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Start Here

Sounding the Materiality of the Compact Audio Cassette

ABSTRACT This article attempts to lend an ear to the compact audio cassette: a key feature of the domestic soundscape from its introduction in the early 1960s until its gradual obsolescence in the first decades of the 21st century. The piece aims to provide a new perspective on the cassette by way of a discussion of the *Start Here* tapes project: a series of seven artist audio cassette tapes released in 2016 and 2017. Applying a practice-based methodology to a study of objects that are intimate and well known, the project seeks to foreground the material agency of the cassette by making work that reflexively references material objecthood. The article examines what is at stake politically in this focus on materiality, and considers the way creative forms of reflexivity might have renewed ethical and political value within a ecopolitical or biopolitical context. KEYWORDS audio cassette tape, materiality, reflexivity, politics

This article attempts to lend an ear to the compact audio cassette: a key feature of the domestic soundscape from its introduction in the early 1960s until its demise in the first decade of the 21st century. Like many other domestic objects, the audio cassette is often conceptualized and treated as a container technology, in this case storing and compiling recorded sound ready for playback. Unobtrusive and humble, the cassette's own identity as an object is overshadowed—or perhaps drowned out—by the music, speech, and other sounds it preserves and dispenses. This article aims to provide a new critical perspective on the audio cassette by way of a discussion of the *Start Here* tape project. Comprising seven artist audio cassette tapes released by the author in 2016 and 2017, this project explores issues of materiality through creative practice in sound.[1]

One of the key starting points for the *Start Here* tapes is a question posed by the art historian Petra Lange-Berndt, who asks, "What does it mean to give agency to the material, to follow the material and to *act with* the material?"[2] Though the anthology of essays in which Lange-Berndt raises this question does not explicitly consider sound art, the same might nevertheless also be asked of the sonic arts; that is, what does it mean for the artist to give agency to material sound, to follow sonic material, and to act with sonic material? In this way, the *Start Here* cassettes set out to investigate issues of materiality and agency in sonic terms, exploring what acting *with* the material might sound like, and also raising the issue of what is at stake in this acting *with*. This article discusses the ways the *Start Here* tapes explore the materiality of sound by way of the material specificity and material identity of the compact audio cassette, and also aims to situate the project within

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a broader discussion of the political and ethical dimensions of creative practice that engages explicitly with materiality and material agency. The relationship between the theoretical resources discussed here and the creative practice developed in the *Start Here* tape series is perhaps best viewed in terms of a dialogue between theory and practice. That is to say, while the starting point for the *Start Here* project was an engagement with theoretical and critical discourse relating to issues of materiality, the subsequent creative practice was not conceived as an articulation of these theories, but rather as a practice-based investigation of questions prompted by scholarship on nonhuman agency and materiality. In turn, the creative practice undertaken in the *Start Here* series has the potential to generate critical insights, discussed in the concluding section of this essay. Thus the *Start Here* project is presented here not as an illustration of theories relating to the materiality of sound and nonhuman agency, but rather as part of an ongoing interchange between theory and practice.

Lange-Berndt's question signals the material turn that has taken place in the arts and humanities over the last decade or more. New ways of thinking about materiality, and of considering the importance of materialist modes of inquiry, have been prompted by scholarship associated with new materialism: a body of work that represents a radical challenge to anthropocentric views of the world. The latter worldview formulates the material as a resource to be given form and meaning through human agency, while defining material objects purely in relation to human activity—which is to say, materiality and objecthood framed within what Daniel Miller has described as the "tyranny of the subject."[3] Within the arts, new ways of thinking about materials and objects proposed by new materialism thus have the potential to challenge anthropocentric notions of authorship that are heavily weighted toward the artist, shifting the focus instead to the materials and technologies with which the artist works and thereby providing a means by which to reconsider the nature of the relationship between the human artist and the nonhuman material. These ideas, then, provide the context within which the *Start Here* project's creative focus on materiality and material identity might be usefully understood.

THINKING ABOUT MATERIALITY

The *Start Here* project explores the notion of materiality in two key ways: firstly, through creative practice that aims to foreground the material agency of the cassette; and secondly, by making work that reflexively references the material objecthood of the cassette through consideration of its uses and history as a sound recording format. The notion of agency proposed by Lange-Berndt would seem to owe a debt to new materialist scholarship that, for Diana Coole and Samantha Frost, is characterized by "an orientation that is post-humanist in the sense that it conceives of matter itself as lively or as exhibiting agency."[4] This way of conceptualizing the agency of matter is echoed in Lange-Berndt's assertion, "Clearly materials have agency, they can move as well as act and have a life of their own, challenging an anthropocentric post-Enlightenment intellectual tradition."[5] The latter tradition—which, it might also be noted, is a Western construct—is challenged by Jane

Bennett's notion of "vital materiality," described in the preface to the book *Vibrant Matter: A Political Ecology of Things* in the following terms:

> By "vitality" I mean the capacity of things—edibles, commodities, storms, metals—not only to impede or block the will and designs of humans but also to act as quasi agents or forces with trajectories, propensities, or tendencies of their own.[6]

For an artist to follow the material and act with the material might therefore be realized, in part, through creative practice that seeks to identify and focus on the agential trajectories, propensities, and tendencies referred to by Bennett.

New materialist approaches to the issue of nonhuman agency also have the potential to raise questions about how the relationship between the artist and the material might be understood outside a traditional humanist perspective. While Lange-Berndt implies that material agency might be the *gift* of the artist ("what does it mean to give agency to the material"), for Karen Barad, one of the founding theorists of new materialism, agency is not something that either the human or nonhuman simply possesses. Rather, Barad argues, "Agency is a matter of intra-acting; it is an enactment, not something that someone or something has. Agency cannot be designated as an attribute of 'subjects' or 'objects'."[7] Agency reconfigured in this way, as a matter of mutual entanglement—and not limited to a human subject guided by some degree of intentionality—provides a means to address Lange-Berndt's question of what it means for an artist to *follow* the material and to *act with* the material. That is, Barad's conception of agency prompts a consideration of the ways that the material, and materiality, emerge and become audible within the relationship that is facilitated between the artist and the material through creative practice. As this article argues, it is this relationship that is key to establishing the political dynamic of the *Start Here* project and that might be thought of in terms of what Christoph Cox has described as a leveling of the ontological field, "rejecting the ancient metaphysical hierarchy that elevates the human above the animal, the inanimate, and the mechanical."[8] There is, of course, a sense in which *any* artist necessarily works *with* the material, in that a fundamental methodology of creative practice is that the artist works with, and within, the potentialities of their materials, from the grain of a piece of wood to the processor speed of a computer; and, as with any other creative project, the *Start Here* tapes are a product of the interaction between artist and material. However, this interaction—or intra-action, as Barad might put it—is undertaken within the project precisely in order to explore the materiality and material identity of the compact audio cassette. In this way, the project seeks to foreground the capacities and identity of the material rather than those of the artist, and attempts to explore a mode of practice that not only allows the material to take the lead but also to be heard on something like its own terms.

Although the materiality and material identity of the cassette is central to the aesthetic of a number of artists working with the format—including R. Steevie Moore, Aki Onda, Howard Stelzer, Jason Zeh, Lucas Crane, Liz Harris, and Rinus van Alebeek—these are often framed within notions of authorship organized around the agency of the artist. In Onda's *Cassette Memories* series (2002–12), for example, the listener's attention is drawn to the materiality of the cassette, not only because the recordings upon which the works

are based were originated on cassette tape but also because certain kinds of manipulation—such as audible fast-forwarding of the cassette, and forms of sonic montage—employ this same technology. This manipulation or "animation" of the material inevitably foregrounds the role of the artist, supported of course by autobiographical artist statements and critical commentary that traditionally locate the artist and their creative abilities at the center of any given artwork. Furthermore, as its title suggests, *Cassette Memories* employs the materiality of the cassette format in ways that are suggestive of human (rather than nonhuman) experiences and capacities. In the liner notes to *Bon Voyage!* (2003), the second volume of the *Cassette Memories* series, Onda proposes that the chance juxtaposition of the unedited field recordings that constitute the majority of tracks on the album suggests a "primal landscape of memory, which all individuals retain in their minds."[9] In contrast, the articulation of materiality undertaken within the *Start Here* tapes consciously attempts to avoid Miller's "tyranny of the subject" and in terms of authorship is perhaps more clearly aligned with the artistic tradition of the readymade, in which artworks may display little or even no evidence of authorial intervention and artistic transformation.[10] In this sense the *Start Here* project is formulated as one in which the artist is placed at the service of the material, rather than vice versa.

The issue of what constitutes the material in relation to the sonic arts needs some further clarification, not only because sound is commonly understood to be immaterial but also because the word *material* hosts a range of different meanings. In the work examined here there are two interrelated ways that sound might be considered material and to exhibit materiality: one relating to the source of the sound (understood here primarily in terms of the technologies of sound recording and reproduction, rather than an originary sound event) and the other to the properties or qualities of the sounds produced by these technologies. At one level, the fact that the *Start Here* project exists in physical form as a series of audio cassette tapes underpins sound's claim to materiality. However, this materiality is heard not only in the sounds and sonic qualities produced by the technology itself (usually described as noise) but also in the ways recorded sounds are rendered by that technology (the latter heard as timbre, dynamic range, frequency range, and compression). Rick Altman makes the point that recorded sound is marked by material heterogeneity, in the sense that multiple material elements shape the sound that is finally heard by the listener.[11] Thus the material objects that initiate a sound event, their location within a physical space, movement within that space over time, the acoustics of the space in which a sound is recorded, as well as many other material factors all affect the spatial and temporal signature of recorded sound. Similarly, Altman proposes that the technologies and processes of sound recording also play a part in determining the specific qualities and properties of technologically mediated sound:

> Recorded sound thus always carries some record of the recording process, superimposed on the sound event itself. Added to the story of sound production we always find the traces of sound recording as well, including information on the location, type, orientation, and movement of the sound collection devices, not to mention the many variables intervening between collection and recording of sound (amplification, filtering, equalization, noise reduction, and so forth).[12]

In terms of listening, the material conditions within which recorded sound is diffused will also have an impact on how it is heard: as Altman puts it, "Every sound I hear is . . . double, marked both by the specific circumstances of recording *and* by the particularities of the reproduction situation."[13] In the spirit of new materialism, which has sought to resituate the human body within a materialist framework,[14] the listener's own corporeality might also be understood to constitute part of the material heterogeneity of recorded sound, in the terms proposed by Altman. That is, the listener's location in the space of audition, their movement over time within that space, and their own physical constitution are but some of the multiple factors influencing what, finally, is heard as recorded sound. In this respect, the act of listening to technologically mediated sound might itself be reconfigured in terms of the intra-actions and mutual entanglements between human and nonhuman bodies proposed by Barad's formulation of agency, and pointing the way to its cyborgian form.[15]

However, as Altman argues, "the recording system itself provides one of the most important determinants of sound characteristics; as such it not only provides a record of sound, it also participates in the overall sound narrative."[16] It is this notion of *participation*, figured in terms of nonhuman agency, that underpins the critical commentary developed within this article in relation to the creative practice of the *Start Here* project. As stated above, this commentary figures materiality not only in relation to the technologies associated with the compact audio cassette but also in terms of the specificity of the sounds these technologies produce and reproduce. That is, the notion of sonic materiality employed in what follows relates both to the physical substrate of the audio cassette and the technologies of recording and playback, and to the specific qualities of sound rendered and generated by these technologies. Thus, if a sound's specificity can be registered in terms of its complexity, amplitude, tonal qualities, timbre, duration, and morphological development over time, then the notion of sonic materiality might refer to the specific qualities, states, forms, and structures of particular sounds and how these relate to a sound recording's physical substrate or to its diffusion. Thus, the stuff with which a sonic artist works can be considered material, both in terms of the technology being used and the sounds that technology produces and reproduces. It is this notion of materiality that will be explored in the following discussion of the *Start Here* tape series, in part through an examination of the way the tapes might be understood to exhibit or foreground material agency.

While this notion of agency plays an important part in the creative practice developed within the *Start Here* tape series, the project also examines materiality through a consideration of objecthood. The compact audio cassette tape has commonly been conceptualized as what Zoë Sofia describes as a container technology: that is, a technology used to store, compile, move, and retrieve things—in this case, recorded sounds.[17] Sofia proposes unobtrusiveness as a common characteristic of the utensils, apparatus, and utilities that constitute these technologies. She writes:

> The container is a structurally necessary but frequently unacknowledgeable precondition of becoming [. . .] To keep utensils, apparatus, and utilities in mind is

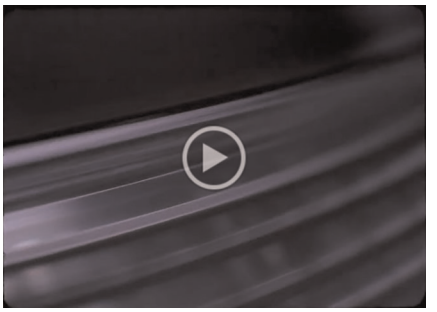

FIGURE 1. *Start Here—The Art of the Audio Cassette* (Ben Rowley, 2017).

> difficult because these kinds of technological objects are designed to be unobtrusive and, like the environment mother, "make their presence felt but not noticed" [. . .] Thus, the analyst of container technologies must constantly work against the grain of the objects and spaces themselves . . . to bring to the foreground that which is designed to be in the background.[18]

If applied to the case of the audio cassette tape, this formulation identifies the cassette as an object whose own identity as an object is overshadowed by the recorded sounds it contains, which in the heyday of the cassette was, in most cases, music.

In a number of tapes in the *Start Here* series, one of the creative solutions adopted to foreground the material identity of the cassette is to tell something of its story as an object through creative reference to its uses, its history as a sound recording format, and its eventual obsolescence. Here the notion of materiality might, in part, be conceptualized in relation to what Maria Eriksson, also writing about container technology, describes as "material affordances."[19] Eriksson proposes that each container technology creates or enables particular uses: in the case of the cassette this would be the ability to record sound, and perhaps more importantly, to copy and to compile. The material dimension of these affordances is very clearly illustrated by a 1967 *Billboard* advertisement for Philips's American brand Norelco, which proposes that the tape cassette "took the tangle out of tape recording"; which is to say, the cassette's material construction simplified the operation of making and playing recordings made on magnetic tape.[20] Thus, as Eriksson argues, and as the worldwide success of the format testifies, "Containers are not passive devices that simply hold objects in place, but entities that carry the capacity to shape and transform markets."[21] The corollary of this is, of course, that at some point a technology's material affordances will be deemed—perhaps by the consumer, and almost certainly by a sector of the relevant industry—as inferior to that of a newer technology or format. In this sense the materiality of the cassette might also be acknowledged in its final destination: the landfill.

The *Start Here* series comprises seven audio cassette tapes: *Audio Cassette Tape, Level Crossings, Chewed, Music Is Killing Home Taping, Salute to Vinyl, Needle Drops and Run-out Grooves,* and *The International Refuse Collection* (Figure 1). In different ways, each

FIGURE 2. *Audio Cassette Tape* (2017). Side 1: Side A.

tape of the series foregrounds the identity of the cassette as a material and sonic object rather than simply treating it as a carrier or container for speech, music, or other recorded sounds. The series is marked by forms of reflexivity that aim to shift focus from the artist producing the work to the cassette as material object and recording format. The following discussion of the individual tapes is organized according to the two principal means by which this reflexivity is achieved. *Audio Cassette Tape*, *Level Crossings,* and *Chewed* are discussed in relation to the way these tapes work *with* the material specificity of the cassette format, while the discussion of the remaining titles focuses on the creative references that are made by the tapes to the historical development and subsequent obsolescence of the compact audio cassette. The article then concludes with a discussion of what might be at stake politically in the reflexive, materialist practice developed within the series. The digital recordings accompanying the discussion of each of the tapes were taken directly from the cassettes themselves, including the leader tape. As such these digital recordings should be regarded as partial representations or illustrations of the original works, with a similar status to the printed reproductions of visual artworks encountered in books.

SOUNDING THE MATERIALITY OF THE COMPACT CASSETTE

The creative strategy developed for *Audio Cassette Tape* is a form of blank literality, in which the recorded content of the tape, and also its packaging and presentation, are organized around a reflexive foregrounding of the cassette's identity as an autonomous, material object. Presented as a double cassette, each tape features a voice recording reminding the listener that they are indeed listening to a cassette: "Audio cassette, side one," "Audio cassette, side two," and so on. Each snippet of speech lasts only 2 seconds in total, and on the first of the two tapes it is repeated 23 times on each side. The speech recording is not simply looped, but rather the length of time between repetitions is gradually increased from 4 seconds to 1 minute and 50 seconds. In this way the unmodulated portions of the tape come to dominate the listening experience, gradually shifting the balance between the human voice and the sound of the blank cassette tape. What is heard in the increasingly long gaps between the voice recordings is the sound of the tape itself: that is, the sound created by the particles of oxide that coat the polyester base of the cassette tape (Figure 2). This sound is generated by the medium's physical substrate and is the sound that Dolby noise reduction was originally created to repress. As Walter G. Salm puts it in his 1973 publication *Cassette Tape Recorders: How They Work—Care and Repair*: "Background noise is very distressing, especially during low

passages of music. In the past [prior to Dolby], we have had to live with high hiss levels coming from the tape; it's a natural characteristic of the tape and the equipment that we use with it."[22] However, as Salm's own text explains, while Dolby could reduce tape noise by up to 10 dB, it can never wholly remove it. Thus, in the spirit of new materialism, we might consider this sound to be resistant, resilient, and recalcitrant. In this respect, Karen Barad's memorable comment on nonhuman agency, "there is a sense in which 'the world kicks back'," might here be reworked to recast tape hiss as the *sound* of the world kicking back.[23] In some respects, this material resistance serves as a marker of the limits of human agency, and a corrective to those notions of mastery and control that construct the material as something to be given form and meaning through human intervention. That is, it is a sound that haunts the technology of magnetic tape, and although it is sometimes masked by music, speech, or other recorded sounds, this sound is always present as the ground against which other sounds are foregrounded.

Dolby's dedication to repressing this sound is somewhat assisted by the fact that users train themselves to listen *through* rather than listen *to* it. This orientation away from the sound of technology is supported by the fact that the listener tends to displace continuous sounds from the foreground of perception. As Curtis Roads observes, "The ear's sensitivity to sound is limited in duration. Long continuous noises or regular sounds in the environment tend to disappear from consciousness and are noticed again only when they change abruptly or terminate."[24] Thus the repetition of the short voice recording also functions to recall the inattentive listener, their thoughts, drifting or otherwise, interrupted in a Brechtian fashion by a cassette tape whose presence demands to be consciously acknowledged.

The second tape of this double cassette contains only a few seconds of magnetic tape bearing a single iteration of the 2-second voice recording. The extremely short duration of this tape is designed to force the listener to consciously engage with the cassette as a physical object, requiring them to flip it over, perhaps repeatedly, to listen to the other side within only a few seconds of having pressed Play. Ideally, this tape should be either amusing or annoying, but in either case it should force conscious and performative engagement with the cassette as physical object.

The liner notes provided with *Audio Cassette Tape* are taken directly from a 1972 U.S. National Bureau of Standards publication entitled *Calibration of Secondary Standard Magnetic Tape Cassettes*. This document describes in forensic detail the construction of the compact audio cassette, from the shell and the tape transport mechanism to the magnetic tape itself, thereby performing a linguistic deconstruction of the cassette by reducing it to its individual components. A schematic diagram of an audio cassette, taken from the same publication, is used as cover art for the tape (Figure 3), with the image mapping directly onto the orientation of the tapes inside the cassette case, and thus presenting something approximating an X-ray of its contents. The liner notes also include original artwork produced for the release (Figure 4), inspired by the black and white photographs typically found in instructional textbooks of the 1970s and '80s: in this case John Hack's *How to Operate a Cassette Tape Ministry* (1981), which is an appropriate choice given the evangelical nature of the *Start Here* project.

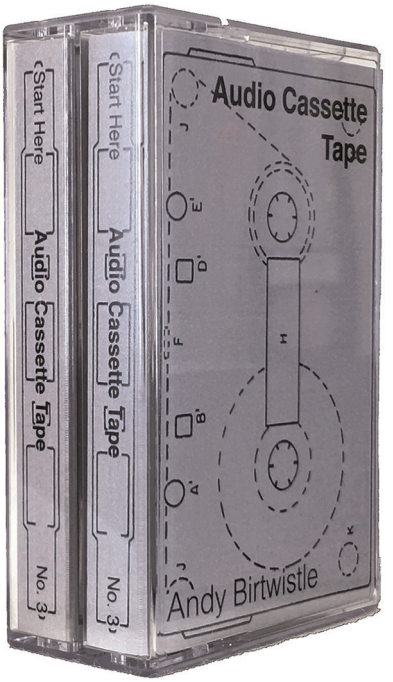

FIGURE 3. *Audio Cassette Tape* (2017). Photo by author.

FIGURE 4. Removing the tabs. Photo by author.

The title of *Level Crossings* puns on the tape's transgression of "safe" recording levels in analog magnetic tape recording, while at the same time referencing the "content" of the tape: namely, field recordings made at railway level crossings. One of the first things a sound recordist learns is to navigate signal-to-noise ratios through gain control. The aim here is to maximize recording levels in order to create a high ratio of signal to noise. Recording at low gain levels on magnetic tape means that tape hiss becomes relatively

FIGURE 5. *Level Crossings* (2017). Side 1: Generation One, Generation Three.

more audible. However, recording at too high a level runs the risk of distortion and tape saturation. Reflecting on this problem, Edward D. Ives comments:

> It is by far the lesser of two evils to under-record than over-record. With a weak signal you can usually turn the volume up on playback to compensate. At worst, there are laboratory ways of boosting a weak signal, but there is nothing that can be done to correct the distortion caused by over-recording.[25]

The tape saturation that results from over-recording produces a distinctive sound that clearly distinguishes analog sound recordings made on magnetic tape from those on other media. This effect is created when the iron oxide molecules on the tape reach their maximum magnetic potential, meaning that they can no longer be polarized any further, nor hold more amplitude. This then becomes audible as distortion and compression.[26] *Level Crossings* sets out to explore this forbidden zone of sound recording, described by Salm as the "danger area of the VU meter."[27]

The source recordings used on the cassette were made at a number of railway level crossings in Kent, UK, and capture the cycle of events that take place when the crossing is in operation. The recordings were made at maximum gain on an Elizabethan branded Philips EL 3301 cassette recorder made in Austria in 1966 and a Hanimex 2040AV Synchrocorder manufactured in Japan in the 1980s. These recordings produced an initial level of distortion, which was then amplified by dubbing the recordings onto another cassette at maximum gain level, thereby producing further distortion. This process was repeated nine times, with the first, third, sixth, and ninth generations presented as *Level Crossings* (Figure 5).

When heard from the point of view of signal, this form of distortion is usually conceptualized in terms of degradation or loss, as each subsequent generation sounds less and less like the original recording. However, this loss of fidelity might be usefully reframed by Jean-François Augoyard and Henry Torgue's observation that "distortion acts through addition rather than subtraction."[28] That is, we might think of these sounds in terms of the material agency of the cassette: a sounding of the magnetic tape's capacity to produce rather than reproduce, and to add its own contribution to the recording. This sense of addition is also heard in the layers of noise that build up each time the tapes are copied. This sound consists of not only the characteristic hiss created by particles of oxide coating the polyester tape but also various forms of system noise generated by resistance in electrical circuits and mechanical sounds of motors, drive belts, and tape transport mechanisms. In addition, generational re-recording on analog magnetic tape creates

numerous other additive factors, such as the generation of harmonic and nonharmonic content, and artifacts produced by speed inconsistencies. This multiplicity of factors means that even when using the same source recordings and equipment, the process of re-recording on magnetic tape produces different results each time. With each generation these sounds of technology are multiplied, further contributing to what is perceived as a loss of fidelity. This, then, is a reflexive and productive sounding of the cassette medium itself.

The third tape in this group is *Chewed*, which begins to reflect on the mortality of the cassette tape and the capacity of the cassette player to transform recorded sounds through a process of self-destruction. The compact audio cassette has rarely been accorded the reverence bestowed on vinyl. Whereas vinyl induces the fear that it may be damaged simply by being in the world, the compact audio cassette imbues the user with a sense of confidence and reassurance. Robust and down-to-earth, the cassette's admittedly flimsy contents are protected from the careless vinyl-scratching, oily-fingered, dust-generating human user by its remarkable armor: a noninflammable, high-impact polystyrene plastic shell. However, as Edward D. Ives counsels in *The Tape-Recorded Interview*, "There will come a time when something will go wrong; the tape will get a sudden yank and get jammed in the sides of the reel or wrapped around the spindle."[29] Thus the cassette player may destroy the very thing that justifies its own existence: stretching, creasing, twisting, and warping the contents of the cassette, binding and choking its own internal workings with magnetic tape. The inevitability of this form of self-destruction is acknowledged in the fact that the U.S. electrical retailer Radio Shack marketed a cassette repair kit aimed specifically at enabling the user to rescue damaged tape.

The failure of the cassette player becomes audible in changes of playback speed, producing variations in pitch usually described as "wow and flutter." In fact, fluctuations in speed form part of the sonic signature of all cassette playback, produced by the inconsistencies in the performance of the cheap, mass-produced mechanics developed for this small-format recording system. However, these may become much more noticeable when the cassette player begins to fail. To isolate and foreground these sounds, the source recordings of *Chewed* were based on sine wave tones: the first falling from 10 kHz to 40 Hz, and the second rising from 40 Hz to 10 kHz. This enabled slight variations in playback speed to become more audible than would be the case with more complex and dynamic sounds. The original recordings were then played back on a faulty Technics RS-HD350 Stereo Cassette Deck, from which new recordings were made, further amplifying the tape speed fluctuations that are unavoidable in the medium. This dubbing process was repeated nine times, producing an accretion of sounds created through both variations in playback speed and tape damage. The failing mechanics of the tape player—which is also sounding of its mortality—are heard in the wavering instability of the rising or falling tones, while the deformation and creasing of the cassette tape that resulted from using a faulty machine are heard as a crackling sound. What is heard, then, in this sound of failure, is the materiality of the compact audio cassette's physical substrate and the mechanics of cassette tape playback (Figure 6).

FIGURE 6. *Chewed* (2017). Side 1: Ten Thousand to Forty.

The title of the tape draws on the notion that tape is "chewed up" by the cassette player—a phrase that recognizes the agency of the machine itself. *Chewed* seeks to foreground not only materiality, through the focus it places on the physical substrate of the cassette and the mechanics of the technology, but also its objecthood. The latter might be understood by way of Martin Heidegger's discussion of objects whose identity rests in their use: what Heidegger describes as their "readiness-to-hand."[30] He writes: "That with which our everyday dealings proximally dwell is not the tools themselves. On the contrary, that with which we concern ourselves primarily is the work—that which is to be produced at the time."[31] Thus, to take Heidegger's own example of the hammer, it might be argued that the act of hammering displaces consciousness of the hammer as an object—what he describes as its "presence-to-hand." Applied to the cassette tape, this suggests that our attention is commonly displaced from the cassette as a material object in its own right, and is focused instead on the sounds that it records and then plays back. Like the cassette itself, the tape player is also normally a well-behaved and inaudible object. Even the fetishization of equipment witnessed in the attention the hi-fi enthusiast places on technology is absorbed, finally, into the act of listening. However, this focus on the uses to which a thing is put shifts when the object, tool, or technology fails. As Heidegger puts it: "We discover its unsuitability . . . not by looking at it and establishing its properties, but rather by the circumspection of the dealings in which we use it. When its unsuitability is thus discovered, equipment becomes conspicuous."[32] Thus failure or breakdown materializes the object, rendering it conspicuous and present in a way that is not the case when in use. Don Ihde, building on Heidegger's work, proposes "the better the machine the more 'transparency' there is," in the sense that "it itself does not become objectified or thematic."[33] If the argument here is that a technology works best when it is unconscious and withdrawn from the user's experience, then the corollary is that failure renders the technology conscious. *Chewed* thus attempts to harness failure as a means to foreground the objecthood of the cassette and player, enabling it to become, in Ihde's terms, objectified.

The device of the rising and falling soundwaves used on the tape takes inspiration from Michael Snow's film *Wavelength* (1967). Described by Gene Youngblood as "a forty-five-minute zoom from one end of a room to the other,"[34] and by Snow himself as "a time monument,"[35] part of the film's soundtrack features a rising sine wave. Snow likens this to a sonic equivalent of the zoom, and like the zoom it plays a part in drawing attention to the duration of *Wavelength* in that, once the spectator understands how the film is structured formally, then duration is rendered visible and audible. As Snow puts it, "From the beginning the end is a factor. In the context of the film the end is not 'arbitrary'; it is

fated."[36] Duration thereby becomes a key element of the work, understood, in Structural-Materialist filmmaker Peter Gidal's words, as a material piece of time.[37] This same idea applies to *Chewed*, where the rising or falling sine waves foreground sonic materiality through duration and the sound's morphological development over time.

One final aesthetic device employed to reflexively foreground the cassette's identity as a material object, shared by a number of tapes in the series, is a creative play with the two-sidedness of the compact cassette. Thus, side one of *Chewed* features a sine wave that descends in tone, which is mirrored on the second side by an ascending tone. Similarly, the first side of *Salute to Vinyl* is named "Side B," and the second side is named "Side A." These uses of mirroring, echoing, and scrambling are designed to put the two sides of the tape into relationship with one another, and while this might escape the attention of some listeners, it proved its effectiveness as a reflexive strategy when *Audio Cassette Tape* was featured on Radio On Berlin's *Tape Review Show*. Here the purposefully confusing titling of the two sides, and the extremely short duration of the second tape, drew the conscious attention of the show's presenters Rinus van Alebeek and Adrian Shephard during their discussion of the piece.[38]

REFERENCING THE HISTORICAL DEVELOPMENT AND DECLINE OF THE COMPACT CASSETTE

In addition to the forms of material reflexivity discussed above, the other key creative strategy used within the series to foreground the identity of the cassette as a material and sonic object draws on references to its history, both in terms of its uses as a recording format and its obsolescence. The title of the tape *Music Is Killing Home Taping* reworks the slogan "Home Taping Is Killing Music," used by the British Phonographic Industry as part of an anti-piracy campaign launched in 1981. The campaign set out to discourage consumers from dubbing copyright music onto blank cassette tapes. However, well before the 1980s, this practice had already become one of the main uses of the format, as acknowledged by Salm in the 1974 publication *Cassette Tape Recorders*:

> Probably the most satisfying type of recording that you can do is to dub from other tapes or from records or the radio. This type of recording can produce excellent results because you're using professional equipment and techniques—the microphones, musicians, and studios that went into making the original recording. Given reasonable care and the right kind of equipment, there is no reason why your own recording can't be fully as good as the original, with the exception of a little bit of tape hiss.[39]

Although, as Salm suggests, this may have been a satisfying activity for the consumer, it was considerably less appealing to the music industry, which saw the practice as a threat to record sales—hence their claim that home taping was killing music. However, taking a longer-term view of the history of the cassette format, it can be argued that the reverse is true: that the music-related functions of the audio cassette dominated its use as a sound recording technology. The compact audio cassette was developed by Lou Ottens and his team at Philips in the early 1960s and launched at the International Funkausstellung Berlin in August 1963 (Figure 7). As Bob Dormon has pointed out, the first production

FIGURE 7. The Philips EL 3300. Photo: Royal Philips.

model, the Philips EL 3300, was developed primarily as a portable machine for recording dictation and other voice applications.[40]

Significantly, early press advertisements always made a feature of the microphone, stressing the ease with which the user could *record* sound. A French promotional campaign for the next generation EL 3301, featured in the magazine *Paris Match*, employed the tag line "Tous 'chasseurs de son'!" to propose that anyone equipped with this particular cassette recorder could become a "sound hunter" and could use it to capture "a strange sound," "an interesting voice," or "a comical conversation." Other manufacturers of cassette recorders also actively promoted their products as the means by which users could make their own sound recordings on audio cassette. Thus, the brochure for the General Electric M83008 portable cassette recorder proclaimed: "Sound can be more than entertainment. When you record it on this new General Electric cassette tape recorder, it can do all kinds of work . . . record meetings . . . speeches . . . lectures . . . notes or voice letters."[41] In addition to these business and educational applications, GE also promoted the recorder for more personal uses, such as "recording the sound of weddings, and honeymoon and vacation trips."

However, music soon came to dominate the use of the new format. By late 1965, only two years after launching the compact audio cassette, Philips had begun producing prerecorded Musicassettes. Other companies soon followed, and by 1967 *Billboard* magazine was able to report that 72 music labels were releasing their work on cassette, totaling approximately 150 titles.[42] As Philips Phonographic Industries President Coen Solleveld put it in 1967, "Now the 'recorder' (or at least the 'play-back' part of it) has definitely chosen the side of the music industry with the advent of the musicassette."[43] Even when users did make their own home recordings on cassette, these were often dubs of LPs or music recorded from the radio, as the "Home Taping Is Killing Music" campaign testified.

FIGURE 8. *Music Is Killing Home Taping* (2017). Side 1: Found Sound.

The *Start Here* tape *Music Is Killing Home Taping* might therefore be heard as an attempt to recover the notion of the cassette as a domestic, democratic recording device, featuring a compilation of found sounds harvested from a selection of discarded cassette tapes. These include recordings of children talking and singing, users testing the record function of the machine, thunderstorms and rain, snatches of shortwave radio broadcasts from the Soviet Union, and the sound of church bells, among others (Figure 8). In this way the tape references the uses of the format, focusing on its identity as a cultural object that stands as an alternative to the more familiar mixtape, which has so fascinated writers on the cassette to date.

A key reference point for *Music Is Killing Home Taping* is a manifesto on the creative use of sound recording written in 1935 by the composer and filmmaker Jack Ellitt. In *On Sound*, published the literary journal *Life and Letters Today*, Ellitt proposed that modern sound recording technology would create a new kind of sonic art. He argues that these "sound constructions" would be made from the sounds of the world, rather than created by professional musicians and their musical instruments:

> When good recording apparatus is easily acquired, many people will record simple and everyday sounds which give them pleasure. The next step would be to mould these sound-snaps into formal continuity. Such sound-construction as this can have no more pretension or esoteric meaning than may be found in the energy expended on arranging some flowers in a vase.[44]

While in some ways the compact cassette might have gone some way to realizing Ellitt's earlier call for a new art of recorded sound (an early advertisement for the Philips EL 3300 proposes that it is no more cumbersome than using a camera), the history of the format shows that in reality its record function was largely subjugated to traditional forms of sonic art—which is to say, music. Although this was not inevitable, there is a sense in which the format had always been haunted by the specter of music, even though the compact cassette had been developed primarily as a low-fidelity portable device to record speech. As Lou Ottens explains, an early prototype compact cassette recorder that he and his team had developed at Philips was based around tapes with a recording time of 20 minutes on each side. He continues:

> The guys from the commercial product management were very happy with the proposal, but were in favour of 30 minutes—and they were right. Our first point of departure had been a good speech quality, but with the obvious potential suitability for

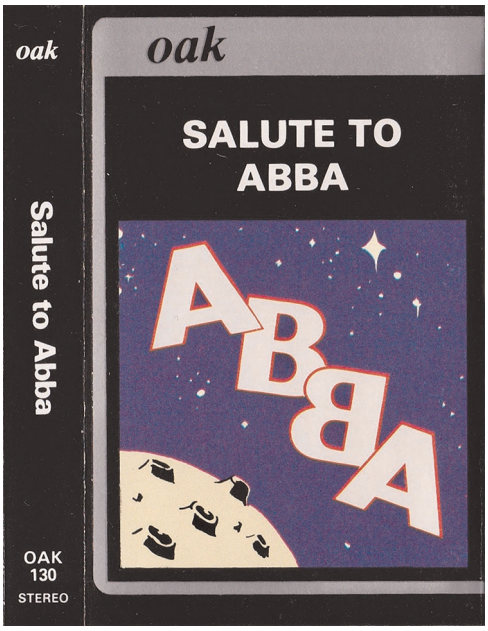

FIGURE 9. *Salute to ABBA*, sung by Bobbs (ca. 1977). Photo by author.

> music quality it was better to choose for a space that would equal the possibilities of a long play record which is a maximum of about 30 minutes per side.[45]

This relationship between the two formats is usefully illustrated by the example of the spider and the fly, used by Gilles Deleuze and Felix Guattari to demonstrate their notion of the refrain: "It has often been noted that the spider web implies that there are sequences of the fly's own code in the spider's code; it is as though the spider had a fly in its head, a fly 'motif,' a fly 'refrain'."[46] In this sense, then, the LP was coded into the DNA of the compact cassette at its birth.

The historical relationship between the compact cassette and vinyl is referenced in both *Salute to Vinyl* and *Needle Drops and Run-out Grooves*, each of which offers a slightly different perspective on the cultural phenomenon of the cassette. *Salute to Vinyl* features the surface noise recorded from both sides of a blank long-playing vinyl disc played at 33 1/3 revolutions per minute. This sound is generated by the physical contact that takes place between the turntable stylus and the moving surface of a vinyl record. The continuous sound that results from the friction between these two surfaces is interspersed with intermittent sounds produced when the stylus encounters the damaged wall of a recording groove or particles of dirt. This is the sound of vinyl, brought to the listener through the medium of magnetic tape.

The title *Salute to Vinyl* refers to the naming practice adopted by some recording labels when producing albums of covers rather than original material (Figure 9). Titles beginning with the words "Sounds Like" or "Salute To" were quasi legalistic signifiers of the

FIGURE 10. *Salute to Vinyl* (2016). Side 1: Side B.

FIGURE 11. *Needle Drops and Run-out Grooves* (2017). Side 1.

fact that the music on the record or tape in question was not being performed by the original artists, but rather by a sound-alike group.

The primary motivation behind many of these releases was to tap into the success of established performers by producing lower-cost versions of popular hits. Unlike other forms of cover versions, the aim here was to emulate as closely as possible the original track rather than to offer a new take on a familiar song. "Salute To" and "Sounds Like" tapes were thus not "the real thing," but rather emulations. In a sense the same might also be said of *any* recording; what the listener hears on a record or a tape is a representation of a performance, speech, or other sonic event. In this sense, it's the recording that has a greater claim to being "the real thing"—which is to say, the tape itself. In the case of *Salute to Vinyl* the listener is not, in fact, listening to sounds produced by a vinyl record, but rather an audio cassette tape (Figure 10). Thus *Salute to Vinyl* foregrounds the representational nature of sound recording in the same way Magritte's *The Treachery of Images* (1929) reminds the viewer that what they are looking at in the painting is not, in fact, a pipe.

The choice of vinyl surface noise as the "content" of the tape aims to draw attention to the notion of the materiality of sound reproduction and, through difference, to signal the cassette's own sonic materiality. What the tape seeks to remind the listener is that there is no representation independent of the material. *Needle Drops and Run-out Grooves* draws on a similar creative strategy, collecting together the "silent" run-in and run-out grooves from both sides of 48 vinyl LPs, the titles of which are carefully listed in the tape's liner notes (Figure 11). Both tapes, then, reference not only one of the key material affordances of the cassette—its ability to copy and reproduce vinyl—but also, through the inscription of difference, its own sonic materiality.

The remaining tape of the series, *The International Refuse Collection*, signals the materiality of the compact audio cassette by a reflection on its obsolescence. The tape comprises two field recordings of refuse collection: the first recorded in Taiwan and the

FIGURE 12. *The International Refuse Collection* (2017). Side 1: Taiwan.

second in the UK. In Shenkeng, New Taipei City, the daily arrival of the municipal garbage truck is announced by an electronic recording of *A Maiden's Prayer*, written by the 19th-century Polish composer Tekla Bądarzewska-Baranowska. Each evening this melody calls residents from their homes to dispose of their household refuse in the back of a passing garbage truck. Once the distant melody becomes audible, residents carrying bags of household waste gather outside their homes to await the imminent arrival of the refuse collectors. The first side of the tape features a field recording of the arrival and departure of one such garbage truck, documenting the sound of refuse collection in Taiwan (Figure 12). The other side of the tape records a similar cycle of events in Canterbury, UK. According to Dorman, Philips has estimated that approximately 3 billion compact cassettes were sold in the 25 years between 1963 and 1988.[47] The tape's reference to waste disposal points to the fact, highlighted in the liner notes, that most of the compact audio cassette tapes that have been produced since its introduction in 1963 are either already in, or shortly destined for, landfill sites, their materiality now reconfigured as waste matter. In this spirit, the tape's liner notes advise the listener to "enjoy this cassette at its best play once and then dispose of promptly and safely."

CONTEXTUALIZING MATERIALITY: CASSETTE CULTURE, MEDIA ARCHAEOLOGY, AND CONCEPTUAL ART

The creative work undertaken with the *Start Here* tape series is located within a number of artistic traditions and contexts, drawing on modes of practice that are well established in both the visual and sonic arts. A brief consideration of these will help to locate the specificity of the project's engagement with the materiality of the audiocassette tape, and in turn to consider what is at stake in the focus on materiality and nonhuman agency. It might seem that the most obvious and immediate precedents for the work are to be found in the thriving cassette cultures that exist now and have operated globally since at least the late 1970s. Examining this culture within a largely North American context, Robin James's 1992 publication *Cassette Mythos* makes the point that the independent cassette scene that flourished in the 1980s was underpinned by the fact that the format was inexpensive and widely accessible, supporting the idea, proposed in Hal McGee's foreword to the book, that "art and the creative spirit belong not just to an elite few, but to everybody."[48] For McGee, the artist-produced cassette, created and distributed outside the control of the mass media and large entertainment corporations, represented a truly democratic art form, and thus "counterculture's most dangerous and subversive weapon."

McGee's claim is evidenced, in part, by the cassette cultures that developed outside of a North American context: for example, in India, the Middle East, and Eastern Europe, where according to S. Alexander Reed, "translocal and sometimes clandestine networks exchanged tapes of poetry, political speeches, and religious instruction."[49] The democratic spirit of the format, as celebrated in *Cassette Mythos*, was also recognized in the breadth of music, sound art, and spoken word that found its way onto the underground cassette scene, described by James in the following terms: "Poets sharing their ceramics; painters clanging on pieces of metal and psychiatrists screeching and howling in rhythm; tiny frogs in a distant pond; strange electronic beings engaged in complicated dialogues."[50] As James's description implies, the cassette has a history of use by sound artists and others working at the intersection of music and sonic art, and thus within what might be termed "historical" cassette culture, as well as its contemporary incarnation, there are a number of artistic precedents for the creative activity undertaken in the *Start Here* tapes. For example, the sections of unmodulated tape encountered in *Audio Cassette Tape* are reminiscent of the long periods of tape "silence" that are heard in artist Jake Tilson's *Gate 23* (1997)—which features recordings of departure announcements made at London's Heathrow Airport—and in the recordings of blank audio cassette tape compiled on the CD *Blank Tapes* (2000) by the Argentinian experimental music group Reynols. Similarly, the manipulation of tape achieved through the use of faulty playback equipment, heard in *Chewed,* and the use of field recordings originated on cassette tape heard in *Level Crossings*, explore some of the sonic territory that has previously been navigated by cassette artists Howard Stelzer, Jason Zeh, and Aki Onda.

The contemporary status of the cassette provides another context within which the project might be understood, and which distinguishes the creative dynamic of the *Start Here* series from work undertaken prior to the demise of the cassette as a popular and readily accessible sound recording and playback format. That there is a thriving contemporary cassette culture is evidenced by Zack Taylor's 2016 film *Cassette: A Documentary Mixtape*, and in the appearance of popular publications such as John Z. Komurki and Luca Bendandi's *Cassette Cultures* (2019). Komurki and Bendandi's book opens with the declaration that "Cassettes are back,"[51] and indeed it has been widely reported that the sale of music cassettes has risen dramatically in recent years.[52] In part this has been driven by the popular music industry, but review sites such as *Tabs Out*, *Cassette Gods*, *Spools Out*, and *Vital Weekly*, as well as radio shows such as Radio On Berlin's *Tape Review Show*, demonstrate that there is a thriving independent cassette scene that shares many similarities with the earlier cassette culture documented in James's *Cassette Mythos*.

The key difference between historical and contemporary cassette culture is the fact that, as a result of technological change, the cassette is now a dated and virtually obsolete format rather than a ubiquitous part of everyday life. This, then, marks a radical break with historical cassette culture, in which the very accessibility of the format underwrote what McGee describes as "the most democratic art form."[53] This change of context results in a fundamental shift in the way the cassette is heard and understood. That is, whenever one media technology loses its dominance, is eclipsed or replaced by another, there is a moment at which the status of its sounds, and even their perceived qualities, begin to

change. No longer ubiquitous and no longer "inaudible," in the post-analog, digital soundscape the sonic signature of the cassette's materiality is heard and understood in new ways. For example, where once tape hiss was *listened through,* or at least tolerated, it may be hard for the contemporary listener not to actively *listen to* it. Thus, for Steph Colbourn, writing on the 2013 album *The Man Who Died in His Boat* by Liz Harris (aka Grouper), the materiality of the cassette format, rendered in Harris's album as "intricately layered pools of tape hisses and static," is understood, and valued, as central to the artist's musical aesthetic.[54] At the same time, where physical cassette tapes once formed part of the background of everyday life, their novelty now draws conscious attention, foregrounding their identity as material objects in the contemporary world.[55] So, though in 1994 Christian Marclay's sculpture *Moebius Loop*—formed of over 2,000 cassettes lashed together with nylon ties—spoke to contemporary culture, the same sculpture now speaks of the past. This is evidenced by a review of the piece, written by Victoria L. Valentine for the *Arts Observer* website in 2011, which features the headline "Using Retro Cassettes, Christian Marclay Has Created an Entirely Modern Sculpture."[56]

These changes in perception mean that, while the techniques and sounds used by contemporary artists working with cassettes may evidence continuity with earlier cassette culture—since the technology remains fundamentally unchanged—the passage of time brings new layers of meaning to the creative use of the format, with the possibility of generating types of affect that were not possible during the era of historical cassette culture. For example, since its inception in 2002 Aki Onda's *Cassette Memories* series has been formulated as a project fundamentally concerned with memory. However, within a contemporary context the audible materiality of cassette tape—which now represents an obsolete sound recording and reproduction technology—brings a further sense of pastness to a project that is already focused around notions of the past through its focus on memory. This parallels exactly the effect described by Mark Fisher in his essay "What Is Hauntology?", in which he proposes that the crackle of vinyl "renders time as an audible materiality."[57]

What this temporal dimension brings to the *Start Here* project is an explicit media archaeological dynamic, captured in the label's anachronistic tag line "Start Here and Get With It" and in its declared aim "to bring discerning listeners the finest in magnetic tape-based media archaeological art."[58] The project's conscious attempt to revisit a virtually obsolete technology aligns it with modes of media archaeological practice identified by Jussi Parikka in *What Is Media Archaeology?* and in particular "repurposing dead media with a DIY spirit and methods and using media archaeology as an artistic methodology and hence transporting it from investigation of texts to material culture as well."[59] The last decade has seen a resurgence of popular interest in the material culture of obsolete or dated technologies, including the cassette, vinyl, and analog photography (witness, for example, the success of the Impossible project, launched in 2008 to reintroduce Polaroid instant film, or the development of Lomography as a form of contemporary photographic practice). Undoubtedly, part of the appeal of these formats is their materiality that, in a digital mediascape, is understood and valued in new ways. Thus the *Start Here* project's creative choice of the compact cassette as an outdated and virtually obsolete sound

recording and playback format is not arbitrary, but rather it is an important factor in how the tapes foreground their own materiality. As argued above, the passage of time reenergizes the sounds and objects of dated formats and obsolete technologies, and in increasing their audibility and visibility has the potential to give them greater agency. For the *Start Here* project, temporal displacement of this kind has the effect of materializing and rematerializing both technologically mediated sound and sound recording technology.

The third and final context within which the project's focus on materiality might be usefully framed is that provided by the broader art historical traditions of Conceptual Art and Minimalism. Like a number of other tapes in the series, *Audio Cassette Tape* is underpinned by a conceptual dynamic that shares much in common with the laying bare of the material observed in Conceptual Art of the 1960s: as, for example, Robert Morris's *Box with the Sound of its Own Making* (1961), and in the reflexivity of text scores such as Henry Flynt's *The Instructions for This Piece Are on the Other Side of This Sheet* (1961). At the same time, in its focus on materiality and material agency, the project is marked by the drive for impersonality and the associated movement away from expressive content that characterized the Minimal art of the 1960 and '70s. Here the use of plain, often industrial materials, such as bricks, blocks of wood, and pieces of sheet metal in the work of Carl Andre, or fluorescent lighting in the work of Dan Flavin, is organized in ways that foreground the material and downplay the authorship of the artist. Additionally, a direct influence on the project was Structural-Materialist filmmaking of the late 1960s and '70s, acknowledged above in the discussion of *Chewed*. Within this practice filmmakers such as Michael Snow, Peter Gidal, Malcom Le Grice, and Annabel Nicholson created work that eschewed narrative and cinematic illusion in favor of a creative exploration of the materiality of film, and the optical and perceptual processes through which it is experienced.

Within each of these art historical traditions, the reflexive laying bare of the material and the focus on materiality have been understood in different ways. Thus, for example, Minimalism's focus on unadorned material presented with minimal artistic intervention has been seen as a reaction by younger artists to what Frances Colpitt describes as "the autobiographical, gestural excesses of Abstract Expressionism."[60] Similarly, the focus on the material central to Structural-Materialist filmmaking has been formulated in political terms, by Gidal, as a counter to what was perceived as the ideological manipulation of narrative, illusionist forms of cinema: "Without a theory and practice of radically materialist experimental film, cinema would endlessly be the 'natural' reproduction of capitalist and patriarchal forms."[61] This, then, raises the question of how the specific take on materiality undertaken in the *Start Here* project might be understood within a broadly media archaeological framework, in which, according to Parikka, the past is excavated "in order to understand the present and the future."[62]

CONCLUSION

To return to Lange-Berndt's question, "What does it mean to give agency to the material, to follow the material and to *act with* the material?", if *Start Here* represents an attempt

to give agency to the material, to follow the material, and to act with the material, then there remains the issue of what is at stake in this practice. In its focus on materiality, the *Start Here* project is fundamentally underpinned by a concern with the orientation of the artist to the material: in this case, the material being the sound produced by a specific sound recording technology, and also that technology itself. In sonic terms this orientation might be thought of as a *listening to* rather than a *speaking through* the material. To understand the significance of this orientation, the project might be usefully situated within the biopolitical context offered by Julian Brigstocke and Tehseen Noorani's work on listening to nonhuman others:

> As the alarming consequences of the dominance of anthropocentric forms of thinking and politics on environmental, social, and mental ecologies . . . become ever more apparent, there has been a surge of interest in inventing new ways of collaborating with, listening to, and granting authority to new kinds of voices, including more-than-human life and forms of material agency.[63]

This search for new ways of working with the nonhuman other does not necessarily do away with notions of human authorship or creative practice, but rather situates them within a political and ethical framework. That is to say the practices of *listening to* and *working with* prompt a potentially radical rethinking of the relationship between the human and the nonhuman. The challenge to the artist working with sound in this way is to not only "get over themselves" (no small task in itself) but also to engineer the conditions within which a shift of focus from personal authorship and human agency to sonic materiality and material agency can be heard.

The video artist Bill Viola once stated, "We don't pick up a hammer to have a 'hammer and nail experience', we use it to build a house or a table."[64] In contrast, the *Start Here* tapes are all about the "hammer and nail experience"; that is, rendering the technology of sound and technological sounds conscious, material, concrete, and present. Like most creative practice, the interaction between the artist and the material might be understood as a collaboration, in this case creating the conditions under which the material becomes visible and audible through a process of working with and following the material. However, the end result, as proposed by the *Start Here* project, is an attempt to engage with objects and materials in ways that potentially realign human orientation toward the nonhuman, and realized, (it is hoped) in an assertion of the nonhuman other's material identity. Here the artist serves the material, rather than the other way around, in an attempt to break with the destructive relationship between the human and the nonhuman that has characterized Western, post-Enlightenment thinking, and that has resulted in environmental catastrophe.

In relation to aesthetic practice, what emerges from the *Start Here* project is the potential for creative forms of reflexivity to take on political force. The specifically political discourse around reflexivity in the arts has been closely associated with anti-illusionist modes of representation, for which the work of Bertolt Brecht has become a touchstone. Here reflexivity is seen as a form of textual unmasking that attempts to reveal the ideological underpinning of particular modes of representation considered to be

illusionistic and manipulative. This discourse gained some traction within the sonic arts, as indicated by Helen Thorrington's article "The Noise of the Needle," originally published in 1988:

> I record the noise of machinery, the clicks of tape recorders, the spinning of the reel . . . I call attention to the sound of work by using it to create my work. It carries part of my meaning. And part of my meaning is just that simple: to call attention to work, and thereby to the fiction I create and how I create it.[65]

More recently, reflexivity within sonic arts practice has been discussed by Isobel Anderson and Tullis Rennie in terms of the use of self-reflexive narrative within field recording.[66] Although their work represents an important contribution to discussions of field recording, the focus placed on the self is antithetical to the materialist approach developed in the *Start Here* project. The aesthetic strategy of reflexivity proposed by the *Start Here* tapes is political and ethical in that its focus on materiality and material identity attempts to explore what Christoph Cox has described as a leveling of the ontological field. He writes:

> A fully materialist conception of listening would level the ontological field, rejecting the ancient metaphysical hierarchy that elevates the human above the animal, the inanimate, and the mechanical, and would reconceive listening in terms of capturing (and being captured by) flows of sound rather than in terms of some uniquely human intentionality. Indeed, it would turn the discussion away from human intentions and turn it toward the complex material conditions and the apparati that determine what is captured, how, and why.[67]

Creative practice that adopts reflexive, materialist approaches, and reconceived as listening, might in some ways go toward this leveling of the ontological field, offering one means by which the artist can address the damage done by anthropocentric forms of thinking, listening, and making sound. ■

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NOTES

1. The decision not to write parts of this article in the first person is a conscious strategy adopted to shift focus from the authorship of the artist to the materials of the project. This is not to deny authorial intention and the creative interventions made by the artist, but rather is conceived as a means to decenter the (human) artist and to foreground the (nonhuman) material.
2. Petra Lange-Berndt, ed., *Materiality* (London: Whitechapel Gallery and Cambridge, MA: MIT Press, 2015), 13.
3. Daniel Miller, ed., *Materiality* (Durham, NC, and London: Duke University Press, 2005), 3.
4. Diana Coole and Samantha Frost, eds., *New Materialisms: Ontology, Agency and Politics* (Durham, NC, and London: Duke University Press, 2010), 7.
5. Lange-Berndt, *Materiality*, 16.
6. Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC, and London: Duke University Press, 2010), viii.

7. Karen Barad, "Getting Real: Technoscientific Practices and the Materialization of Reality," *differences: A Journal of Feminist Cultural Studies* 10, no. 2 (Summer 1998): 112.
8. Christoph Cox, "Listening as Agon in the Society of Control," in *What Now? The Politics of Listening*, ed. Anne Barlow (London: Black Dog Publishing, 2016), 23.
9. Aki Onda, *Bon Voyage!* (Cassette Memories Vol. 2), Improvised Music from Japan IMJ 510, 2003, compact disc. Liner notes.
10. What is understood as lack of artistic transformation undertaken within the work is raised in a number of reviews: "Throughout this series, Andy Birtwistle exhibits no interest whatsoever in transforming his sounds; the classic musique concrète / electroacoustic method is not for him. While this results in very thin and unengaging results for the ear, I do at least have to admit that what ends up on these tapes has a certain documentary truth, an unvarnished physical reality. But neither is there any sublimation, no artistic transformation." (Ed Pinset, "Unspooling the Past," *The Sound Projector*, August 20, 2018, http://www.thesoundprojector.com/2018/08/20/unspooling-the-past/ [accessed January 22, 2021.]) "I must say, I don't think Andy Birtwistle comes up with something new; it is what it is, the sound of vinyl crackling. The concept is quite poor, the results are nothing you couldn't do yourself." (Frans de Waard, *Vital Weekly*, no. 1048, week 37, http://www.vitalweekly.net/1048.html [accessed January 22, 2021.])
11. Rick Altman, "The Material Heterogeneity of Recorded Sound," in *Sound Theory Sound Practice*, ed. Rick Altman (New York and London: Routledge, 1992), 15–31.
12. Ibid., 26.
13. Ibid., 27.
14. Thus Coole and Frost propose, "we discern as an overriding characteristic of the new materialists their insistence on describing active processes of materialization of which embodied humans are an integral part." (Coole and Frost, *New Materialisms*, 8.)
15. Karen Barad, "Getting Real: Technoscientific Practices and the Materialization of Reality," *differences: A Journal of Feminist Cultural Studies* 10, no.2 (1998): 112.
16. Altman, "Material Heterogeneity," 26.
17. Zoë Sofia, "Container Technologies," *Hypatia* 15, no. 2 (Spring 2000): 181–201.
18. Ibid., 188.
19. Maria Eriksson, "The Editorial Playlist as Container Technology: On Spotify and the Logistical Role of Digital Music Packages," *Journal of Cultural Economy* 13, no. 4 (August 2020): 418.
20. "In 1965 there was only one cassette recorder in America," *Billboard* (The Philips Cassette Around the World: A Billboard Report), April 8, 1967, 2.
21. Eriksson, "The Editorial Playlist As Container Technology," 418.
22. Walter G. Salm, *Cassette Tape Recorders: How They Work—Care & Repair* (Blue Ridge Summit: Tab Books, 1974), 42–43.
23. Barad, "Getting Real," 112
24. Curtis Roads, *Microsound* (Cambridge, MA.: MIT Press, 2001), 12.
25. Edward D. Ives, *The Tape-Recorded Interview: A Manual for Field Workers in Folklore and Oral History* (Knoxville: University of Tennessee Press, 1990), 30.
26. "Tape Distortion/Saturation," *Soundbridge*, https://soundbridge.io/tape-distortion-saturation/ (accessed October 11, 2020).
27. Salm, *Cassette Tape Recorders*, 139.
28. Jean-François Augoyard and Henry Torgue, eds., *Sonic Experience: A Guide to Everyday Sounds* [*À l'écoute de l'environnement. Répertoire des effets sonores*], trans. Andra McCartney and David Paquette (Montreal and Kingston: McGill-Queen's University Press, 2006 [1995]), 39.
29. Ives, *The Tape-Recorded Interview*, 25–26.

30. Martin Heidegger, *Being and Time* [Sein und Zeit], trans. John Macquarrie and Edward Robinson (Oxford: Basil Blackwell, 1962), 99.
31. Ibid.
32. Ibid., 102.
33. Don Ihde, "The Experience of Technology: Human–Machine Relations," *Cultural Hermeneutics* 2, no. 3 (October 1975): 272.
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