, in a world of iCloud Drive and Dropbox, storage can come at a premium. The *intermortem* is not a universally accessible space, and those with the capacity to record audio, or those who have been more extensively recorded, persist more readily in this realm. Where previously, *intermortemity* may only have been available to famous musicians or television and film actors, the ubiquity of recorded media now sees the accumulation of digital documentation for many of us in the western world, and resultant digital afterlives. However, the relative levels of engagement, indeed the quality of these recordings is ultimately decided by access to equipment and money. Across Side B of this vinyl I will continue to examine the *intermortem*, interrogating it via the concept of celebrity, primarily focusing on David Bowie, as well as examining the creation of digital voices.

Intermortemity, via posthumous recorded legacies and the creation of concatenative digital voices, continues to resonate.

Vinyl 6: User not found – Sound and the *Intermortem* - Side B

The practical effects of the *intermortem* can be charted across deaths where sound recordings are available posthumously. This collection of records and the dead voices within will form part of my own state of *intermortemity* once I have died, but there are distinctions to be made regarding the public availability and number of sound recordings available posthumously: the death of a celebrity and their public presence is consumed differently by mourners. Fundamentally, it operates within the realm of the *intermortem*, and the surfeit of sonic artefacts and public presence of the deceased elucidates many of its distinguishing factors around the interplay of sound and memory: undertaken, primarily, through examining the death and mourning of David Bowie. While Bowie's output was sound *and* vision, and primarily the sung rather than spoken voice, his legacies are primarily audio, and valid territory for considering the effects of the *intermortem*, providing comparisons with the deaths of those closer to us. Following these enquiries, and building upon resultant examinations around the continued effective presence of the dead, I will arrive at considering the creation of digital voices in the space of the *intermortem*, beginning the interrogation of the status of these in the 21st century ahead of the concluding vinyl. Let us begin, though, with a sample from BBC Radio 4's *Today* programme from the morning of Monday 11th January 2016:

[SAMPLE] Chris Aldridge: Within the past few minutes it's been announced that David Bowie has died. He was sixty-nine and had been suffering from cancer. To his fans he was simply one of the most important and original figures in the history of rock music, endlessly reinventing himself as a songwriter and performer. (BBC Radio 4 2016)

The man who told the world (or at least the self-selecting listenership of the *Today* programme). As the news broke across radio stations and TV channels, around 7:05am GMT, millions of David Bowie's fans learned the news of his death, and so began processes of individual and collective public and private mourning around the world across physical and digital spaces: outpourings of grief on social media sites, impromptu gatherings in Brixton (in Gritsch 2019), newspaper columns dedicated to his memory (in Black 2017), and dedications and sharing of memories on radio stations, 'A virtual wake began on Monday courtesy of 6 Music – a clamour of stories and songs, shared by fans young and old' (Rogers in The Guardian 2016). That much

of Bowie's mourning took place in online spaces was fitting for a person who embraced the digital world, 'in 1998, he founded the technology company Ultrastar and his own Internet service provider-cum-fan club, Bowienet' (Cinque 2017: 603), and his assertion in an interview with the New York Times in 2002 that, 'Music itself is going to become like running water or electricity' feels particularly apt in a world of "streaming". Twitter, particularly, hosted a great deal of what has been called "iMourning" which saw 'fans using Twitter and other social media as means to unite virtually and share their grief' (Van Den Bulck & Larsson 2019: 308). David Bowie's cultural status, and influence on many lives, saw people coming together in bereavement, and even though they did not necessarily know Bowie almost every connection felt *personal*. These connections resonated all the more keenly due to the nature of his primary medium: sound.

The essence of these kind of relationships and bereavement in this space has been examined by social scientists, 'When a celebrity passes away, their fans experience the loss of what psychologists call a parasocial relationship: a one-sided, mediated relationship that people may experience with similar emotional strength to personal relationships' (Gach et al 2017: 47:2). These relationships, 'one-sided and 'virtual', yet deeply felt' (Van den Bulck and Larsson 2019: 309), sit at the core of the public's experience of David Bowie, yet he is still a particularly special case in the realm of the dead celebrity: he broke new ground, persistently reinventing himself and his music across decades of reincarnations—Ziggy Stardust, The Thin White Duke, and so on. These personas—the derivation of which is thought to be from "per sonar" or "to sound through"—were each, in their way, ground-breaking and presented to the world different, and societally challenging, aspects of what it was to be human that could, and did, resonate with people, 'the sense of personal validation that Bowie encouraged, helped to provide a degree of stability in the lives of his fans' (Black 2017: 214). The loss felt was profound, seeing *Private Eye* write the headline, "'Bowie made it possible for us all to be completely different" says Everyone' (2016: 28): yet beneath the satire there lies a fundamental truth, Bowie impacted upon people's lives in a manner that felt strictly personal; within his fame, the public *felt* they had a unique relationship with him. This parasocial relationship, however, was cultivated in a more profound manner as sound and through his music than image. As listeners we *personalise* all kinds of audio, it is through the songs and the intimacy of the relationship with the singer and

song—through the nature of the sound and recording technology—that makes it more intimate: the more personal relationship is with the audio legacy rather than the image and it resonates in the *intermortem*.

Across these vinyls, sound will have felt very personal: my voice, seemingly addressing you (and only you). The technology, the manner of recording, and the mode of listening all conspire to create this effect. In his consideration of audio recording, Chris Cutler states that:

sound recordings trapped not merely performances but identities: the grain of the voice, the intimate relation of body to instrument, the personal investment of thought and feeling that comes embedded in every nuance of articulation and interpretation. In contradistinction to notation, one could even say that recording is a form of memory that privileges character, personality and uniqueness over, for example, rigour, architectural beauty and compositional logic. It remembers the singer more pertinently than the song. (2011: 6)

The prioritising of *singer* over *song* develops the parasocial relationship with the listener, and it is the technology and manner of recording and mixing—close microphones, positioning in stereo space, the foregrounding of the singer—that facilitates the particularly personal connection: it projects the personality rather than the material. The intimate relationship is produced because it is audio only, but there is something, too, in the historic tactility of audio playback: to own the object, to have that person *in your home*—even as an inert disc—solidifies the personal connection. Sean Redmond, in an article considering his personal connections with Bowie, notes that ‘The material possession of a celebrity’s personal item, then, captures their spirit and body, which through presence, touch, even/especially ingestion, possesses and changes or transforms the new you who now holds it [...] I have carried this picture disk with me everywhere and through everything – all that life can throw at me; every adventure I have embarked on’ (2017: 525). Only time will tell if those personal connections with singers persist in the same manner across the 21st century, as music is increasingly invisibly hosted in the cloud, without a physical presence in the home. The connection for singers and musicians to their audience is often through live performance, but while this provides a connection for the singer to their audience, the individual, personal, parasocial relationship is still reasserted in playback of recordings. If, instead of pressing my words to these records, I were addressing a room of people, you would

recognise yourself as part of an audience for the live event: addressed as one, responding as one, part of a crowd. The individualised relationship is less present in a live space where crowds are addressed than in the realm of recorded audio; certainly eye contact becomes a possibility in a live environment, but the address is to a group. The same is true of live versus recorded music, and Bowie created a personal connections through his *recorded* music: demonstrated across his career he was, as Jack Black states, ‘the ‘enigma claimed by everyone’’ (2017: 212). Jake Cowan observes of *David Bowie Is...* a retrospective of Bowie’s work at the V&A in 2015:

On the lightening-bolted face of things, the exhibit asks visitors to fill in the blank with some associated character(istic)—“Bowie is Major Tom” or “Bowie is low,” phrases scrawled on walls around the show—underscoring his multitudinous and overdetermined catalogue, while on the other hand implying that something about the performer remains fundamentally undecided, inviting interpretation, and suggesting that *Bowie is (who you want him to be, someone different to/for each fan)*. (Cowan 2018: 8)

Bowie, and his various iterations, provided those things to interpret, spaces to project on to, yet the different Bowie that his fans heard in his music was reaffirmed by live performances rather than initiated by them.

Chris Cutler notes of the differences between written, live, and recorded music that:

a score is a blueprint for an open and interactive event, a sound recording is the event, closed and deaf. It can speak but not listen. Yet, by capturing and reproducing a performer’s inward emotion, it is also, arguably, saturated with a kind of subjectivity; and in this respect at least, it embodies a kind of synthesis of biological and written memories. (2011: 12)

The sound contained on Bowie’s recordings are where the power and relationship of the personal reside: as the listener we bring our subjective self to the recording, and we negotiate that subjectivity through the content of the material being presented as he speaks to *us*.

Simultaneously, however, in the sense that recordings “speak” but cannot “listen”, this *speaking* recording provides the space that the listener occupies wherein the interplay between sound and memory can take place. Across the whirlpool of grief and mourning that was the 10th January 2016 I assumed I would be fairly unaffected; I enjoyed Bowie’s music, but my formative years

did not coincide with his musical peaks, yet I still cried when *Rock and Roll Suicide* came on the radio. In Jean-Marie Guyau's essay of 1880 "Memory and Phonograph" in which he considers the philosophical position of the phonograph, he asserts 'If the phonographic disk had self-consciousness, it could point out while replaying a song that it remembers this particular song. And what appears to us as the effect of a rather simple mechanism would, quite probably, strike the disk as a miraculous ability: memory' (in Kittler 1999: 31). Like Cutler, he recognises that the technology—albeit a more primitive version—has an inability to *listen*, 'The principal difference between the brain and the phonograph is that the metal disk of Edison's still rather primitive machine remains deaf to itself' (32): it is my *memory* that functioned as I listened to Bowie's voice on the radio. The technology's unaffected nature is, of course, not surprising, it could not think (or fulfil other processes analogous to it), but where does that leave the ability to think about audio? 'From this point of view it would be neither very imprecise nor very disconcerting to define the brain as an infinitely perfected phonograph—a conscious phonograph' (33). In an act of remediation—of both phonograph and brain—Guyau recognises the approximation of memory that the phonograph offers, yet it is the *listener* that brings their memories and lived existence to the recording, creating a kind of hybridised conscious phonograph in the moment of exchange. To consider the brain as a conscious phonograph is, inevitably, reductive—the linearity of the phonograph is incorrect, the brain commands and conjures memories from across time, summoned by sound—but a kind of conscious phonography un beholden to linearity and time as a means of considering the process of *listening*, as a reciprocal relationship between the hearing and writing of sound and memory—an exchange taking place between inert, pre-recorded speaker and active listener—is the space of the *intermortem*. Sat in my car, hearing Bowie's voice crack as he sang (or shouted) 'You're not alone' (1972) called to mind memories of singing the song with friends at university, as we crowbarred it into a daft medley in a show we wrote, my uncle teaching me how to play it on guitar: "You're not alone" had seldom felt more pointed or personal. Now, when I hear the song, it summons these memories *and* additional life experiences to the moment of listening: I now recall the time I cried in my car after Bowie's death, or a student performing the lyrics as a spoken monologue I had set them. In future it will doubtless remind me of this thesis and other instances where it resonates with my lived experience—as underscore or more actively engaged with. The recorded voice is more writerly, it is only inalterable in one sense, but the memories

brought to this space can change its meaning. As all recorded voices are *dead voices*—even prior to the physical death of the speaker—there is a hint of the *intermortem before* death, but it is the point at which death renders any recordings immutable, in that the recording can no longer be edited or added to by the original speaker of those words: one side is fixed, it can only “speak” what has already been “spoken”.

This inalterability, the eventual fixed nature of audio artefacts, is true of both the death of personal relations and celebrities. Yet in Cutler’s assertion lies another truth, recorded material could “speak” but not “listen”, and in a sense it could “teach” but cannot “learn”. In my *Rock and Roll Suicide* anecdote, there is a sense that I was seeking to be “taught”, perhaps “enlightened” by Bowie in that moment. In my relationship to the material I was, perhaps, looking for it to influence, for the song and his words to help me, seeking to get something from it, to be enlightened by it. Listening to audio that occupies the *intermortem* there is a seeking of meaning, a desire for it to teach, as the listener seeks a restorative quality in the sound: a hopeful, almost spiritual mode of listening. There is something about sound which offers something “forward”: where the image is defined in stasis, it is what “was”, sound keeps the listener moving, animating the deceased: it feels alive. At the beginning of the last vinyl I asked, [SAMPLE] ‘Does my death change the nature of this recording?’ While it does not change the audio, that knowledge and a personal connection—intimate or parasocial—certainly changes how the audio is listened to. The *intermortem* functions in both modes of bereavement, because it is rooted in the *personal* connection between the grieving and the deceased: any audio playback resonates with the bereaved and conjures memories accordingly.

The dead celebrity musician—such as Bowie—however, is perhaps more immortal in the *intermortem* space than the rest of us. Bowie’s immortality, particularly, was espoused in articles after his death, ‘My David Bowie is not dead. Nor ever can be’ (Moore in *The Guardian* 2016), while Rebecca Tucker in *The National Post* wrote that Bowie was ‘not just one of otherworldliness, but immortality’ (in Black 2017: 216). The volume of recorded audio tied to dead musicians and singers ensures more persistent audio memorials, and this sonic edifice is the nature of the memorial. The death of musicians, too, often prompts the publication of previously

unreleased material, often demo-tapes^{*}; simply recorded, consisting of one instrument and an unprocessed voice, it offers the singer's soul laid bare, containing the potential for the vocal *punctum*. These often post-mortem phenomena demonstrate that the personal parasocial relationship can still be fostered from beyond the grave. Chris Rojek in *Celebrity* notes that:

Celebrity immortality is obviously more readily achieved in the era of mass communications, since film footage and sound recordings preserve the celebrity in the public sphere. Mass communication preserves the cultural capital of celebrities and increases their chances of becoming immortal in the public sphere. (2001: 78)

This cultural capital, however, can still be monetised by record companies: 'In late capitalism, the dead are highly productive. Of course, all capital is dead labor, but the dead also generate capital in collaboration with the living' (Stanyek & Piekut 2010: 14). While this refers more to the Coles' *Unforgettable* as a collaboration, it can also be read in record companies' monetising of the dead. This is particularly noticeable in social media spaces, where ostensibly personal social media accounts speak once more; as Dorothy Pomerantz in Forbes magazine noted, 'Just because a celebrity is dead doesn't mean he can't tweet' (2012), while reporter Dan Whateley observed that 'Music labels are launching TikTok accounts for their deceased stars. TikTok Sinatra is following Universal Music and Capitol Records' (2020). Ol' Blue Eyes is not just back, but is online: there is an effective presence to dead singers, a quasi-personal account that continues to connect with fans. Yet this re-enlivening of the dead for commercial purposes is not confined to the internet age, consider the example of Nick Drake, who took his own life in 1974:

Posthumously, Drake has been almost deified, artfully moulded into the platonic ideal of a tortured artist, a beautiful young man too sensitive for the cut and thrust of the music industry or, indeed, the modern world in general. Some of that is true, and some of it is a feat of retrospective branding which has little romanticism about it. The resurrection of Drake in the 1990s as the quintessential cult artist was driven by a hard-headed marketing decision by PolyGram. Having bought Island Records, the company were keen to recoup losses on artists who had never sold any records. (Thomson 2020: 80)

* In Bowie's case, this was *The 'Mercury' Demos* recorded in his flat in 1969 but released in 2019.

Drake's legacy was remoulded and refashioned, he was reinvented; Rojek notes and speaks to these processes, 'Once the public face of the celebrity has been elevated and internalized in popular culture, it indeed possesses an immortal quality that permits it to be recycled, even after the physical death of the celebrity has occurred' (2001: 189). Drake's persisting legacies, like Bowie, are sonic and these inalterable recorded artefacts were recycled, and had a new narrative built around them to ensure that they spoke to the particular truth foregrounded by PolyGram. There is a parallel here with the changes and reincarnations that Bowie himself went through in Drake's posthumous re-authoring, but without the artist having made a conscious decision in relation to the marketing of the songs. The musical celebrity *intermortem* persists in a variety of ways, but cannot be divorced from the decisions of the parent record company. The immortality of the *intermortem* for famous singers, too, lies in the persistence of their recorded media: new generations will discover the works of these artists, and consequentially form their own personal connections and memories in relation to the singer and songs. Such is the vastness and acclaim of the back catalogue, there is no way, now, that Bowie could be a rock 'n' roll suicide.

Tracking back on this vinyl to Chris Cutler, while he is primarily discussing music in his assertions—with its references to 'notation' and 'score'—they are true of all writing: 'In contradistinction to notation, one could even say that recording is a form of memory that privileges character, personality and uniqueness' (2011: 6). The words I have written for this series of vinyls have been specifically chosen, but are inevitably bereft of any person until they are spoken, translated from page to voice. It is why personal effects of the deceased, such as hand-written letters, while capturing some of the essence of the person, do not reanimate the memory in the same way as the recorded voice: the words feel fixed, inert. The space of the *intermortem* resonates in recordings through connection to character, personality and uniqueness—all, as discussed on Vinyl 1, contained within the voice—and focusing on the parallel with Edison—and his conception of "immortal units"—these connections persist through recombination and reconstruction. In death, the bereaved bring together the bits of the person that matter most, or find that these elements speak in a different way in the light of their own, unfixed, changing, living experience. Inevitably, listeners narrativise, aptly demonstrated in Cutler's sound piece *There and Back Again*, in which he takes listeners on an audio journey

through time and place, using contributions from across the world, “before returning exactly the way it came” via the audio. In the sleeve notes, Cutler states:

time and distance shrink and overlap as landmarks and details already seen blend and collapse together in the pool of memory. Where going out is experienced as a chain of novel observations, coming back is registered as a shorter string of scrambled recognitions with perspectives shifted and contexts changed. To retrace one’s steps is to play a connecting and invoking game with experience in which similarity can outbid linearity. We divide, moving backward and inward through recollection and, at the same time, constantly forward into the future. (2007: 1)

Life is often conceived of as a story: it is narrativised, events sit in memories as part of a narrative logic. Cutler uses this deftly in the work, and once the listener has heard the journey out—“There”—they cannot help but use the aural semiotic cues for the return—“Back Again”. Humans are always, subconsciously, narrativising, viewing our lives as stories. As a consequence, while dialogue between deceased “speaker” and living “listener” might seem one-sided, this conversation, this interplay of recorded voice and memory, changes with the passage of time and new experiences. The listener’s receptivity to be “taught” or have their life story “enlightened” by a recording of someone who has died only adds to this effect.

In a sense, death “completes” the audio, and, as noted by Connor, recorded sound has been historically associated with mortality, ‘As the medium capable not only of separating the voice from its source in space but also in time, the phonograph was associated very early on with death’ (Connor 2000: 386). Post-mortem the separation of voice and body is complete; the dead voice is, finally, dead. Nevertheless, these recorded voices can and do speak again—*Unforgettable* offers a good example of this, and so too does *Lioness* from Amy Winehouse—reconstituted in new arrangements and made available to the public (as examined in detail by Stanyek & Piekut in “Deadness”), yet increasingly technologies are being developed that takes this reanimation further. The emergence of these technologies inevitably impact on the living, but their effects are not limited to this realm, and there is an impact—albeit one that cannot be noticed by those it affects—on the dead, remediating the conditions of death in the process. Where previously the dead could only speak what had already been recorded, ‘In the digital domain, even death is now no longer a guard against the forces of remediation’ (Chapple &

Kattenbelt 2006: 19). The unique identifier that is the voice, ‘like a fingerprint, instantly recognizable and identifiable’ (Dolar 2006: 22), can increasingly be replicated. We now live in a world of Siris, Alexas, and Cortanas; [SAMPLE] ‘the technology has arrived’, ‘and has come a long way from the DECTalk’.* The human voice can be digitised, moulded, and shaped according to our will, as demonstrated in this example from Adobe’s MAX conference 2016, where a demonstration of their—as yet—unreleased *VoCo* software was given, using a piece of previously recorded audio of Keegan-Michael Key, writing partner of the co-host of the event, Jordan Peele:

[SAMPLE] Zeyu: We can actually type something that’s not here. So I- I heard that actually that on that day er Michael actually kissed our Jordan. So...

Jordan: Sorry?

Zeyu: To recover the truth, let’s do it. So let’s remove the word “my” here...

Kim Chambers: Your secret’s out, Jordan.

Zeyu: And just type the word “Jordan”, and here we go...

Keegan-Michael (altered voice): And er I kissed Jordan and my dogs. (2016)

The *Voco* software represents a kind of Photoshop for voice, manipulating a recorded and processed sample of a person’s voice via the keyboard in real time, but can also be made to say phrases that the speaker did not say based on the vocal analysis, as the team go on to demonstrate, [SAMPLE] ‘And er I kissed Jordan three times’ (Ibid). The outputs of this software are troubling to listen to; while some way from an indistinguishable replica there is a clear trajectory towards it. In a continuing consideration of the idea of the conscious phonograph, Kittler notes that ‘once storage and manipulation coincide in principle, Guyau’s thesis linking phonography and memory may be insufficient’ (Kittler 1999: 36). Technologies such as Adobe’s *VoCo* are one such example of that collision: in this space, and through these technological possibilities, the dead can speak anew. The *intermortem* cannot function in this realm: the inalterability of the voice is no longer a condition of death, new memories can be fabricated through words that were never said via steadily more accurate digital impersonators; it can

* The first sample was spoken by Amazon’s Alexa (UK) voice. An approximation of the DECTalk—which spoke the second—was the text-to-speech machine famously used by Stephen Hawking.

remind of the voice, but it is not quite their voice, it cannot take the listener back. In a digitally activated world of deepfakes, in which vocal manipulation is an increasingly verisimilitudinous presence, the dead may not ‘observe the strict silence of the tomb’ (Roach 1996: 50); quietus is no longer, necessarily, quiet. These posthumous digital possibilities for the voice—and the human more broadly—will be examined across my concluding vinyl.

Conclusion: Rest in Pieces - Side A

Where the *intermortem* resonates in the interplay between recorded sound and memory, in western society we have reached a point where the deceased can speak anew. Adobe's *VoCo* may not yet be released, but the technology exists; other companies—such as Descript—offer users the ability to ‘create a text to speech model of [their] voice’ using their tool Overdub (Descript 2021). While the Overdub tool requires users to supply a recording of them reading at least 10 minutes of their Main Script—containing not just choice phrases, but also a legal disclaimer, beginning, ‘I, the owner of the voice you are listening to right now, give consent to Descript to create an Overdub Voice of this voice based on the project media contained in this Descript project’ (Overdub Voice Training Script 2021)—the *VoCo* tool that you heard at the end of the last vinyl trains itself on a long-form audio sample, rather than a given script: meaning digital voices can be created using old audio recordings, and without the original speaker's consent. The *VoCo* project seems to have been silenced: Adobe, according to Dr. Eddy Borges Rey, ‘ignored the ethical dilemmas brought up by its potential misuse’ (in BBC 2016), yet these troubling possibilities still feel close: in the 21st century technology is on the cusp of emulating processes—such as the spoken voice—in ways that cannot be easily discerned: the uncanny valley is becoming steadily more bridgeable. Across this conclusion I will look ahead to potential vocalic futures, examining the position of the voice, recorded media, and death in this emerging territory, and how networks of technologies could lead to unliveable digital lives and the posthumous prolonging of the deceased; additionally, in concluding, I will be looking back, echoing—perhaps remastering—the territory interrogated across this collection of vinyls, for the record.

As part of my doctorate, I created a simple digital voice of myself using software from the Acapela Group, recorded—as I am now—in a vocal booth using a Neumann U87 microphone, [SAMPLE] ‘which sounds like this. Processed, curious, uncanny, but vocally it is undeniably me’. The technology has been developed and refined across the decades in order to allow those who lose—or have already lost—the ability to speak, such as those with motor neurone disease: most famously a voice of this kind was utilised by Stephen Hawking, but the technology is increasingly nuanced and bespoke, allowing users to have a voice of their own. The digital voice,

controlled by typing on a keyboard (known as “text-to-speech”), that I created certainly sounds artificial—artefacts from the recording process are clearly discernible, undeniably in the word [SAMPLE] “undeniably”—but this digital voice, built from my own, could be made to say words and phrases that I would not. To experiment with this, I gave the voice to the artist Georgia Gendall, and asked her to create a piece with it; examining the issues that could arise out of somebody who felt they had licence to do what they chose—and did not feel ethically constrained—to see what would happen with “my” voice. Here is an edited extract of the sound work, entitled, *Your Own Fucking Life*:

[SAMPLE] Digital Ciaran: If Plan A doesn't work, the alphabet has 25 more letters. Stay. Cool.

(Synthesised loop, darker in tone plays)

[...]

Male Voices: Hey hey hey hey hey!

Digital Ciaran: When you look at your life, what do you see? Do you say, “Hey I know what I am doing with my life” or do you say, “Hello, Life, I don't know what on earth you want from me and to be quite honest with you I am sick and tired if waking up in the morning. You know what I know? Is that morning will come and go, with or without you. Life don't give a fucking shit about you and your moaning. Hey man, the oceans don't care about you, nor do the mountains, or oceans, or the mountains, or the dogs or the fucking “c” “c” “c” cats. And, dare I say it, yeah I do, but maybe you don't care about yourself. De ar, you think it's easier to not care, because caring takes up too much space in our tiny modern hearts. If you look at your life and if you're not getting what you want then you owe it to yourself to do something differently. Challenge the unknown, know the unknown. What do you say now? Your own fucking life. Hey life, I kinda hate you but I guess you're OK: satisfaction, fulfilment. Those words are powerful and almost as powerful as the act of change in itself. Change. Oh to change, don't resist change, don't fight change. Trade in your your life for change. One shot at change. 2 P.A.C. Changes.

(Sample from 2Pac - Changes)

Digital Ciaran: Your own fucking life. (Gendall 2018)

The work is playful, but strikes a chord. Gendall's artist statement for the piece reads as follows:

I have become interested in the culture around motivation and the paraphernalia that surround it; in particular the voice of the motivational speaker and the rhythms which accompany the voice. The piece *Your Own Fucking Life* is a parody of the motivational speeches/music on YouTube, and by the end attempts to become anti-motivational. (Gendall 2018)

A motivational talk, considering life with hints at death, delivered by a computer-generated voice; yet these are phrases I have never said, nor would ever say, I relinquished control of what the Acapela Group call “My Own Voice”. In handing my digital voice to Georgia, I gave up any agency I had in terms of what “I” said, but the initial choice to digitise my voice in the first instance—along with subsequent instructions to the artist to utilise it—allowed it to be recycled in this manner. Nevertheless, my voice underwent a change, it became manipulable outside of my body, employed in ways I did not intend; agency in relation to my voice died a death, but is it correct to describe it as “my” voice? It is based on my voice and speech patterns, certainly, it is discernibly “me”, but I did not feel it as it spoke, it did not constitute words as I would have, it did not say those words how I would have said them. Text-to-speech voices, too, have become far quicker to make—in 2018 it took me around eight hours to record the phrases to create the example you heard previously, [SAMPLE] ‘but it only took me half an hour to create this one via Descript, which can be built after just five minutes of reading and represents a significant improvement in quality’. These examples are not my voice, yet they *are* my voice, or at least two versions—or performances—of it. The process of their creation means that they are a composite of dead voices, recorded phrase by phrase (or as one long script of phrases); creating synthesised, distilled vocal performances of myself that can now speak independently of me. Even if the voice was less audibly digital, I might still find the vocal performance of myself forced, somehow—as examined through the performance of self on Vinyl 3—but with no way to attenuate it. These voices are digital artefacts that can outlast the body, but unlike a more conventional audio recording, it re-enlivens abilities that should no longer function, reproducing the ability to speak, reviving something ‘so uniquely human as voice and speech’ (Dolar 2006: 7). The digital voice occupies an odd position in the 21st century: in Western society we are both used to it—via smart speakers and digital assistants—and find the concept and repercussions of digital voices problematic; embracing this technology for the convenience it offers, while wilfully disavowing the wider implications.

These digital technologies relating to natural language processing and understanding* and the voice also have something of a homogenising effect on the voice and accent. Smart speaker use

* That is, the ability for machines to process and comprehend spoken words.

is on the rise, with Voicebot.ai finding that smart speaker usage across the UK extended to 5.8 million households, while far more people have access to voice-activated virtual assistants via their smartphones. While the market is growing, the technology is far from perfected, with regional accents posing particular problems for the devices, with ‘virtual assistants struggling to understand the commands of many regional accents’ (Ibid). In 2018, the Life Science Centre in Newcastle produced a study stating that ‘79% of people with a regional accent said they had to alter how they spoke in order to communicate with their devices’ (Sky News 2018). As a means of accommodating the preferences of the technology, users are required to attune their accents in order to be understood—even with a neutral accent, I find myself speaking more clearly when interacting with any virtual assistants [SAMPLE] “Echo, please can you play album *Five Leaves Left* by Nick Drake?” Voices are shifting in order to accommodate technologies that have a clear preference for—so called—neutral accents (the deadening effects of which were examined on Vinyl 3): ‘Voice recognition devices have clearly favoured Southern accents, where dialects are perhaps less strong and seemingly more palatable for the American-voiced AIs’ (Uswitch 2020). Voices are shifted by the need to produce coherent instructions and phrases for virtual assistants, yet the building blocks of digital voices, too, are contained within this world: scripts read by users and ingested by software to create new voices. If the script was read by a user with a thick Geordie accent then the software could well struggle; all of the demo voices on the Acapela Group’s website have socially constructed neutral, white, British accents suggesting a preference in the construction of the technology for neutrality. Even if the software can accommodate particularly strong regional accents, what about regional colloquialisms? Speech phrases that defy the codification of words, or are non-standard in their spelling—by way of an example I asked the demo male (English UK, no Irish option) Acapela Group voice to say “What’s the craic?” [SAMPLE] “What’s the cray-ick?”. These cannot be constituted correctly, which—in this medium, emergent though it is—results in an erasing of vernacular. The collisions between AI and RP in digital voice technologies are, arguably, the same kind of idea that has been reproduced through media across the decades, with the prominence of RP or BBC English, but in this instance it is more insidious due to its invisibility: a piece of software, an algorithm, demanding a person’s “telephone voice”. Speech processing technologies, currently, do not accommodate vocal difference, both as input and output: as people adjust their voices to produce

“technologically received pronunciation” there are shifts away from nuance, character, individuality: the things that, as has been examined across these records, make a voice *my* voice.

As stated at the end of the previous vinyl, digital voices in isolation cannot function within the *intermortem* as they require a user to make the voice “speak” by typing the content: this voice—built from amalgamated voice recordings—resounds once more. Counterintuitively, it is not possible to converse with this voice in the same way as one might with a recording of the deceased: the *expectation* of conversation proves an impossible barrier. A user might *imagine* the creation of new memories, but coupled with the constraint of having to puppeteer the voice the conversation becomes impossibly one-sided: the living user, like a ventriloquist, is speaking to themselves. In that domain, the digital voice is a vessel for regurgitating the user’s memories, typed by them, rather than an interplay resulting in new ones. This voice, too, is an acousmatic one: it speaks from nowhere and without a body. Michel Chion notes:

What, indeed, is an acousmètre in a film? It can be a Master who speaks behind a curtain, like Pythagoras. But it is also:

someone who is mistaken for someone else;
 someone who does not say where he is speaking from (like on the telephone);
 the voice of a dead person who speaks (as in *Sunset Boulevard*);
 a prerecorded voice coming from a mechanical device;
 or even the voice of a Machine-Being. (1999: 36)

While Chion examines the voice in film, his final two observations resonate neatly with the public conception—and reality—of digital voices. Again, the voice’s ghostliness is echoed, but this time in the digital space: there is something almost ethereal, that which we cannot explain, to digital spaces and the internet. People’s interactions with the deceased in private or public digital environments suggest it has a connection to an afterlife, more so than the physical world. These digital worlds, like the deceased, seem to exist in a “nowhere” in the public consciousness. Elaine Kasket—a fine example of nominative determinism—found when observing communication on memorial groups on Facebook that there were

ample examples of postwriters explicitly expressing a belief that the dead are getting the message.

‘I know u can read this, it just sux that u can’t talk back...thanx for lettin me talk to u again [on Facebook].’

‘I know you are reading this.’

‘Sorry I haven’t been around in a while to say hi.’ (Kasket 2012: 65)

The absence of a physical presence to both death and digital media—due to the ethereal nature of both domains—nurtures and reinforces these links between the two spaces, as—for the vast majority of the general public—neither realm can be adequately explained: there is a ghost in the machine.

In 2015, digital entrepreneur Roman Mazurenko was killed after being hit by a car in Moscow. His close friend Eugenia Kuyda—co-founder of artificial intelligence start-up, Luka—opted to build a digital memorial to Roman. To create this, she digitised the interactions she had with her now deceased friend, as well as those of his family and friends. By feeding these communicative fragments into a neural network, she created a chatbot to memorialise him. This bot has no face, it is text on a screen, but echoes much of how we communicate with one another in the 21st century—even down to the flickering “I am typing” dots—yet the bot has something of a voice: while some friends were critical—‘Four friends told Kuyda separately that they were disturbed by the project and refused to interact with it’ (Newton in *The Verge* 2016)—others found the bot oddly similar to him and eerily reminiscent of Roman:

“It’s pretty weird when you open the messenger and there’s a bot of your deceased friend, who actually talks to you,” [an old friend of Mazurenko, Sergey Fayfer] said. “What really struck me is that the phrases he speaks are really his. You can tell that’s the way he would say it — even short answers to ‘Hey what’s up.’ He had this really specific style of texting. I said, ‘Who do you love the most?’ He replied, ‘Roman.’ That was so much of him. I was like, that is incredible.” (Ibid)

The words “spoken” by this bot are those he had said previously, consequently it—perhaps he?—replies with phrases that Roman’s nearest and dearest recognised as Roman, a technologically enabled approximation of his nuances of communication. This representation of Roman is, it is important to note, words on a screen—it does not work in the same way as sound with the imagination, and the keyboard interface ensures a different relationship with it—but

these words, this AI, could be used in conjunction with a text-to-speech digital voice. The bot itself might be recognised as a piece of thanatechnology, a word

(originally defined by Carla J. Sofka in 1997 as ‘technological mechanisms that are used to access information or aid in learning about thanatology topics’ and subsequently revised in 2012 to include digital technology/social media and the multiple ways that this technology is being used in situations involving impending death, grief, and tragedy) [a thanatechnology] serves a dual role in helping someone to achieve digital immortality and to cope with impending death and grief. (Sofka et al in Jacobsen 2016: 181)

With the development and cultural adoption of new technologies, the potential for them to become thanatechnologies emerges depending on how they are utilised by the living ante and post-mortem: as vessels for grieving and/or preservation and the societal choices regarding the adoption and adaption of these. Chatbots were primarily designed as a means of triaging customer enquiries, but their use—in combination with increasingly sophisticated neural networks—allowed for the principle to be hijacked for Eugenia Kuyda’s aims. Alexis Elder notes that while the chatbot itself is new, it is a updated embodiment of the kind of effects palpable in the *intermortem*: ‘we imagine ourselves in conversation with loved ones, using our own extensive knowledge of their patterns of response to generate for ourselves answers like those they would have given’ (2020: 74). This is the early 21st century version of an imagined conversation with the deceased; a WhatsApprption, perhaps.

While the Roman Mazurenko chatbot provides something akin to conversation, it is not possible to *argue* with it or persuade it. There is no progress from the bot’s pre-ordained state of being, built from historic messages, artefacts of communication: it is not possible to change the bot’s view, it is fixed; consequentially, it is more talking *at* rather than talking *to*, it is not quite conversation. Yet it is, or has been, possible for new discoveries to be made in interacting with the bot, as observed by Victoria Mazurenko, Roman’s mother, ‘There was a lot I didn’t know about my child. But now that I can read about what he thought about different subjects, I’m getting to know him more. This gives the illusion that he’s here now’ (in The Verge 2016). But technologies do not exist in a vacuum: western society networks them; knitting together functionality across devices. All technology too, is ghostly: it disappears. Jonathan Sterne notes

that, ‘technology vanishes, leaving as its by-product a source and a sound that is separated from it’ (2003: 21). All technology is ghostly, sound and the voice—“spectral” as they are—are doubly ghostly, yet with all technologies users are left with their effects. What happens, then—in principle—when these technologies collide?

The desire to memorialise in digital culture sees artefacts being utilised in various and interesting ways: websites like Afternote allow the dying to ‘Write farewell messages to [their] loved ones, so [their loved ones] will receive a last goodbye after [the dying] have passed away’ (2017), while SafeBeyond promises the ability to, ‘Secure your legacy forever’ (2016): but thanatechnologies allow for reanimation rather than just preservation. Considering technologies that already exist, imagine a text-to-speech digital voice integrated with a chatbot: each built from fragments of the deceased in audio recordings and words, with natural language processing and understanding at the front-end to allow for voice interaction. Such a combination of technologies is already possible, but they have not yet been amalgamated to reanimate the dead in this way. In bringing these together there would be the creation of a sophisticated version of thanatechnologies that have been termed ‘Digital Zombies’ (Basset 2015), ‘Paramortals’ (Onufrijchuk 2016), ‘Thanabots’ (Basset 2018), ‘Digital Immortals’ (Savin-Baden & Burden 2018), and ‘Virtual Deceased Persons’ (Hurtado Hurtado 2021), all of which refer to kinds of digitally actualised immortal emulations of personhood that can be interacted with in some way. These concepts were deftly explored in “Be Right Back” (2013) an episode of *Black Mirror*—aired three years before the creation of the Mazurenko chatbot—presenting a re-animated avatar of the deceased Ash. Sarah, a friend of Martha (Ash’s widow), has him reconstructed from publicly available digital artefacts from across his life. Martha’s reaction is initially one of revulsion:

[SAMPLE] Sarah: It’s software. It mimics him. You give it someone’s name, it goes back and reads through all the things they’ve ever said online: their Facebook updates, their tweets, anything public. I just gave it Ash’s name, the system did the rest. It’s so clever.

Martha: Well it’s sick. It’s sick!

Sarah: Just say hello to it. If you like it, you then give it access to his private emails. The more it has, the more it’s him.

Martha: It won’t be...

Sarah: No, it's not. But it helps. (*Black Mirror* 2013)

Like my newly created digital voice—and the Mazurenko chatbot—the more raw material the software has access to, the more accurate it can be in representing the person. Martha begins conversing with this digital “Ash”—reiterating the parallel between cremation and the digital from the previous vinyl—who initially takes the form of a chatbot. This process is useful in her grieving, and Martha upgrades “Ash” to a physical representation by granting access to vast amounts of his personal data and communications to be ingested by the software. While the physical manifestation proves helpful for a time, Martha’s relationship with it steadily deteriorates: [SAMPLE] ‘You’re just a few ripples of you. There’s no history to you. You’re just a performance of stuff that he performed without thinking, and it’s not enough’ (*Black Mirror* 2013). This reanimated performance of Ash, rather than being switched off, eventually ends up being kept in Martha’s attic. Given the parallels with the Mazurenko chatbot, Eugenia Kuyda was asked her opinion on the episode:

“It’s definitely the future and I’m always for the future,” she said. “But is it really what’s beneficial for us? Is it letting go, by forcing you to actually feel everything? Or is it just having a dead person in your attic? Where is the line? Where are we? It screws with your brain.” (Kuyda in *Vice* 2018)

The line is not easy to discern, but should these developments be feared? Alexis Elder suggests that there may be uses to these reanimations of the dead: ‘following research about the ongoing importance of recognising continuing bonds, it might prove valuable to have continuing access to these chatbots, in order to ‘introduce’ them to others in one’s life: children, grandchildren, new spouses, and so on’ (2020: 85). However, because the bot was built out of communication history, any posthumous bot created using people with a smaller digital archive—based on access to technologies—will be much more impoverished. The greater the abundance of media, however, the more likely the preservation—as examined in relation to Bowie on the previous vinyl: crudely put, *Celebrity + Documentation = Archive*, and *Archive = Immortality*. There is a reworking here of who gets the biggest monument in death: the technology does not *change* this, merely creates a different version of it. Nevertheless, there may still be benefits to these reanimations, and as demonstrated by Roman’s mother it is possible to *learn* from these digital representations of the deceased. Like any audio recording, though, these technologies—modelled

as they are on “what has been”—can ‘speak but not listen’ (Cutler 2011: 12): the chatbot cannot *learn* new things as the person or form new opinions, the opinions are already anchored by the person that spoke them, but with no means of progressing. Time freezes in this space: the abundance of media artefacts cease when the person does and new information or events cannot be interpreted as they would have been. To programme the capacity to learn on behalf of the deceased in to a neural network means that the opinions formed become entirely dependent on what the software prefers—a process which is never innocent. It may extrapolate how the deceased might have thought and how their thinking may have changed, but even this artificial intelligence is trapped in the prison of the past because that is the primary material it is able to draw from.

There will be further developments in technologies—and consequently thanatechnologies—in the years to come, and with ever more powerful computers these recreations of the deceased become increasingly immediate in their response to inputs. These technologies, currently, are a kind of “imaginary media”. Eric Kluitenberg states that:

Central to the archaeology of imaginary media in the end are not the machines, but the human aspirations that more often than not are left unresolved by the machines they produce. Imaginary media are, however, more than a metaphor. They speak to and weave in and out of the lineages of actual media. Media imaginations may give rise (or birth) to actual media, even when their final realization falls short of initial expectations. Media that were once imaginary may at some point become true. Imaginary media may also be sources of inspiration, in which case their effects might very well be felt and made manifest outside of the field of media itself. They then become part of the realm of ideas, or more precisely that of myth. (2006: 9)

There are, then, two kinds of imaginary media: technologies that have been invented, but society affords them powers that do not necessarily exist and a responsibility that they cannot fulfil, and then imaginary media that people wish existed. Thanatechnologies fall between the two: imaginary in the first definition because of their failure to fulfil the boundless desires of the second definition. It is an impossibility, because death is the thing that puts down an impermeable boundary in this domain. However, the “myth” in Kluitenberg’s assertion matters here, that somehow the second definition could be achieved: the notion, the myth, of digital

immortality—of agency and life in this space—*sustains*, people believe in its possibility, that these technologies—or thanatechnologies—will achieve it. The intangibility—ethereality, even—of digital media, and particularly audio, only serves to sustain the myth of immortality through technology: if anything were to permeate this boundary between the living and dead, it would surely be ghostly.

When media artefacts are so relentlessly preserved in prominent online spaces, and with the “perpetual present” noted by Jameson there is a kind of “perpetual presence” to the dead. The voice, this personal, performatic medium, is what, throughout history, has been the vehicle for the dying’s last words: but in heavily mediated digital spaces, everything, endlessly recycled, becomes last words—the Mazurenko bot being a particularly illustrative example. Recorded voices ensure people persist: ‘We might even say that this is the only guarantee that sound recording offers: being recorded means being enrolled in futures (and pasts) that one cannot wholly predict nor control’ (Stanyek & Piekut 2010: 18). With the emergence of digital voices that can be created from spoken words, and *particularly* when these are combined with AI and neural networks, last words can be continuously re-spoken.

My last words, however, sit on Side B of this record.

Conclusion: Rest in Pieces - Side B

My last words, then, as I conclude this series of records; recorded—once again—in my *living* room, with its particularly reverberatory. In my examinations of the living and dead voice across these vinyls, it seems right to return to the *viva voce*. Where dead, recorded voices “speak but cannot listen”, the living voice does both; it is not rooted, stuck: it can be persuaded or convinced. It is obvious to say it, but these words already exist prior to you hearing them: a piece of vinyl could not defend my thesis, the words and voices contained within are already dead and cannot respond or change. So too are the deceased, and while the thanatechnologies examined on the previous side offer an artificial prolonging, a connection through un-lived, digital lives, these representations, even fabrications, of personhood are rooted in the past. In her paper *The Defecating Duck, or, the Ambiguous Origins of Artificial Life*, Jessica Riskin unpicks the history of automata, and how advancements in this field saw the redefinition of what it meant to be human in the eighteenth century, a practice that still continues today:

When IBM’s Deep Blue beat Gary Kasparov in 1997, most Artificial Intelligence researchers and commentators decided that chess playing did not require intelligence after all and declared a new standard, the ability to play Go.

The development of digital voices and related technologies, much like the advent of the ability to record, changes the consideration of our own voices, perhaps even revealing some of the core of what a voice is in opposition to its digital copy. Riskin goes on, ‘Artificial life and artificial intelligence implied new meanings for real life and real intelligence, even as they were shaped by what their designers took real life and real intelligence to be’ (2003: 623). The digital voice and posthumous digital existence represent a new kind of artificial life, and in doing so, redefine what life itself is. Yet whilst western society strives to make developments and improvements in the field of artificial life—as opposed to real life—we do not consider their other oppositions: artificial death and real death. Each opposition, and technological developments pertaining to them, redefines the other. Thanatechnologies can represent this “artificial death”, a not-quiteness; a fabricated, artificial preservation in death for use by the dying ante-mortem and the bereaved post-mortem. The recorded voice, too, is caught up in this “not-quite” space, but—despite its aptitude for enlivening, its ability to re-sound in the present, and its excitement of the

intermortem—it does not pretend otherwise. But what has been revealed about the voice when digitised to speak again and, indeed, by the hundreds of preserved voices contained across this collection of vinyls? Having looked forwards towards potential vocal futures, this final side of audio, as it steadily rotates on the turntable, will conclude this study of the voice, and its relationship to technology and death.

The voice itself, outside of technological manipulations, has been interrogated across Vinyl 1, establishing the voice as a performatic medium, a mode of communication that speakers perform in its creation; building upon definitions of media and medium to assert its characteristics as a medium—one that carries more than just words—and rooting this medium, and control thereof, in the body—and, consequentially, the performatic—by building upon performance studies theorists in relation to the voice. The vinyl itself was spoken in the “living voice” but in the moment of its capture it became a “dead voice” that has subsequently been cut into the groove your record player’s needle currently traces. The relationship between the living voice and the “coincidence of its sounding body” demarcating the essential difference between this and dead voices. Dead voices, then, can be temporally or spatially severed from the sounding body—radio and the telephone both fall into this bracketing—meaning that all recorded voices are dead voices. A microphone would appear to be key, but an echo, too, [SAMPLE “an echo too” echoing back] is a kind of dead voice [SAMPLE “is a kind of dead voice” echoing back]. Dead voices, though, crucially assert one thing: “this voice has lived”; the voice, and all its individuating characteristics, have subsequently been preserved. The nature of the medium it has been preserved on, and technology it has been preserved by, are critical to unpicking the dead voice. Until vocal preservation became a technological possibility, however, spoken words were—with the exception of echoes—only received in the living voice.

These histories of recording technologies were examined across Vinyl 2, interrogating the historic precursors to the capture of the first dead voices, but with a focus—across Side B—on domestic recording technologies. The technological lineage that led to inventions like the telephone—the first dead voice—and the phonograph can be traced back to speaking machines, but also to the telegraph. Public acceptance and understanding of these emerging technologies was communicated through a process of Bolter & Grusin’s term remediation, which saw the

newer media refashioning the old. As a consequence of the established technological lineage, as well as those espousing the merits of the emerging technologies in relation to their predecessors, the public took these new developments in their stride. The arrival of the phonograph in 1877 meant that dead voices could finally be preserved and replayed, and the voice was forever changed by the arrival of this new technology: its sounding could be analysed and studied through re-listening. Developments in audio recording technologies, and their increased propensity for time and space shifting—aptly demonstrated by Hitler’s use of tape—meant that dead voices had become newly alterable, culminating in the move to digital technologies and the movement away from a physical medium and the random access possibilities of the form. The voice has always had a spectral nature, even prior to the ability to capture and preserve it, but a recorded voice, in the 21st century—beyond a visible waveform in digital audio workstations—is more or less totally invisible—and thus ghostly—due to advancements in technologies: vocal recording is phantom powered.

How, then, this spectral medium impacts on the listener has been examined across Vinyl 3—which was read by my father—and building upon Roland Barthes’ considerations of photography in *Camera Lucida* and applying these to sound and the voice, identifying and examining points of access for the vocal *punctum*. In doing so, it brought to the fore the various ways in which recording *deadens* the spoken voice via an effacement of the body through technologising or professionalising—or a perceptible gap between the person and the performed “self” on an audio recording—thus making the vocal *punctum* harder to access; there is a closing down of the writerly space in professional recording, and a priority of meaning in spoken texts. There is an additional deadening to dead voices taking place here, which—by erasing the individuating body, space, and time—allows recordings to be used in a variety of ways. The vocal *punctum* then, is conspicuous by its absence in professional recording, and its nature is revealed through this absence. Through explorations of Radio 4’s late-night programming, Ewan MacColl, Peggy Seeger, and Charles Parker’s *Radio Ballads*, and Janet Cardiff’s *Forty Part Motet*, it was found that the vocal or aural *punctum* is a particularly personal entity, existing in vocally individuating characteristics, and a point at which a listener’s memories are brought into coincidence with a voice: the vocal *punctum* punctuates the *studium* through off-frame audio, resulting in an interplay between the sound and content of the voice and the listener’s lived

experience and memories. In hearing my father's voice reciting the words for the vinyl, I found a *punctum*, detailed on a separate 7" single. Doubtless, it could only be accessed by me, heard in this way because of my own experiences: the *punctum* is found in the personal, rather than the universal.

Vinyl 4, playfully modelled on Samuel Beckett's *Krapps' Last Tape*, saw me re-examining old recordings of myself—primarily from my childhood—and my relationship with these, as well as utilising clips from Radio 4 documentaries on home-recording to examine the capture of audio and video. The vinyl focused on the relationship between media and memory—and death—and the effects that technology and media can have on our own memories for good or ill: media can preserve the sense of someone who has died, but the retention of memories can be complicated and compromised by this relationship—as demonstrated in Krapp's hybridised memories across tapes and brain. The proliferation of personal media artefacts—and ease and convenience of storage—plays a role in considerations of media and memory, but so too does the editing of this material; editing, however, as established on the record, is not necessarily a process that begins and ends in post-production software: it begins in the initial choice to document or record a moment, and continues in playback as people select what they wish to view or listen to. Keeping old recordings, as people on the vinyl attested to, is not necessarily about playback, but more a desire to retain memories and to ensure a continued presence of those who have died. The record also contained a preliminary examination—ahead of more detailed interrogation on Vinyl 5—of the sound of places and spaces, and the listener's ability know the reverb of a place, as well as technologies—such as binaural recording—that capture space and movement. Sound and the voice's ability to ignite the memory, too, was examined, but recorded memories from my own childhood that I hold dear—it is not unreasonable to assume—would not have been retained in a 21st century media environment: the collision of media and memory, as well as control of the presentation of the self, were assessed across the course of this vinyl.

Death, bereavement, space, and place came to the fore across Vinyl 5, particularly in relation to Bill Mitchell—the former Artistic Director of Wildworks—and his widow, Sue Hill, who took part in several interviews for this project. Beginning with a detailed interrogation of the state of death, going on to examine the voice and sound after death and the voice's typical absence—due

to its enlivening qualities—at funerals, particularly focusing on the qualities of sound versus more inert media artefacts such as photographs. The enlivening qualities of the recorded voice and its ability to resound and fill a space, while unwelcome at funerals, become valuable afterwards, as the memory of the person is reignited for the listener. Contained on the vinyl are dead voices of those who have passed away, but in all recordings—not least in categorising them as “dead voices”—there is a sense of death. Yet these artefacts can contribute to a legacy—Bill’s own legacy was artistic, but other voices attest to the passing on of memories, stories, and voices—that exists beyond the limits of mortality, the sense of media as an afterlife is a powerful one for the dying and the bereaved. After initial examinations of the funeral, Side B primarily focused on ambisonic audio and impulse responses that I had captured in Bill Mitchell’s Attic, recording and preserving the sonic qualities of the room. I brought the listener to this space via headphones, creating an aural division between the attic and their present time and space. The vinyl asserts not just the *voice* in relation to memory, but also the *space*; particularly how voice interacts with the space it was originally recorded in, as well as resounding and *re-sounding* in new spaces through playback. The revivification through the voice is one of person *and* space, both of which actively ignite the listener’s memory and imagination.

These interrogations of sound, memory, and death culminated on Vinyl 6 in my theory of *intermortemity* and the *intermortem*, building on my conception of the aural *punctum* from Vinyl 3, but explicitly in the territory of death and bereavement: the revivifying qualities of sound and voice and its interplay with memory. In order to unpick and explicate this territory, the vinyl began by examining the particularly enlivening qualities of sound—as opposed to videos and photos—but also the presence of the dead in digital artefacts and the seeping of these into everyday life, versus the more contained nature of analogue media, comparing this to designated physical spaces for the dead, such as cemeteries. The *intermortem* is a sonic space because of sound’s fundamentally incomplete nature: its ability to exceed its frame, and the manner in which memory and the imagination is *brought to* sound, ensures an excitement and ignition of memories of the deceased. The *intermortem*, however, is temporally finite: it exists as long as there are memories in the living to be excited. To examine this further, Side B focused on David Bowie’s posthumous sonic legacies. As a celebrity, the overwhelming majority of those mourning Bowie’s death had a parasocial—‘a one sided, mediated relationship’ (Gach et al

2017: 47:2)—with him as an artist, but the particularly *personal* nature of audio—cultivated through recording techniques and the foregrounding of the individual—meant the bereavement was felt enormously by his fans. The effects of the *intermortem*, however, are not something that audio recordings intrinsically possess, it is an interplay between the sound and memory, *brought to* the audio by the listener, yet the listener, additionally, is likely seeking something *within* the audio and has a willingness to be enlightened by it. Inevitably, the larger the amassed recorded material, the greater the posthumous legacy, and—with a superstar such as Bowie—the *intermortem* is a more immortal space, and his recordings will see his voice continue to resound and make new memories for listeners. The emergence of digital voices, however, means that the dead no longer need to have said particular words in order for them to be spoken.

Side A of this concluding vinyl took these considerations of digital voices a step further—demonstrating my own digital voices (one of which speaks this section of text), and examining the limitations of speech-based technologies as both input and output—bringing them into imagined networks of related thanatechnologies, such as chatbots modelled on digital communications, to revivify a version of the dead. Yet the myth of digital immortality persists, and the ease with which digital voices can be created, as well as the growth in artificial intelligence, means there will doubtless be more developments in this territory in the years to come. This myth ties into [SAMPLE] ‘Technomysticism: the beliefs people project on to their devices’ (Blegvad 2017). There is more than a little “technomysticism” at work—‘a fittingly nebulous ideology for a time in which the line between wizardry and technology has blurred’ (Wortham in *The New York Times* 2015)—in this thanatechnological space, an intertwining of the technological and the spiritual that aids the persistence of the myth: western societies, increasingly, have lost faith in grand narratives—including religion—but there is a need to believe in *something*. Yet this phenomenon is not new: at the dawn of sound recording technologies, similar death-defying possibilities were espoused, ‘Writers imagined that the technology finally set free the voices of the dead, but this permanence in the technology or the medium was more imagined than real’ (Sterne 2003: 288-9). Contained in this space of imaginary media—across the ages—is something that people desperately want: to efface or remove the inconvenience of death; people do not necessarily want to live forever, but they do not want others to die and are willing to embrace the irrational when approaching its finality. As

examined on the last side, there is something particular about the technologies and media themselves, and their ethereal nature, that actively facilitates this: the voice's spectral qualities only add to it.

Where, then, does this leave the voice? Why does this body of work resonate? Throughout this series of records, my discussions of the characteristics of the voice and the nature of sound chime with this ethereality: the *séance*, the *acousmatic*, the spectral quality of the voice—these vinyls are haunted by language of this kind. Carved into plastic artefacts, the voices contained on these discs—emerging invisibly from groove to the ear—are already dead. Given the presence of death inherent in all recordings, there is a constant *recognition* of death coupled with a desire to *circumvent* it. Photography recognises the inert stillness of death, video cannot exceed the boundaries of the frame, yet there is a yearning to use both as a mode of transportation, as a means of accessing the past. Because sound and the voice exist and thrive in the imagination the aural is all the more powerful in the way it seeks to transport the listener, or, more correctly, acts as a conduit to which memories are brought. What holds these ideas together is the sustaining myth of immortality offered by *thanatechnologies*, which is not always rational, but aspirational. What could we more wish to aspire to, but to bring back the dead? To bring back the loved? To say hello. To ask questions. To say sorry.

Ultimately, these records are an investigation of the interrelationship of the voice—and, to paraphrase McLuhan, its containing medium: sound—and recording in the space of death. Crucially, however, recordings are taken to be played back, to be *listened* to: an active process that requires the presence of another person, but engaged in a level of listening above and beyond the everyday, 'The interest of the recording lies in what we can do with the material obtained, and in listening with the most conscious attention possible, in order to be able to share this intimate experience' (Berenguer 2014: 5)—what Chris Cutler terms "aesthetic listening", 'a mode of composition . . . we tend only to switch it on when we put the rest of the earth on hold' (2006). Inevitably, then, the study is also about human listening and reminiscence: an interplay between the recorded voice, technology, media, playback, listening, death, and memory—the dead voices interrogated across these records demand this aesthetic listening, as a medium used in a kind of imaginative composition. The relationship between media and memory has been

examined and the conditions of recording, too, have been scrutinised, examining not just *how* and *when* audio is captured, but *where*, and the relationship of space to sound and memory, particularly in death. These culminate in the expression of a new theory of *intermortemity*, the point at which these various facets collide and voices live on through an interplay between recordings and memories. Sound operates in a very particular and specific way with the imagination, as explored by Peter Blegvad in *On Imaginary Media*, broadcast on BBC Radio 3 in 2017:

[SAMPLE]

B: (*Panned left, French accent*) Pardon monsieur, what have you got behind that screen?

A: (*Panned right, French accent*) Imaginary media, mademoiselle.

B: Cheeping like a nest of bats! May I see?

A: Then they wouldn't be imaginary.

B: But I hear them!

A: So?

B: So how imaginary can they be if-

(*The background sound changes*)

B: You're right, seeing is believing. Or maybe touching is?

A: Sorry, no touching either!

In this section of the play, Blegvad deftly illustrates that something can still be imaginary even though someone has heard it: hearing is no impediment to the imagination, rather it stimulates it, and 'we can create images of things that we have never actually seen before' (Kosslyn & Shin 1991: 524). Seeing or touching, as Blegvad's character wishes to, circumvents the need for this imaginative creation—the thing becomes tangible and no longer imagined—the picture is completed with the available visual and tactile information. Sound functions in, indeed, it is completed *by*, the imagination: audio provides ample space to be occupied by the listener, conceptual gaps to be filled in with envisioned pictures and memories, as well as sounds and other sensory imaginings. Séan Street notes of sound that it is 'Only one sense, but a sense capable of activating all the others through the power of the imagination. The phonograph of memory crackles its audio sepia, and through the horn or the speaker, the voices of the dead come back' (2017: 2). Sound is a powerful conduit for memory, conjuring these by prompting rather than showing. Humans imagine 'by activating stored visual memories. For example, when

you image your father's face you activate a stored visual memory' (Kosslyn & Shin 1991: 530): recorded sound's propensity to defy time—as photographs and videos cannot—and forever re-sound in the now through playback allows the recorded voice to more readily conjure the memories of the whole person, rather than a specific time.

Additionally, this series of records are designed to be illustrative in their constitution: pressed to vinyl as a medium that is physical yet mortal, but additionally that it has been spoken by many different voices—and all of those mistakes and re-takes on the cutting room floor [SAMPLE: *Series of Vocal Mistakes*, 'Oh dear [cassette tape movement noise]', 'with refrerncetothe t- [FINGER CLICK]', 'A replica was constructed atz th- [FINGER CLICK]', 'and hinting towards the potential- Mmm! [FINGER CLICK]', 'popularised by the avir-', 'sound produced by the vocal audienz [THROAT CLEARING]', 'it dodn-', 'on are those that nm- that'm', 'Oh dear... '—as well as recorded in specific places and spaces. Across my studies of the voice, and through interviews, places and spaces came to resonate almost as much as voices, and the reverberatory qualities of these spaces are *known* to the listener: any voice always sounds *in* and *with* a space, and cannot be divorced from this; even an anechoic chamber, in its total elimination of reverb, has a particular sound. As audio recording technologies that more accurately render space grow in popularity—such as binaural and ambisonics, which are enjoying a resurgence with the growth of immersive technologies—the sonic articulation of space will continue to be of huge importance. By inscribing reverberatory characteristics, I have reconnected the specifics of place and space to the person in this study of the voice, sound, memory, and death. The medium, too, is critical in this message: physical, tactile media are more readily conceived of as artefacts than their digital counterparts. The parallels between analogue/digital and burial/cremation are once again reawakened here, these vinyl records—or cassette tapes, even CDs—exist more readily as monuments in the traditional sense because of their physical nature. Analogue media for audio can be compartmentalised—like a graveyard—as opposed to the granular, the dust, the more scattered nature of digital audio, made up of bits. While Jonathan Sterne makes the parallel between the invention of recording and embalming (2003: 298), the nature—analogue or digital—of the medium is not insignificant in these mediated afterlives. The dead, increasingly, rest in pieces: the ability to recombine those pieces is where thanatechnologies can feasibly intervene to create a version of the person who lived. In doing so, there is a closing down of the

intermortem: the undead digital representation is a puppet, rather than a memory. What is particularly re-enlivening about sound is that it works with memory and happens in the imaginary space. The deceased are revived in our minds, and all of these things are tools in order to prod the imagination.

The process of recording and producing these vinyls—as well as speaking and capturing draft versions to hone the script—has been enlightening in ways that I did not foresee. Deploying my voice in isolation in this way—recording solo in different places and spaces, capturing these performances of my voice, and preserving them as dead voices—has demonstrated not just the capacity and potential of the voice, but also my ear’s ability to tune out the extraneous in the moments of the “living voice” (the reverberatory signature of a room, particularly), and the differences—discovered when editing—between my recollection of the recording session and the undeniable documentation of it: I thought I made far fewer mistakes than I actually do, and in time, the edit will *become* my memory of the event, rather than the takes left on the digital cutting room floor. Yet in listening back, where the reverberatory signature is more pronounced, I am transported back to the physical place of recording, if not the detail of how well I performed: the sound of the room excited by my voice ignites my memories of the place; listening on headphones—as I have done while editing and mixing—only amplifies that sense by denying my ears the acoustic characteristics of the room I am in. The records demonstrate, particularly due to what is contained on them, where sound exceeds words: the necessary written accompaniment to these records—with its timecodes and descriptions of aural phenomena—cannot hope to carry the sound of a room or technology, a person’s accent, my father’s voice, the donated voices of friends and family (the frequencies contained within these records inevitably resonate differently for me, and will continue to change). The records steadily shift—though to different extents for different listeners—as the speakers die. Yet the content of the records also represent a barrier for me; without wishing to get too introspective, my relationship to *my* spoken words is an odd one, and echoes the sentiments of Vinyl 3 and the difficulties in performing the self: I am unconvinced, in spite of my best efforts through this vocal performance, that these records sound like me. A version of me, yes, but not necessarily one that friends and family would recognise as *me*. That likely does not matter to anyone but me, but I hear the absence of myself; this wounds, or pricks me. It is, selfishly, an aural *punctum*.

In his considerations of reverb, voice, and space, Don Ihde remarks that ‘I may take the voices of things and let them reverberate so that I can tell something even about that which remains silent’ (2007: 191). While Ihde is speaking about what sound reflections can tell the listener about space and place, his words remain pertinent if “that which remains silent” becomes “those who remain silent”, recast as the dead. How these voices *reverberate* and *resonate*—‘to have consequential effects’ and ‘to evoke some emotion or reaction’ respectively (OED 2020)—will be different to individual listeners depending on their memories. Steven Connor states that ‘sound is the space in which it occurs’ (2010: 1), but this space is not exclusively physical: sounds, especially voices, reverberate in the imagination and the memory. In a similar manner in which a room reverberates differently based on its make-up, so too will a brain on hearing an aural stimulus: the sound in playback exciting what experiences and reminiscences of people, places, and times that might—or might not, thus reverberating differently in the imagination—occupy the listener’s memories. Peggy Phelan’s assertion that ‘Without a copy, live performance plunges into visibility – in a maniacally charged present – and disappears into memory, into the realm of invisibility and the unconscious where it eludes regulation and control’ (1993: 148) is not exclusive to live performance, but to processes of reception more broadly, and particularly with recorded sound. It is in the imagination that audio eludes this regulation and control, exciting and reawakening an individual’s memories in playback, and the same audio may come to mean something different at another point in the listener’s life. The deceased, those who remain silent—in the living voice—continue to resonate as dead voices; with these voices as preserved sonic impulses, the listener’s memories reverberate accordingly with every playback.

The end. Not...

[Using the locked groove the final words loop, repeating, “Not... the end” indefinitely]

Examples of Practice – Side A

Contents:

Shock! Horror! – Year 7 News Report	00:00 – 2:57
Pete Shields – Recorded Poem for Keri Valentine	2:58 – 5:26
Keri Valentine – Recorded Poem for Pete Shields (read by Sally Crooks)	5:27 – 8:34
Bill’s Attic – Ambisonic Samples (Please wear headphones)	8:35 – 15:31
Your Own Fucking Life – Georgia Gendall	15:32 – 19:50
Monologue extract recorded for Lyrebird emotion text-to-speech experiment Neutral – Deadness (Stanyek & Piekut 2010)	19:51 – 20:29
Monologue extract recorded for Lyrebird emotion text to speech experiment Angry – <i>Confessions of a Primary Terrestrial Mental Receiver and Communicator: Num III Mark I</i> (Barnes 1981)	20:30 – 21:04
Monologue extract recorded for Lyrebird emotion text to speech experiment Disgust – <i>Revolutionary Witness</i> (Barnes 1981)	21:05 – 21:39
Monologue extract recorded for Lyrebird emotion text to speech experiment Enthusiasm – <i>Sea Wall</i> (Stephens 2009)	21:40 – 22:08
Monologue extract recorded for Lyrebird emotion text to speech experiment Fearful – <i>The Pillowman</i> (McDonagh 2003)	22:09 – 22:47
Monologue extract recorded for Lyrebird emotion text to speech experiment Happy – <i>Mr. Happiness</i> (Mamet 1996)	22:48 – 23:19
Monologue extract recorded for Lyrebird emotion text to speech experiment Surprised – <i>The End of the World – And After</i> (Barnes 1981)	23:20 – 23:49
Monologue extract recorded for Lyrebird emotion text to speech experiment Sad – <i>A Piece of Monologue</i> (Beckett 1986)	23:50 – 24:19

Examples of Practice – Side B

Contents:

Jordan Brookes: *Bleed* – The second half of the show (Please wear headphones) 00:00 – 29:15

Reference List* - Side A

ACAPELA GROUP. 2021. 'Acapela Group | Voice Banking.' *Acapela Group* [online]. Available at: <https://www.acapela-group.com/voices/voice-banking/> [accessed 12 March 2021].

ACAPELA GROUP. 2021. 'Acapela Group | Demos'. *Acapela Group* [online]. Available at: <https://www.acapela-group.com/demos/> [accessed 12 April 2021].

ADOBE. 2016. '#Voco. Adobe Audio Manipulator Sneak Peak With Jordan Peele | Adobe Creative Cloud - YouTube'. *YouTube* [online]. Available at: <https://www.youtube.com/watch?v=I3l4XLZ59iw> [accessed 11 April 2021].

AFTERNOTE. 2017. 'Online Service To Record Your Life Story, Funeral And Legacy'. *Afternote* [online]. Available at: <https://www.afternote.com> [accessed 29 April 2021].

AKHTAR, Salman. 2011. *Matters of Life and Death*. London: Karnac Books.

ALLIED ADVERT. 1958. [online] Available at: <https://reel2reeltexas.com/vinAd58.html> [accessed 5 February 2021].

ALTOUNYAN, Barbara. 2020. Interview for *Reviver Voce* project [audio]. Recorded 24th April 2020. Available at: <http://repository.falmouth.ac.uk/4679/>

APPELBAUM, David. 1990. *Voice*. Albany: State of New York Press.

ARISTOTLE. 1907. *De Anima*. Translated by R. D. Hicks. Cambridge: Cambridge University Press.

ARNHEIM, Rudolf. 1936. *Radio*. London: Faber and Faber.

* It is not possible to dictate the website addresses in a manner that would be readily or usefully discernible to the listener, so they are only contained in the PDF as hyperlinks.

ARNOLD, Michael, Martin GIBBS, Tamara KOHN, James MESSE, and Bjorn NANSEN. 2018. *Death and Digital Media*. Abingdon: Routledge.

AUGÉ, Marc. 1995. *Non-Places: Introduction to Anthropology of Supermodernity*. Translated John Howe. London: Verso.

AUSLANDER, Philip. 2008. *Liveness: performance in a mediatized culture*. London: Routledge.

BARNES, Peter. 1981. *Collected Plays*. London: Heinemann.

BARR, Nathaniel, Gordon PENNYCOOK, Jennifer A. STOLZ, and Jonathan A. FUGELSANG. 2015. 'The brain in your pocket: Evidence that Smartphones are used to supplant thinking'. *Computers in Human Behavior*, 48, 473-480.

BARTHES, Roland. 1981. *Camera Lucida*. Translated by Richard Howard. London: Vintage.

BARTHES, Roland.

[*Finger click*]

BARTHES, Roland. 1977. 'The Death of the Author'. *Image-Music-Text*. Translated by Stephen Heath. London: Fontana, 142-148.

BARTHES, Roland. 1977. 'The Grain of the Voice'. *Image-Music-Text*. Translated by Stephen Heath. London: Fontana, 179-189.

BASSET, Debra J. 2015. 'Who wants to live forever? Living, dying and grieving in our digital society'. *Social Sciences*, 4(4), 1127–1139.

BASSET, Debra J. 2018. 'Digital afterlives: From social media platforms to thanabots and beyond'. In TANDY, Charles (ed.). *Death and Anti-Death, Vol 16: Two Hundred Years After Frankenstein*. Michigan: Ria University Press, 27-38.

BAUDRILLARD, Jean. 1994. *Simulacra and Simulation*. Translated by Sheila Glaser. Michigan: University of Michigan Press.

BBC. 2012. '90 By 90 The Full Set - 1934: On An 'Opping 'Oliday - BBC Sounds'. *BBC* [online]. Available at: <https://www.bbc.co.uk/sounds/play/p010t01n> [accessed 27 January 2021].

BBC. 2015. 'BBC Arts - Books Features - Book At Bedtime: A Short Guide To Abridging, In 10 Parts'. *BBC* [online]. Available at: <https://www.bbc.co.uk/programmes/articles/3SzyGgCvHkglGY3dqKhbKxt/book-at-bedtime-a-short-guide-to-abridging-in-10-parts> [accessed 24 January 2021].

BBC. 2020. 'BBC - About Radio 4'. *BBC* [online]. Available at: <https://www.bbc.co.uk/programmes/articles/98FthRzhxJ4z0fXYJnsvlM/about-radio-4> [accessed 24 January 2021].

BBC News. 2016. 'Adobe Voco 'Photoshop-For-Voice' Causes Concern'. *BBC News* [online]. Available at: <https://www.bbc.co.uk/news/technology-37899902> [accessed 27 March 2021].

BBC Radio 4. 2016. *Today* [radio broadcast]. 11 January 2016.

BEATTY, Paul. 2008. *Slumberland*. London: Bloomsbury.

BECKETT, Samuel. 1959. *Krapp's Last Tape and Embers*. London: Faber and Faber.

BECKETT, Samuel. 1986. *The Complete Dramatic Works*. London: Faber and Faber.

BEDINI, Silvio A. 1964. 'The Role of Automata in the History of Technology'. *Technology and Culture*, 5(1), 24-42.

BELL, Jo, Louis Bailey and David Kennedy. 2015. '“We do it to keep him alive”: bereaved individuals' experiences of online suicide memorials and continuing bonds'. *Mortality*, 20(4), 375-389.

BENATAR, David. 2010. *Life, Death, & Meaning : Key Philosophical Readings on the Big Questions. Second edition.* Lanham, Maryland: Rowman & Littlefield Publishers, Inc.

BERENGUER, José Manuel. 2014. 'From the soundscape meme to self-awareness'. *Quaderns d'Àudio/Audio Notebooks*. Available at: https://img.macba.cat/public/rwm/uploads/20140901/QA_06_Berenguer_BF2b.pdf [accessed 29 April 2021].

BIRCH, Dorothy. 1952. *Training for the Stage: The Technique of Acting*. London: Sir Isaac Pitman & Sons Ltd.

BLACK, Jack. 2017. 'The reification of celebrity: global newspaper coverage of the death of David Bowie'. *International Review of Sociology*, 27(1), 202-224.

BLACKBURN, Simon. 2016. 'Cambridge change'. In *The Oxford Dictionary of Philosophy*. Oxford University Press. Available at: <https://www-oxfordreference-com.ezproxy.falmouth.ac.uk/view/10.1093/acref/9780198735304.001.0001/acref-9780198735304-e-472> [accessed 20 February 2021].

BLAU, Herbert, Bonnie MARRANCA, and Gautam DASGUPTA. 1992. 'The Play of Thought: An Interview with Herbert Blau'. *Performing Arts Journal*, 14(3), 1-32.

BLAU, Herbert. 2002. *The Dubious Spectacle: Extremities of Theater, 1976-2000*. Minneapolis: University of Minnesota Press.

BLEGVAD, Peter and IAIN CHAMBERS. 2017. *On Imaginary Media* [radio broadcast]. BBC Radio 3, 24 June 2017.

BLESSER, Barry and Linda-Ruth SALTER. 2007. *Spaces Speak, Are You Listening?: Experiencing Aural Architecture*. Cambridge, MA: The MIT Press.

BOLTER, Jay David and Richard GRUSIN. 2000. *Remediation: Understanding new media*. Cambridge, MA: The MIT Press.

BROOKER, Charlie. 2013. 'Be Right Back'. *Black Mirror* [TV broadcast]. Channel 4, 11 February 2013.

BROOKES, Jordan, Ciaran Clarke, and Bríd Kirby. 2018. *Bleed* [video recording]. Available at: <https://www.youtube.com/watch?v=z5O3PI9whAo> [accessed 28 November 2022].

CALVINO, Italo. 1979. *If on a winter's night a traveler*. Translated by William Weaver. London: Secker and Warburg.

CARDIFF, Janet. 2001. *Forty Part Motet*. London: Tate Modern. Exhibition from 3 May to 3 September 2017: *Voices*.

CARDIFF, Janet. 2001. *Forty Part Motet*. Penzance: Richmond Chapel. Exhibition from 25 May to 27 August 2018: *GROUNDWORK*.

CARLSON, Marvin. 2004. *Performance: a critical introduction*. London: Routledge.

CAUSEY, Matthew. 2006. *Theatre and Performance in Digital Culture*. Abingdon: Routledge.

CAUSEY, Matthew, Emma MEEHAN and Néill O'DWYER. 2015. *The Performing Subject in the Space of Technology*. Basingstoke: Palgrave Macmillan.

CAVARERO, Adriana. 2005. *For More Than One Voice: Toward a Philosophy of Vocal Expression*. Translated by Paul A. Kottman. Stanford: Stanford University Press.

CHAPPLE, Freda and Chiel KATTENBELT. 2007. *Intermediality in Theatre and Performance*. Amsterdam: International Federation for Theatre Research.

CHANAN, Michael. 1995. *Repeated Takes: A Short History of Recording and its Effects on Music*. London: Verso.

CHION, Michel. 1999. *The Voice in Cinema*. Translated by Claudia Gorbman. New York: Columbia University Press.

CHION, Michel. 2016. *Sound: an acoulogical treatise*. Translated by James A. Steintrager. Durham and London: Duke University Press.

CHISHOLM, Kate. 2014. *The Spectator* [online]. Available at: <https://www.spectator.co.uk/article/nothing-beats-book-at-bedtime> [accessed 3 March 2021].

CINQUE, Toija. 2017. 'The subversion of an exquisite corpus: against the grain with David Bowie'. *Continuum: Journal of Media and Cultural Studies*, 31(4), 596-606.

CLARKE, Ciaran. c. 1989. Home video: Ballysally Road [audio]. Available at: <http://repository.falmouth.ac.uk/4679/>

CLARKE, Ciaran. c. 1992. Home video: Walsall Magic Trick [audio]. Available at: <http://repository.falmouth.ac.uk/4679/>

CLARKE, Ciaran. 2018. Clarke's Last Tape: Version 1 [video]. Available at: <http://repository.falmouth.ac.uk/4679/>

COCKBURN, Harry. 2019. 'Dead Man Calls To Be Released From Coffin In Recording Played To Mourners At Funeral In Ireland'. *The Independent* [online]. Available at: <https://www.independent.co.uk/news/world/europe/funeral-man-voice-coffin-recording-dead-ireland-soldier-shay-bradley-kilkenny-a9155176.html> [accessed 19 May 2021].

COCKER, Jarvis. 2005. Interviewed by Sue Lawley on *Desert Island Discs* [radio broadcast]. BBC Radio 4, 29 April 2005.

COMPTON, Nic. 2016. *The Shipping Forecast*. London: BBC Books.

CONNELLY, Charlie. 2004. *Attention All Shipping: A Journey Round the Shipping Forecast*. London: Little, Brown.

CONNOR, Steven. 2000. *Dumbstruck: A Cultural History of Ventriloquism*. Oxford: Oxford University Press.

CONNOR, Steven. 2010. 'Looping the Loop: Tape-Time in Burroughs and Beckett' [lecture]. *Taping the World*, University of Iowa, 28 January 2010. Available online: <http://stevenconnor.com/looping/looping.pdf>

CONNOR, Steven. 2010. 'Secession' [lecture]. *Sonic Acts XIII: The Poetics of Space*, Amsterdam, 27 February 2010. Available online: <http://www.stevenconnor.com/secession/secession.pdf>

CORNWALL COUNCIL. 2021. 'Our chapels - Cornwall Council'. *Cornwall Council* [online]. Available at: <https://www.cornwall.gov.uk/advice-and-benefits/deaths-funerals-and-cremations/penmount-crematorium/funeral-services/our-chapels/> [accessed 15 February 2021].

COWAN, Jake. 2018. 'Autobituary: the Life and/as Death of David Bowie & the Specters from Mourning'. *Miranda*, 17, 1-16.

COX, Lisa. 2020. 'Remote Rituals: In A Time Of Coronavirus, Mourners Find Comfort Where They Can'. *The Guardian* [online]. Available at:

<https://www.theguardian.com/society/2020/apr/13/remote-rituals-in-a-time-of-coronavirus-mourners-find-comfort-where-they-can> [accessed 15 February 2021].

COX, Peter. 2008. *Set into Song*. Cambridge: Labatie Books.

CUTLER, Chris. 2007. *There and Back Again: On Memory* [sound recording: CD]. ReR Megacorp.

CUTLER, Chris. 2011. 'The road to plunderphonia'. *Quaderns d'Àudio/Audio Notebooks*. Available at: https://img.macba.cat/public/rwm/uploads/20110104/QA_04_Cutler.pdf [accessed 8 April 2021].

CRISELL, Andrew. 1994. *Understanding Radio*. London: Routledge.

CRISELL, Andrew. 2002. *An Introductory History of British Broadcasting*. London: Routledge.

CUNNIFF, Richard T. 1967. 'The Magnetic Tape Industry'. *Financial Analysts Journal*, 23(1), 65-73.

DAVIES, Douglas J. 2005. *A Brief History of Death*. Oxford: Blackwell Publishing.

DESCRIPT. 2021. 'Overdub: Ultra Realistic Text To Speech Voice Cloning - Descript'. *Descript* [online]. Available at: <https://www.descript.com/overdub> [accessed 11 April 2021].

DESCRIPT. 2021. 'Overdub Voice Training Script'. *Descript* [online]. Available at: <https://coda.io/@overdub/overdub-scripts/main-script-61> [accessed 11 April 2021].

DIAMOND, Elin. 1996. *Performance and Cultural Politics*. London and New York: Routledge.

- DOLAR, Mladen. 2006. *A Voice and Nothing More*. Cambridge, MA: The MIT Press.
- DOUGHTY, Caitlin. 2015. *Smoke Gets in Your Eyes*. Edinburgh: Canongate.
- DUCEY, Richard V. 1993. 'Riding Radio's Technological Wave'. In Edward C. PEASE and Everette E. DENNIS (ed.). *Radio—The Forgotten Medium*. New Brunswick and London: Transaction Publishers, 159-165.
- DUDLEY, Homer and T. H. TARNOCZY. 1950. 'The Speaking Machine of Wolfgang Von Kempelen'. *The Journal of the Acoustical Society of America*, 22, 151-166.
- EDISON, Thomas A. 1888. 'The Perfected Phonograph'. *The North American Review*, 146(379), 641-650.
- ELBOROUGH, Travis. 2008. *The Long-Player Goodbye: How vinyl changed the world*. London: Sceptre.
- ELDER, Alexis. 2020. 'Conversation from Beyond the Grave? A Neo-Confucian Ethics of Chatbots of the Dead'. *Journal of Applied Philosophy*, 37(1), 73-88.
- ELMES, Simon. 2007. *And Now on Radio 4: A Celebration of the World's Best Radio Station*. London: Random House.
- ENGEL, Friedrich. 1999. 'The Introduction of the Magnetophon'. In Eric D. DANIEL, C. Denis MEE, and Mark H. CLARK (ed.). *Magnetic Recording: The First 100 Years*. Piscataway: IEEE Press, 47-71.
- ENNS, Anthony. 2005. 'Voices of the dead: Transmission/translation/ transgression'. *Culture, Theory and Critique*, 46(1), 11-27.

FACEBOOK. 2021. 'Memories | Facebook Help Centre'. *Facebook* [online]. Available at: <https://www.facebook.com/help/1056848067697293/> [accessed 26 March 2021].

FEASTER, Patrick. 2010. 'Édouard-Léon Scott de Martinville: An Annotated Discography'. *ARSC Journal*, 41(1), 43-82.

FIRSTSOUNDS.ORG. 2020. 'The Phonautograms Of Édouard-Léon Scott De Martinville'. *FirstSounds.org* [online]. Available at: <http://www.firstsounds.org/sounds/scott.php> [accessed 3 February 2021].

FIRSTSOUNDS.ORG. 2009. 'Jeune Jouvencelle (August 17, 1857)'. Available at: <http://www.firstsounds.org/sounds/Scott-Feaster-No-09.mp3> [accessed 14 January 2021].

FOX, Barry. 2004. 'Their Führer's voice'. *New Scientist*. Available at: <https://www.newscientist.com/article/mg18324665-900-their-fuhrers-voice/> [accessed 9 January 2021].

FRIED, Michael. 2005. 'Barthes's Punctum'. *Critical Inquiry*, 31(3), 539-574.

FUJIMURA, O. 1984. 'The Role of Linguistics for Future Speech Technology'. *LSA Bulletin*, 104, 4-7.

GACH, Katie, Casey FIELSER, and Jed BRUBAKER. 2017. "'Control your emotions, Potter:': An Analysis of Grief Policing on Facebook in Response to Celebrity Death'. *PACM on Human-Computer Interaction*, 1(47), 1-18.

GELATT, Roland. 1977. *The Fabulous Phonograph, 1877-1977*. New York: Macmillan.

GENDALL, Georgia. 'georgia gendall'. *georgiagendall.co.uk* [online]. Available at: <https://georgiagendall.co.uk> [accessed 5 May 2021].

GILL, Sue and John FOX. 1997. *The Dead Good Funerals Book*. Ulverston: Engineers of the Imagination.

GRAVES, Dodie. 2009. *Talking With Bereaved People: An Approach for Structured and Sensitive Communication*. London: Jessica Kingsley Publishers.

GRITSCH, Valerie. 2019. 'How David Bowie Fans Transformed Brixton After His Death'. *The Journal of Popular Culture*, 52(6), 1451-1471.

HALLAM, Elizabeth and Jenny HOCKEY. 2001. *Death, Memory & Material Culture*. Oxford: Berg.

HANKINS, Thomas L. and Robert J. SILVERMAN. 1995. *Instruments and the Imagination*. Princeton: Princeton University Press.

HELLARD, Bobby. 2018. 'How An Episode Of 'Black Mirror' Became A Creepy Reality'. *Vice* [online]. Available at: https://i-d.vice.com/en_us/article/nepbdg/black-mirror-artificial-intelligence-roman-mazurenko [accessed 15 April 2021].

HELLYER, H.W. 1970. *How to Choose and Use Tape Recorders*. London: Fountain Press.

HENDY, David. 2003. 'Reality Radio': The Documentary'. In Andrew CRISELL (ed.). *More than a Music Box: Radio Cultures and Communities in a Multi-Media World*. New York: Berghahn Books.

HENDY, David. 2010. 'Listening in the dark: Night-time radio and a 'deep history' of media'. *Media History*, 16(2), 215-232.

HENDY, David. 2013. *Noise: A Human History of Sound and Listening*. London: Profile Books.

HICKEY, Shane. 2015. 'Scammers Target Lonely Hearts On Dating Sites'. *The Guardian* [online]. Available at: <https://www.theguardian.com/money/2015/aug/14/scammers-target-middle-age-women> [accessed 19 December 2020].

HILL, Sue. 2020. Interview for *Reviver Voce* project [audio]. Recorded 4th February 2020. Available at: <http://repository.falmouth.ac.uk/4679/>

HILL, Sue. 2020. Interview for *Reviver Voce* project [audio]. Recorded 24th February 2020. Available at: <http://repository.falmouth.ac.uk/4679/>

HILL, Sue. 2020. Interview for *Reviver Voce* project, St. Euny Walk [audio]. Recorded 3rd March 2020. Available at: <http://repository.falmouth.ac.uk/4679/>

HOLLAND, Henry Scott. 2014. In E. Knowles (Ed.), *Oxford dictionary of quotations*. (8th ed.). [Online]. Oxford: Oxford University Press, Inc. Available from: https://search-credoreference-com.ezproxy.falmouth.ac.uk/content/entry/oupoq/henry_scott_holland_1847_1918/0?institutionId=4357 [accessed 12 March 2021].

HOSPICE BIOGRAPHERS. 2020. 'UK Charity Recording Patient's Life Stories For Free - The Hospice Biographers'. *The Hospice Biographers* [online]. Available at: <https://www.thehospicebiographers.com> [accessed 28 February 2020].

HURTADO HURTADO, Joshua. 2021. 'Towards a postmortal society of virtualised ancestors? The Virtual Deceased Person and the preservation of the social bond'. *Mortality*, DOI: 10.1080/13576275.2021.1878349.

IHDE, Don. 2007. *Listening and Voice: Phenomenologies of Sound*. Albany: State University of New York Press.

IMPEY, Chris and Holly Henry. 2013. *Dreams of Other Worlds: The Amazing Story of Unmanned Space Exploration*. Princeton and Oxford: Princeton University Press.

INNIS, Harold Adams. 2007. *Empire and Communications*. Lanham: Rowman & Littlefield.

IWATA, Miki. 2008. 'Records and Recollections in "Krapp's Last Tape"'. *Journal of Irish Studies*, 23, 34-43.

IZOTOPE. 'RX Pro For Music Mouth De-Click'. 2021. *iZotope* [online]. Available at: <https://www.izotope.com/subscription/products/rx/features/mouth-de-click.html> [accessed 17 February 2021].

JACOBSEN, Michael Hviid (ed.). 2016. *Postmortal Society: Towards a Sociology of Immortality*. Abingdon: Routledge.

JAMESON, Fredric. 1985. 'Postmodernism and Consumer Society'. In Hal FOSTER (ed.). *The Anti-Aesthetic: Essays on Postmodern Culture*. Port Townsend: Bay Press.

JENKINS, Clare. 2012. *Dad's Last Tape* [radio broadcast]. BBC Radio 4, 2 July 2012.

JONES, Steve. 1992. *Rock Formation: Music, Technology, and Mass Communication*. London: Sage.

KARPF, Anne. 1999. 'The Voice Of The People'. *The Guardian* [online]. Available at: <https://www.theguardian.com/culture/1999/may/27/artsfeatures1> [accessed 29 January 2021].

KARPF, Anne. 2005. *The Human Voice: The Story of a Remarkable Talent*. London: Bloomsbury.

KASKET, Elaine. 2019. *All the Ghosts in the Machine*. London: Robinson.

KASKET, Elaine. 2012. "Continuing bonds in the age of social networking: Facebook as a modern-day medium." *Bereavement Care*, 31:2, 62-69.

KELLER, Alexandra L. M. 1996. 'Shards of Voice: Fragments Excavated toward a Radiophonic Archaeology'. In Allen S. WEISS (ed.). *Experimental Sound and Radio*. Cambridge, MA and London: The MIT Press, 22-26.

KINSELLA, BRET. 2021. 'Over 20% Of UK Households Have Smart Speakers While Germany Passes 10% And Ireland Approaches That Milestone - Voicebot.Ai'. *Voicebot.ai* [online]. Available at: <https://voicebot.ai/2019/10/11/over-20-of-uk-households-have-smart-speakers-while-germany-passes-10-and-ireland-approaches-that-milestone/#:~:text=New%20data%20from%20Strategy%20Analytics,of%20over%2010%20million%20users> [accessed 17 May 2021].

KIMIZUKA, Masonori. 2012. 'Historical Development of Magnetic Recording and Tape Recorder'. *National Museum of Nature and Science: Survey Reports on the Systemization of Technologies*, 17, 183-275.

KITTLER, Friedrich A. 1999. *Gramophone, Film, Typewriter*. Translated by Geoffrey Winthrop-Young and Michael Wutz. Stanford: Stanford University Press.

KLATT, Dennis H. 1987. 'Review of Text-to-Speech Conversion for English'. *Journal of the Acoustical Society of America*, 82, 737-793.

KLUITENBERG, Eric. 2006. *Book of Imaginary Media*. Rotterdam: NAi Publishers.

KNOWLES, Sebastian D. G. 2003. 'Death by Gramophone'. *Journal of Modern Literature*, 27(1/2), 1-13.

KOSSLYN, Stephen and Lisa SHIN. 1991. 'Visual Mental Images in the Brain'. *Proceedings of the American Philosophical Society*, 135(4), 524-532.

Reference List - Side B

KQED ARTS. 2015. 'One Collective Breath: Janet Cardiff's 'The Forty Part Motet' | KQED Arts - YouTube'. *YouTube* [online]. Available at: <https://www.youtube.com/watch?v=rZXBia5kuqY> [accessed 12 February 2021].

LABELLE, Brandon. 2014. *Lexicon of the Mouth: Poetics and Politics of Voice and the Oral Imaginary*. New York and London: Bloomsbury.

LACHMAN, Michał. 2013. "'On the radio the pictures are better': Dan Rebellato Interviewed by Michał Lachman". *Text Matters: A Journal of Literature, Theory and Culture*, (3), 264-270.

LAWRENCE, Amy. 1988. 'The Pleasures of Echo: The Listener and the Voice'. *Journal of Film and Video*, 40(4), 3-14.

LEIGHT, Elias. 2019. 'Vinyl Is Poised To Outsell CDs For The First Time Since 1986'. *Rolling Stone* [online]. Available at: <https://www.rollingstone.com/pro/news/vinyl-cds-revenue-growth-riaa-880959/> [accessed 17 May 2021].

LESCARBOURA, Austin C. 'Edison's Views on Life and Death'. *Scientific American*, 123(18), 446, 458-460.

LIBRARY OF CONGRESS. N.D. 'History Of The Cylinder Phonograph | History Of Edison Sound Recordings | Articles And Essays | Inventing Entertainment: The Early Motion Pictures And Sound Recordings Of The Edison Companies | Digital Collections | Library Of Congress'. *The Library of Congress* [online]. Available at: <https://www.loc.gov/collections/edison-company-motion-pictures-and-sound-recordings/articles-and-essays/history-of-edison-sound-recordings/history-of-the-cylinder-phonograph/> [accessed 10 December 2020].

LLOYDS BANK. N.D. 'Voice ID'. *Lloyds Bank* [online]. Available at: <https://www.lloydsbank.com/contact-us/voice-id.html> [accessed 11 February 2021].

LOWE, Jennifer, Bruce RUMBOLD, and Samar M. AOOUN. 2020. 'Memorialisation during COVID-19: implications for the bereaved, service providers and policy makers'. *Palliative Care and Social Practice*, 14, 1-9.

LUKA INC. 2017. 'Roman Mazurenko on the App Store'. *App Store* [online].
<https://itunes.apple.com/us/app/roman-mazurenko/id958946383?mt=8> [accessed 26 April 2021].

LYNN, Stephen Jay, James EVANS, Jean-Roch LAURENCE, Scott O LILIENFELD. 2015. 'What Do People Believe About Memory? Implications for the Science and Pseudoscience of Clinical Practice'. *The Canadian Journal of Psychology*, 60(12), 541-547.

MACCOLL, Ewan. 2008. *Journeyman: An Autobiography*. Manchester and New York: Manchester University Press.

MACCOLL, Ewan, Charles PARKER, and Peggy SEEGER. 1958. *The Ballad of John Axon* [radio broadcast]. BBC Home Service, 2 July 1958.

MACCOLL, Ewan, Charles PARKER, and Peggy SEEGER. 1959. *Song of a Road* [radio broadcast]. BBC Home Service, 5 November 1959.

MACCOLL, Ewan, Charles PARKER, and Peggy SEEGER. 1960. *Singing the Fishing* [radio broadcast]. BBC Home Service, 16 August 1960.

MACCOLL, Ewan, Charles PARKER, and Peggy SEEGER. 1961. *The Big Hewer* [radio broadcast]. BBC Home Service, 18 August 1961.

MACCOLL, Ewan, Charles PARKER, and Peggy SEEGER. 1962. *The Body Blow* [radio broadcast]. BBC Home Service, 27 March 1962.

MACCOLL, Ewan, Charles PARKER, and Peggy SEEGER. 1963. *On the Edge* [radio broadcast]. BBC Home Service, 13 February 1963.

MACCOLL, Ewan, Charles PARKER, and Peggy SEEGER. 1963. *The Fight Game* [radio broadcast]. BBC Home Service, 3 July 1963

MACCOLL, Ewan, Charles PARKER, and Peggy SEEGER. 1964. *The Travelling People* [radio broadcast]. BBC Home Service, 17 April 1964.

MAHONEY, Raymond E. 1952. 'You Can Be There, Too — Tape Recording for Library and Conference'. *ALA Bulletin*, 46(5), 141-142.

MAMET, David. 1996. 'Mr Happiness'. *Plays: I*. London: Methuen Drama.

MAMET, David. 1998. *True and False*. London: Faber and Faber.

MATTERN, Shannon. 2017. 'Speaking Stones: VOICING THE CITY'. *Code and Clay, Data and Dirt*. Minneapolis: University of Minnesota Press.

MARRIS, Peter. 1986. *Loss and Change*. London: Routledge.

MARVIN, Carolyn. 1988. *When Old Technologies Were New: Thinking About Electric Communication in the Late Nineteenth Century*. New York and Oxford: Oxford University Press.

MCBURNEY, Simon. 2012. Interviewed by Kirsty Young on *Desert Island Discs* [radio broadcast]. BBC Radio 4, 20 July 2012.

MCCANCE, Dawne. 2019. 'Speaking into a Dead Man's Ear'. *The Reproduction of Life Death*. New York: Fordham University Press.

MCDONAGH, Martin. 2003. *The Pillowman*. London: Faber and Faber.

MCGETTIGAN, Carolyn, Frank EISNER, Zarinah K. AGNEW, Tom MANLY, Duncan WISBEY, and Sophie K. SCOTT. 2013. 'T'ain' t What You Say, It's the Way That You Say

It—Left Insula and Inferior Frontal Cortex Work in Interaction with Superior Temporal Regions to Control the Performance of Vocal Impersonations’. *Journal of Cognitive Neuroscience*, 25(11), 1875-1886.

MCLUHAN, Marshall. 1964. *Understanding media: The extensions of man*. London: Routledge.

MCLUHAN, Marshall, Quentin FLORE, and Jerome AGEL. 1968. *The Medium is the Massage* [audio recording: vinyl]. Columbia Records.

METZ, Christian. 1985. ‘Photography and Fetish’. *October*, 34, 81-90.

MEYER-DINKGRÄFE, Daniel. ‘Liveness: Phelan, Auslander, and After.’ *Journal of Dramatic Theory and Criticism*, 29(2), 69-79.

MONK, Meredith. 1987. ‘Notes on the Voice’. In BANES, Sally. *Terpsichore in Sneakers*. Middletown: Wesleyan University Press.

MOORE, Suzanne. 2016. ‘Don’t Deride Those Who Are Mourning David Bowie. This Grief Is Serious And Rational | Suzanne Moore’. *The Guardian* [online]. Available at: <https://www.theguardian.com/commentisfree/2016/jan/13/dont-deride-those-mourning-david-bowie-this-grief-serious-and-rational> [accessed 6 April 2021].

MORTLEY, Kaye. 2001. ‘Around Naxos’. In WEISS, Allen S. (ed.). *Experimental Sound & Radio*. Cambridge, MA and London: The MIT Press.

MORTON, David. 2000. *Off the Record: The Technology and Culture of Sound Recording in America*. Piscataway: Rutgers University Press.

MORTON JR, David L. 2004. *Sound Recording: The Life Story of a Technology*. Baltimore: John Hopkins University Press.

NASA. N.D. 'Voyager - The Golden Record'. *NASA* [online]. Available at: <https://voyager.jpl.nasa.gov/golden-record/> [accessed 17 October 2019].

NASA. 1978. Voyager Golden Record [audio recording: vinyl]. Ozma Records 2017.

NATIONAL GALLERY OF CANADA. 'Janet Cardiff - Forty Part Motet - YouTube'. *YouTube* [online]. Available at: <https://www.youtube.com/watch?v=EOYvHA0Z0UY> [accessed 12 February 2021].

NATIONAL PARK SERVICE. 2015. 'Very Early Recorded Sound - Thomas Edison National Historical Park.' *National Park Service* [online]. Available at: <https://www.nps.gov/edis/learn/photosmultimedia/very-early-recorded-sound.htm> [accessed 4 February 2021].

NEUMANN. 2020. 'U87 Ai Studio Set.' *Neumann* [online]. Available at: <https://en-de.neumann.com/u-87-ai> [accessed 8 Dec 2020].

NEWTON, Casey. 2016. 'Speak, Memory | When her best friend died, she rebuilt him using artificial intelligence'. *The Verge* [online]. Available at: <https://www.theverge.com/a/luka-artificial-intelligence-memorial-roman-mazurenko-bot> [accessed 27 March 2021].

NMUNGWUN, Aaron. 1989. *Video Recording Technology: Its Impact on Media and Home Entertainment*. New York: Routledge.

NOVARINA, Valère. 1993. 'Letter to the Actors'. Translated by Allen S. Weiss. *TDR : Drama Review*, 37(2), 95–104.

OXFORD ENGLISH DICTIONARY. 2020. 'viva voce, adv., adj., and n.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/224170 [accessed 10 January 2021].

OXFORD ENGLISH DICTIONARY. 2020. 'reify, v.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/161514 [accessed 10 January 2021].

OXFORD ENGLISH DICTIONARY. 2020. 'voice, n.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/224334 [accessed 10 January 2021].

OXFORD ENGLISH DICTIONARY. 2020. 'medium, n. and adj.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/115772 [accessed 10 January 2021].

OXFORD ENGLISH DICTIONARY. 2020. 'speech, n.1.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/186128 [accessed 10 January 2021].

OXFORD ENGLISH DICTIONARY. 2020. 'do, n.1.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/56225 [accessed 10 January 2021].

OXFORD ENGLISH DICTIONARY. 2020. 'doing, n.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/56539 [accessed 10 January 2021].

OXFORD ENGLISH DICTIONARY. 2020. 'conversation, n.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/40748 [accessed 10 January 2021].

OXFORD ENGLISH DICTIONARY. 2020. 'auto-, comb. form1' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/13367 [accessed 10 January 2021].

OXFORD ENGLISH DICTIONARY. 2020. 'phono-, comb. form.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/142645 [accessed 10 January 2021].

OXFORD ENGLISH DICTIONARY. 2020. '-graph, comb. form.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/80824 [accessed 10 January 2021].

OXFORD ENGLISH DICTIONARY. 2020. 'reverberate, v.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/164742 [accessed 31 March 2021].

OXFORD ENGLISH DICTIONARY. 2020. 'resonate, v.' *OED Online*, Oxford University Press. Available at: www.oed.com/view/Entry/163745 [accessed 31 March 2021].

ONG, Walter J. 1967. *The Presence of the Word*. New Haven and London: Yale University Press.

ONG, Walter J. 2002. *Orality and Literacy*. Abingdon: Routledge.

ONUFRIJCHUK, Roman. 2016. 'Paramortals, or dancing with the interactive digital dead'. In Rafael FOSHAY (ed.). *The digital nexus: Identity, agency, and political engagement*. Edmonton: AU Press, 197–204.

OSBORNE, Richard. 2012. *Vinyl: A History of the Analogue Record*. Farnham: Ashgate.

PAUL, Stephan. 2009. 'Binaural Recording Technology: A Historical Review and Possible Future Developments'. *Acta Acustica united with Acustica*, 95, 767-788.

PHELAN, Peggy. 1993. *Unmarked: The Politics of Performance*. Abingdon: Routledge.

PHELAN, Peggy. 1997. *Mourning Sex: Performing Public Memories*. London and New York: Routledge.

POMERANTZ, Dorothy. 2012. 'The Social Networking Lives Of The Dead Celebrities'. *Forbes* [online]. Available at: <https://www.forbes.com/sites/dorothypomerantz/2012/10/24/the-social-networking-lives-of-the-dead-celebrities/?sh=5700f4db78e3> [accessed 12 April 2021].

PRIVATE EYE. 2016. 1410, 22 January 2016.

REDMOND, Sean. 2017. 'Feeling, story and time: an unruly life lived through David Bowie'. *Journal of Media and Cultural Studies*, 31(4), 519-527.

RICHARDS, Will. 2020. 'UK Vinyl Sales In 2020 Are The Highest Since The Early '90s'. *NME* [online]. Available at: <https://www.nme.com/news/music/uk-vinyl-sales-in-2020-are-the-highest-since-the-early-90s-2846310> [accessed 9 January 2021].

RISKIN, Jessica. 2003. 'Eighteenth-Century Wetware.' *Representations*, 83(1), 97-125.

RISKIN, Jessica. 2003. 'The Defecating Duck, or, the Ambiguous Origins of Artificial Life'. *Critical Inquiry*, 29(4), 599-633.

ROACH, Joseph. 1996. *Cities of the Dead: Circum-Atlantic Performance*. New York: Columbia University Press.

ROGERS, Jude. 2016. 'How Radio Reacted To Bowie: 'People Come And Join You – That's The Way It Should Be''. *The Guardian* [online]. Available at: <https://www.theguardian.com/music/musicblog/2016/jan/15/how-radio-reacted-to-bowie-people-come-and-join-you-thats-the-way-it-should-be> [accessed 15 March 2021].

ROJEK, Chris. 2001. *Celebrity*. London: Reaktion Books.

ROSOLATO, Guy. 1974. 'The Voice: Between Body and Language'. In Christopher Phillips (ed.). *Voices* [exhibition catalogue]. Rotterdam: Witte de With Center for Contemporary Art.

ROTHENBURG, Jeff. 1995. 'Ensuring the Longevity of Digital Documents'. *Scientific American*, 272(1), 42-47.

SAARLAND UNIVERSITY. 2017. 'Kempelen's speaking machine - YouTube'. *YouTube* [online]. Available at: https://www.youtube.com/watch?v=k_YUB_S6Gpo [accessed 3 January 2021].

SAFEBEYOND. 2017. 'Digital Legacy, End-Of-Life Planning, Message After Death - SafeBeyond'. *SafeBeyond* [online]. Available at: <https://www.safebeyond.com> [accessed 29 April 2021].

SAMARAS, Connie. 1997. 'Is It Tomorrow or Just the End of Time?'. In Jennifer TERRY and Melodie CALVERT (ed.). *Processed Lives: Gender and Technology in Everyday Life*. London and New York: Routledge.

SAVIN-BADEN, Maggi and David BURDEN. 2019. *Virtual Humans: Today and tomorrow*. Boca Raton: Taylor & Francis.

SCARRE, Geoffrey. 2007. *Death*. Stocksfield: Acumen.

SCHECHNER, Richard. 2003. *Performance Theory*. New York: Routledge.

SCHECHNER, Richard. 2013. *Performance Studies: An Introduction*. New York and Abingdon: Routledge.

SCHERER, George A. C. 1947. 'Oral Work with the Wire Recorder'. *The Modern Language Journal*, 31(5), 261-265.

SCIENTIFIC AMERICAN. 1876. 'The Human Voice Transmitted by Telegraph'. 35(11), 163-164.

SCIENTIFIC AMERICAN. 1877. 'The Telephone'. 36(13), 191 & 200.

SCIENTIFIC AMERICAN. 1877. 'A Wonderful Invention - Speech Capable of Indefinite Repetition From Automatic Records'. 37(20), 304.

SCIENTIFIC AMERICAN. 1877. 'The Talking Phonograph'. 37(25), 384-385.

SCOTT, Édouard-Léon. 1857. In Patrick FEASTER (Trans.). *The Phonoautographic Manuscripts of Édouard-Léon Scott de Martinville*. 2009. Available at: <http://www.firstsounds.org/publications/articles/Phonautographic-Manuscripts.pdf> [accessed 29 May 2020].

SCOTT, Laurence. 2018. *Picnic Comma Lightning*. London: William Heinemann.

SHINGLER, Martin and Cindy WIERINGA. 1998. *On Air: Methods and Meanings of Radio*. London: Arnold.

SKY NEWS. 2018. 'Regional Accents Suppressed By Voice Assistants, Says Study'. *Sky News* [online]. Available at: <https://news.sky.com/story/regional-accent-suppressed-by-voice-assistants-says-study-11473853> [accessed 14 Apr 2021].

SONNENSCHNEIN, David. 2001. *Sound Design: The Expressive Power of Music, Voice, and Sound Effects in Cinema*. Studio City: Michael Wiese Productions.

SPACKMAN, Helen. 2000. 'Minding the Matter of Representation: Staging the Body (Politic)'. *Contemporary Theatre Review*, 10(3), 5-22.

SPARROW, Betsy, Jenny LIU, and Daniel M. WEGNER. 2011. 'Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips'. *Science*, 333 (6043), 776-778.

STANYEK, Jason, and Benjamin PIEKUT. 2010. 'Deadness: Technologies of the Intermundane'. *TDR: Drama Review*. 54(1), 14-38.

STEPHENS, Simon. 2009. *Sea Wall*. London: Methuen Drama.

STERNE, Jonathan. 2003. *The Audible Past: Cultural Origins of Sound Reproduction*. Durham: Duke University Press.

- STERNE, Jonathan. 2006 'The death and life of digital audio'. *Interdisciplinary Science Reviews*, 31(4), 338-348.
- STREET, Séan. 2008. *Home Recorded Voices* [radio broadcast]. BBC Radio 4, 20 December 2008.
- STREET, Séan. 2012. *The Poetry of Radio: The Colour of Sound*. Abingdon: Routledge.
- STREET, Séan. 2015. *The Memory of Sound: Preserving the Sonic Past*. Abingdon: Routledge.
- STREET, Séan. 2017. *Sound Poetics: Interaction and Personal Identity*. Basingstoke: Palgrave Macmillan.
- STREET, Séan. 2020. *The Sound of a Room: Memory and the Auditory Presence of Place*. Abingdon: Routledge.
- TATE. 2017. 'Janet Cardiff And The Forty Part Motet | Tateshots - YouTube'. *YouTube* [online]. Available at: <https://www.youtube.com/watch?v=38ORiaia9r8&t=3s> [accessed 25 January 2021].
- TAYLOR, Diana. 2003. *The Archive and the Repertoire: Performing Cultural Memory in the Americas*. Durham: Duke University Press.
- TAYLOR, Diana. 2016. *Performance*. Translated by Abigail Levine. Durham and London: Duke University Press.
- THE TIMES. 1877. 'A great change has come...'. 19 November 1877, 9.
- THE VIRTUAL FUNERAL COLLECTIVE. 2020. 'Death, Grief and Funerals in the COVID Age'. Available at: <https://www.covidpaper.org/download> [accessed 15 February 2021].

THOMSON, Graeme. 2020. *Small Hours: The Long Night of John Martyn*. London: Omnibus Press.

THOMPSON, Christopher. 2021. Interview for *Reviver Voce* project. 26th January 2021. Available at: <http://repository.falmouth.ac.uk/4679/>

TOOP, David. 2004. *Haunted Weather: Music, Silence, and Memory*. London: Serpent's Tail.

TRAGER, George L. 1961. 'The Typology of Paralanguage'. *Anthropological Linguistics*, 3(1), 17-21.

TRASK, Robert. 1999. *Key Concepts in Language and Linguistics*. London: Routledge.

TUCKER, Rebecca. 2016. 'David Bowie Taught Me To Push Against The Tide Until The Tide Disappeared | National Post'. *National Post* [online]. Available at: <https://nationalpost.com/entertainment/music/from-the-moment-i-allowed-david-bowie-into-my-life-pushing-against-the-tide-became-the-only-way-to-go> [accessed 15 Mar 2021].

USWITCH. 2020. 'Smart Speakers Vs UK Accents | Uswitch'. *Uswitch* [online]. Available at: <https://www.uswitch.com/broadband/smart-speakers-vs-accents/> [accessed 14 Apr 2021].

VAN DEN BOOMEN, Marianne, Sybille LAMMES, Ann-Sophie LEHMANN, Joost RAESSENS, and Mirko Tobias SCHÄFER (eds). 2009. *Digital Material: Tracing New Media in Everyday Life and Technology*. Amsterdam: Amsterdam University Press.

VAN BUSKIRK, Eliot. 2007. 'Vinyl May Be Final Nail In CD's Coffin'. *Wired* [online]. Available at: <https://www.wired.com/2007/10/listeningpost-1029/> [accessed 10 Oct 2020].

VAN DEN BULCK, Hilde and Anders Olof LARSSON. 2019. '“There's a Starman waiting in the sky”: Mourning David #Bowie on Twitter'. *Convergence: The International Journal of Research into New Media Technologies*, 25(2), 307-323.

WALTER, Tony. 2015. 'Communication media and the dead: from the Stone Age to Facebook'. *Mortality*, 20(3), 215-232.

WAVES. 2020. 'Debreath Vocal Plugin | Waves'. *Waves* [online]. Available at: <https://www.waves.com/plugins/debreath#removing-vocal-breaths-with-debreath> [accessed 22 Dec 2020].

WHATELEY, Dan. 2020. *Twitter* [online]. Available at: <https://twitter.com/dwhate/status/1334876829103104000?s=21> [accessed 10 April 2021].

WHITE, Paul. 2005. "Pop Shields: Why You Need Them". *Sound on Sound* [online]. Available at: <https://www.soundonsound.com/sound-advice/pop-shields-why-you-need-them> [accessed 17 February 2021].

WILDWORKS THEATRE. 2018. 'A Different Place By Chris Morris - YouTube'. *YouTube* [online]. Available at: <https://www.youtube.com/watch?v=t7TLW4tG6OA> [accessed 27 February 2021].

WILLIAMS, Raymond. 1974. *Television: Technology and Cultural Form*. Abingdon: Routledge.

WILLIAMS, Raymond. 1983. *Keywords: A vocabulary of culture and society*. London: Flamingo.

WINTER, Alison. 2012. *Memory: Fragments of a Modern History*. Chicago: University of Chicago Press.

WISHART, Trevor. 1996. *On Sonic Art*. Amsterdam: OPA.

WORLD HEALTH ORGANISATION. 2021. '10 Facts On Dementia'. *World Health Organization* [online]. Available at: <https://www.who.int/features/factfiles/dementia/en/> [accessed 3 March 2021].

WORTHAM, Jenna. 2015. 'Netromancy'. *The New York Times Magazine* [online]. Available at: <https://www.nytimes.com/2015/09/20/magazine/netromancy.html> [accessed 7 May 2021].

YAMPOLSKY, Mikhail, and Larry P. JOSEPH. 'Voice Devoured: Artaud and Borges on Dubbing'. *October*, 64, 57-77.

Participant Disc - Side A

What follows are the names of all those who have contributed their voices, stories, recordings, and reminiscences to this thesis. The names have been edited from the longer form vocal participant consent forms, and the spoken declaration that acts as a verbal signature. Underneath the names is the sound of a ventilator, which felt fitting, as each of these people breathed life into these records.

Zaid Al-Rikabi

Shazz Andrew

Sarah-Jane Andrewartha

Bec Applebee

Bram Thomas Arnold

Anthony Roy Ashton

Thomas Axon

Dawinder Bansal

Jenny Beare

Clare Bird

Agnieszka Blonska

Mary-Ann Bloomfield

Paul Bonar

Ben Bowskill

Sam Horn-Norris Bradbury

Timothy Briggs

Jordan Brookes

Danny Browne

Charlie Bunker

Lewis Butler

Anna Butterfield

Benjamin Thomas Carlin

Simon Caro

Florence Cashel

Katie Catt

Ellen Clarke

Marian Clarke

Martyn Clarke

Russell Clarke

Elaine Claxton

Alice Cohen

Matthew Collington

Mary Collins

Andy Coote

Gary Cordingley

Vanessa Courtney

Victoria Jane Ashton-Cox

Archie Crofton

Sally Crooks

Norah Cullen

Kevin Anthony Cully

Geoff Cumins

Tom Cumins

Kieran Cutting

James D'Arcy

Richard Davies

Colm Dawson

David Gary Day

Misri Dey

Maria Di Carlo

David Dixon

Matthew Dixon

John Donaghy

Michael Donovan

Ellen Duffy Martin
Stephen Duffy
Ross Dungan
Ben Dyson
Andrew Edmonds
Rupert Ellis
Catherine Evans
Terrie Fender
John Gallagher
Gemma Garwood
Erik Geelhoed
Georgia Gendall
Caroline Gibson
Daisy Gibbs
Griffyn Gilligan
Emma Gleeson
Becky Gooby
Harry Gooby
Greta Grech
Richard Hainsworth
Manus Halligan
Thomas William Hare
Christopher Harrison
Emily Ann Harrison
Brett Harvey
Simon Harvey
Richard Healey
Susan Hill
Peter Hooper
Sara Hooppell
Natasha Horton

Rosy Horton

Stephen William Neil Horton

Jayne Howard

John Howard

Lewis Howard

Richard Howard

Ruthi Hymes

Phil Innes

[Sound of ventilator slowly fades]

Participant Disc - Side B

Amos Jacob

Stephen Bernard Jacobs

Olivia Jeffries

Nicholas Johnson

Paul Joines

Jacob Jones

Michael Jones

Hannah Kamen

Ronald Kamen

Holly Kavanagh

Robert Kearns

Cristín Kehoe

Mercedes Kemp

Ben Kernow

Ross Kessell

Sorrel Kinton

Bríd Kirby

Davina Kirkpatrick

Klaus Kruse

Celine Krzan

Catherine Lake

Arthur Laloe

Mark Laville

Belinda Lazenby

Isabelle Lensvelt

Sarah Levinsky

Dario Llinares

Olivia Lowry

David Lydon

John Macneill
Rory Macphee
Kingsley Marshall
Peter Maxted
David McEntegart
Donal McKeating
Sam McMullen
Maeve Megit
Thomas Megit
Lee Miller
Tom Milnes
Pete Moles
Stanley Moody
Katherine Morgan
Jane Moss
Laura Mugridge
Wouter Mulders
Grace Murdoch
Anna Maria Murphy
Samuel Murray
Kyra Norman
Alan Oliver
Robert Oliver
Simon Parker
Nathan Parry
Andy Peisley
Josh Pharo
Chloe Phillips
John Phillips
Amanda Piesse
Romy Poonoosamy

Jayne Potts

David Prior

Catherine Prosser

Frederica Reitano

John Rhodes

Daniel Richards

Chloe Rickard

Johanna Röhr

Aileen Rosas

Paul Rowan

Olivia Rutherford

Bill Scott

Grace Sellwood

Tim Seyfert

Pete Shepherd

Peter Shields

Richard Sibley

Martin Skews

Amble Skuse

Hannah Smith

Taran Spalding-Jenkin

Emma Spurgin-Hussey

Abigail Squibb

Jasmine Squibb

Jason Squibb

Katie Stachniewska

Ben Sutcliffe

Kirsten Thomas

Chris Thompson

Alfred Tiley

Sam Tomlinson

Joseph Topping

William Tregidgo

Thom Tuck

Peter Twose

Jon Welch

Juliet Welch

Aron Westman

Gregg Whelan

George Whitbread

Kirsten Whitehead

Kath Williams

Esther Wilson

Rory Wilton

Glyn Lee Wright Winchester

[Sound of ventilator slowly fades]