“Marie Thompson shows ‘noise’ to be essential to any medium or communicative act by deftly mobilising an eclectic set of resources – from Spinoza and Shannon to Diamanda Galàs. Unwanted sound is incisively characterised as relationally, contextually affirmed, rather than as an objectifiable, morally appreciable phenomenon. We are thus urged to heed sound that might tomorrow be heard as new music, as a creatively organised affective force that ‘once-was-noise’. *Beyond Unwanted Sound* is definitely a wanted, and thoroughly needed, contribution to the fast growing field of sound studies.

SALLY JANE NORMAN, *Professor of Performance Technologies, Sussex Humanities Lab, University of Sussex, UK*

Beyond Unwanted Sound

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Noise, Affect and Aesthetic Moralism

MARIE THOMPSON

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INTRODUCTION

Noise: A useless concept?

Ideally, for me the word noise (bruit) *is one that we ought to be able to do without… Acoustically as well as aesthetically, it is a word that promotes false ideas.*

MICHEL CHION, 'Let's have done with the notion of "Noise,"' 245.

In his essay 'Let's have done with the notion of "Noise,"' the composer Michel Chion asserts that 'noise' (or, rather, its French counterpart, *bruit*) is no longer a useful concept.[1] First, it is unclear what it is that noise denotes. Chion points to two, often overlapping, meanings of the term: noise in the sense of unwanted sound, such as music played too loud or too late in the evening; and noise in the sense of non-musical or non-linguistic sound, such as that produced by animals. Yet, what counts as unwanted or non-musical sound can vary drastically according to context. Second, noise relies on a separation of the sonic universe into categories of the meaningful and non-meaningful; the desirable and undesirable; and the musical and non-musical. As a result, noise is simultaneously too vague and too 'segregationist' – it is too ambiguous with regard to what it signifies, and too rigid in the distinctions it requires.[2] Chion thus proposes that noise should be preserved for referring specifically to environmental noise pollution; beyond this, the word should be disposed of and replaced with the more neutral *son* ('sound'), so as to liberate sounds from the stigma of noise.

Chion's frustration with the concept of noise is understandable. Noise is both obvious and evasive. It is something that many of us regularly encounter and yet, as is often claimed, remains stubbornly resistant to theorization. Noise slips between different disciplinary fields: it carries through the walls that separate science, acoustics, economics, politics, art, information theory and law. And what constitutes noise can vary considerably between these

fields. It could be said, then, that noise is a 'noisy' concept: it is messy, complex, fleeting, fuzzy-edged and, at times, infuriating.

Noise's conceptual noisiness means that it often functions as a floating signifier: it can be used to talk about almost anything. In 2013, BBC Radio 4 broadcast the thirty-part series *Noise: a Human History* by media historian David Hendy. Topics discussed included the conventional 'touchstones' of noise discourse, such as neighbour noise and the babble of Babel. However, there were also episodes on less obviously noisy subjects, such as the history of the stethoscope, the acoustics of religious buildings, church bells, music's oral traditions, ritualized uses of sounds, and – perhaps most tenuously – the persuasive power of political orators.[3] Hillel Schwartz's nine-hundred page *Making Noise: From Babel to the Big Bang and Beyond* covers an even greater segment of the sonic universe. This mammoth cultural history of noise begins with the myth of 'perfect' hearing, before moving through a vast range of sonic and extra-sonic encounters. In the name of noise, Schwartz explores the soundscapes of war, the city, suburbia and the countryside; theological constructions of Hell; Greek mythology; echoes; Freudian psychoanalysis; the asylum and sonic depictions of madness; advertisements; the historical evolution of language conventions, body etiquette and social manners; and the sounds, screams and cries of children.[4] Though Hendy's series and Schwartz's book present fascinating and richly detailed sonic histories, in these accounts noise veers towards becoming everything and, subsequently, nothing. Noise and sound become largely synonymous – it remains unclear what it is that makes noise 'noise' and what differentiates noise from sound. Consequently, in these instances, it would seem appropriate to follow Chion's suggestion to substitute one for the other. Indeed, it is unclear what, if anything, would be lost by doing so.

These studies also point to a resurgence of scholarly interest in noise. In spite of its purported opposition to rigorous or consistent theorization, there has been something of a 'noise revival' over the past decade. In the discourses of media theory, there is a growing sense that noise matters to understandings of our contemporary, highly mediated society, in which noise's presence is suppressed, restrained and combated but – as will be demonstrated – never eradicated. In the digital era of ever-faster connectivity and communication, of high definition imagery and audio recording, it can sometimes seem as if noise has been conquered: that it is no longer a problem for our contemporary technologies. However, while it might not be noticeable, noise always persists. The use of noise as an artistic and aesthetic resource over the course of the twentieth and twenty-first centuries – particularly the emergence of noise music as a 'post-vernacular' genre in the 1970s and 1980s, and the glitch aesthetics of the 1990s – has also contributed to this increase in scholarly attention. Noise has also garnered attention within environmentalist discourses, insofar as it functions as an auditory pollutant. Many of these environmentalist narratives argue that despite its overwhelmingly audible presence within contemporary society,

noise has often failed to be recognized as a force of environmental damage. Cultural geographers, meanwhile, have considered noise's relation to space as part of a broader disciplinary 'sonic turn'.[5] This growing interest has led to the publication of a significant number of books and collections grappling with the concept of noise, many of which stem from musicology, sound studies and media theory. These include Paul Hegarty's *Noise/Music: A History*; Salomé Voegelin's *Listening to Noise and Silence: Towards a Philosophy of Sound Art;* Mark Nume's edited collection: *Error: Glitch Noise and Jam in New Media Cultures*; Garret Keizer's *The Unwanted Sound of Everything We Want*: *A Book About Noise;* Anthony Iles and Mattin's *Noise and Capitalism*; Rosa Menkman's *The Glitch Moment(um);* Linda Kouvaras's *Loading the Silence: Australian Sound Art in the Post Digital Age*; Grege Hainge's *Noise Matters: Towards an Ontology of Noise; Reverberations: The Philosophy, Aesthetics and Politics of Noise*, edited by Michael Goddard, Benjamin Halligan and Paul Hegarty; and its sister collection *Resonances: Noise and Contemporary Music,* edited by Michael Goddard, Benjamin Halligan and Nicola Spelman – all of which have been published since 2007.

Beyond unwanted sound

Beyond Unwanted Sound joins this body of scholarship in rethinking noise beyond its colloquial definition. At the heart of this book lies a simple premise: that there is much more to noise than unwanted sound, and to fail to recognize this is to fail to recognize the crucial role noise plays in auditory culture and in material culture more generally. There is no music, no mediation, no *son* without noise.

The 'beyond' of *Beyond Unwanted Sound* connotes a getting past, a moving on from, but it is also a nod to the Nietzschean 'beyond' of 'beyond Good and Evil'. It points to an aspiration to move beyond 'aesthetic moralism' – that is, the tethering of noise to 'unwantedness' and 'badness'. I aim to productively disrupt this correlation of noise, 'unwantedness' and 'badness' so as to allow for a broader range of noise's manifestations – both good *and* bad, generative *and* destructive, serendipitous *and* detrimental. This disruption is produced through the development of an '*ethico-affective*' approach to noise. Drawing on Spinoza's philosophy of affects, in combination with Michel Serres's cybernetic figure of the parasite, I present noise as a productive, transformative force-relation and a necessary component of material relations. This alternative approach is intended to be broad enough to allow for noise's qualitative variability – its capacity to be loud and faint, audible and inaudible, perceptible and imperceptible – while also avoiding a collapse into a relativist end point where noise can be anything to anyone.

The bulk of this definitional work is undertaken in Part 2: 'The Parasite and its Milieu: Noise, Materiality, Affectivity'. This section draws together what might initially appear to be two distinct notions of noise. The first is noise as an affective, perturbing force-relation. This is discussed in relation to two very different examples: the 'microdisruptions' that occur at the level of the material medium and which have been utilized by various sound artists, including Christian Marclay, Maria Chavez and Yasunao Tone; and the 'macrodisruptions' of weaponized sound, which radically perturbs collective crowd-bodies. The second is noise as inaudible but affective background. This noise is alluded to but never reached by John Cage's notorious work *4'33"*. Drawing upon from Serres's wordplay on the middle/medium/milieu/means, I connect these two seemingly distinct definitions so as to make clear noise's necessity.

The proposed ethico-affective approach is contextualized in relation to what are referred to as subject-oriented and object-oriented definitions of noise. These are outlined in Part 1: 'What Noise Has Been', which establishes a number of key thematics that are returned to over the course of the book. A subject-oriented definition frames noise as a negative judgement of sound: it is that which the listener hears as unwanted, undesirable, bad, unpleasant, threatening etc. Object-oriented definitions treat noise as a type of sound and so it is constituted by particular sonic attributes. As Chion suggests, these two definitions of noise are often conflated – the moralistic connotations of the former often come to infect the latter so that certain types of sounds are imagined to be 'bad', inferior, unlikeable and so on. I argue that a subject-oriented definition of noise is too vague in the sense that noise becomes any sound that a listener hears or experiences as such. Yet, it is also too restrictive in the sense that it assumes that noise is only ever experienced negatively. In relying on a constitutive listening subject, furthermore, a subject-oriented definition limits noise to its obviously audible manifestations. An object-oriented definition is too narrow, inasmuch as noise is taken to be an inherent property of certain sounds, irrespective of how, where and by whom they are experienced.

Though it centres on a definitional approach, this book is as much concerned with how noise is talked about, as it is with noise itself. Consequently, this ethico-affective approach to noise is used to disrupt and transform aspects of noise's discourse. In this regard, noise is both the subject of this book and its methodological strategy: with the disruption of one narrative of noise comes the establishment of a new one. I consider the implications for two particular discursive lineages: what are labelled the conservative politics of silence and the transgressive poetics of noise. Both of these lineages are informed by the correlation of noise, unwantedness and badness.

The former is addressed in Part 3: 'Acoustic Ecology, Aesthetic Moralism and the Politics of Silence'. The conservative politics of silence considers the ideal sonic future to be located in the past: a lost, better time of quietude and

calm. As Steve Goodman argues, this politics of silence tends to promote itself 'as a quasi-spiritual and nostalgic return to the natural. As such, it is often orientalized and romanticizes the tranquility unviolated by the machinations of technology. … Its disposition is almost always reactionary.'[6] This auditory politics is underpinned by a dualist 'aesthetic moralism', which positions noise as bad to silence's good. R. Murray Schafer's acoustic ecology is taken as exemplary of this view. Where silence is associated with a positive affectivity – it has the capacity to calm, revive and rejuvenate – noise is defined by its negative affectivity – it damages, destroys, deafens and harms. Schafer might seem like an easy target for critique, given that his purism, nostalgia and technophobia have been widely criticized.[7] However, as is apparent from Part 1, this aesthetic moralism is by no means unique to Schaferian acoustic ecology: it permeates auditory discourses more generally. Moreover, there are important resonances between Schafer's approach and my own, namely his application of information theory's terminology of signal, noise and channel to acoustic environments, and his implicit acknowledgement of the affectivity of noise. Yet Schafer also maintains information theory's prioritization of stasis and clarity. Indeed, these values not only inform his politics but also his (Platonic) metaphysics – his idealist investment in a transcendent realm of pure and unbroken silence. From this perspective, noise and its effects are only ever unwanted; a marker of the impurity and inferiority of the material.

Focusing on the sonic encounters of the home, I demonstrate how Schaferian aesthetic moralism silences other possibilities and potentialities of auditory experience. This discussion draws attention to the acoustic character of three domestic environments: the controlled quietude of the suburbs, the contradictory auditory politics of the 'regenerated' post-industrial city and the community noise of Liverpool's Welsh Streets' residents. Consequently, I argue for a radical reconfiguration of acoustic ecology's moralistic characterizations of acoustic environments. By substituting Schafer's silent, pure and ideal nature with Spinoza's clamorous, impure and material one, and by drawing out the ethical dimension of the latter's philosophy of affects, I propose a shift from Schaferian aesthetic moralism to a Spinozist ethics of noise and silence.

In Part 4: 'Beyond Failure: Noise Music, Exposure and the Poetics of Transgression', I return to noise's use as a musical resource. For a number of twentieth-century avant-gardists, including the Futurist composer Luigi Russolo, noise has the capacity to generate new sonic sensations. From this perspective, noise is not unwanted and undesirable – the enemy of the music – but rather is a source of aesthetic reinvigoration and revitalization. By recognizing that noise has the potential to be 'good' as well as 'bad', to have positive as well as negative effects, the ethico-affective definition thus allows more fully for noise's generative capacity in artistic contexts. However, noise's use in music has typically been articulated in terms of crossing a line between the musical and the extra-musical, the wanted and

the unwanted. This line has been reinforced by noise music's poetics of transgression, which emerges from (unwanted) noise's association with sonic and social taboo. While notions of line-crossing have been important for a number of artists, when taken as the approach (rather than *an* approach), the poetics of transgression tends to reduce noise music to its most 'extreme' and excessive manifestations, drowning out quieter, more subtle alternatives that do not comfortably fit with these rhetorical figurations. Here, I discuss the quiet noise of Japanese *onkyô*, which draws out the immanent noise of the medium/milieu, before proposing an alternative understanding of noise music that is in keeping with the ethico-affective approach to noise outlined over the course of this book. With reference to a conceptually and sonically varied set of musical examples (Hype Williams, Reynols, Diamanda Galás, Merzbow), I argue for noise music to be understood as an act of 'exposure'. Rather than bringing noise into music, noise music is thought of as amplifying, extending and foregrounding the noise that is always already within the techno-musical system. This approach, I assert, allows for a broader range of artistic practices and aesthetics – from the 'full noise' of Merzbow and Incapacitants to the subtle 'crackle dub' of German electronic music producer Pole.

The proposed ethico-affective approach outlined in this book is intended to facilitate a number of key conceptual shifts. These can be summarized as follows:

Noise does not 'need me'

Noise does not need to be heard as unwanted, loud or excessive in order to exist – it need not be heard at all. Consequently, this ethico-affective approach decentres the listening subject: noise no longer 'needs me'. This decentring of the listener runs contrary to the sonic anthropocentrism of a subject-oriented definition and some phenomenological accounts of noise, in that it allows for the noise that remains hidden out of earshot – be it through habits of listening, thresholds of perception and attention or through error correction mechanisms that counter noise before it reaches the level of audibility. Furthermore, the approach proposed here recognizes that noise does not always directly act upon the listening subject; it might be indirectly perceived in relation to its effects – for example, anomalous sonic artefacts, distortion or particular timbral qualities.

The description of this approach as non-anthropocentric might be refuted on the basis that 'noise' is a human concept. To this, I would add that noise as it is employed here is a culturally specific concept, insofar as this book is largely reflective of a Eurocentric body of work. To describe noise as non-anthropocentric is not to deny this. Rather, it is to highlight that the thing that is labelled 'noise' is understood to also occur within and act upon what has been deemed the non- or extra-human.

The decentring of noise's listening subject does not result in an evasion of 'traditionally' human questions concerning the ethical, the political and the cultural – as will become clear, these questions inform and underline noise's manifestations and effects. However, in recognizing that noise goes beyond the listening subject, this approach enables the development of connections between noise's audible manifestations that affect individual and collectives of listening subjects and its other, largely imperceptible manifestations that affect non-human bodies and relations. Indeed, noise's affectivity – its capacity to modulate, perturb and transform – is understood to underline both an encounter with disruptive neighbours and the stuttering outbursts of Yasunao Tone's 'wounded' CDs. Hence, an affective approach to noise that no longer relies upon a constitutive listening subject helps to draw together noise's social, informational and artistic manifestations.

Noise can be inaudible

By taking into account noise's capacity to function unheard in relation to non-human bodies, entities and milieus, noise is no longer considered to be a solely audible phenomenon. Noise is implicated in and necessary for, but also exceeds the sonic. As a component of mediation, noise is also implicated in the visual; it can be seen as well as heard, infecting writing, photographs and digital screens. However, for the purposes of this book, I remain primarily focused on noise's sonic effects and manifestations. Indeed, in my exploration of the noise of sound, I touch upon a number of sound studies' oft-repeated 'creation stories' – from Thomas Edison's recital of 'Mary Had a Little Lamb' to John Cage's anechoic chamber. That said, the 'sonic' needs to be taken broadly, insofar as it involves movement, technological processes, mechanisms, objects, frictions, atmospheres, space, knowledge, power relations and so on. In short, the sonic does not just involve sound: it is entangled with and constituted by a nexus of audible and inaudible processes, relations and inter- and intra-actions.

Noise betrays binary oppositions

This move beyond unwanted sound is also a move beyond the binary. Indeed, both subject-oriented and object-oriented definitions of noise are underpinned by a series of polarities. Through these, noise is negatively defined in relation to that which it is not: it is not wanted, not desirable, not intended, not ordered, not specific, not meaningful and so on. Likewise, on the basis of the divisions between wanted/unwanted, meaningful/meaningless, ordered/unordered and ultimately good/bad, noise is set in binary opposition to signal, silence and music. Noise is that which detracts

from the signal, destroys the 'goodness' of silence and is to be excluded from the realm of the musical.

I assert that noise betrays the binary; it is unfaithful to dualistic thinking, perturbing neat categorizations and distinctions. It is not 'either/or' but 'both-and', traversing distinctions between the natural and unnatural, analogue and digital, exceptional and quotidian, loud and quiet, audible and inaudible, intentional and unintentional, positive and negative. Consequently, I aim to develop an alternative, relational framework that evades these often reductive dichotomies and permits a more nuanced understanding of noise that does not reduce it to particular aesthetic qualities (e.g. harshness, abrasiveness) or moral values (e.g. unwantedness, badness). This is used to rupture and radically reconfigure the structural oppositions of noise/signal (Part 2), noise/silence (Part 3) and noise/music (Part 4).

Noise is foundational, generative and necessary

By decoupling it from a definitive 'unwantedness' and 'badness', noise is no longer defined by its detrimental capacity to irk, annoy or frustrate nor by its capacity to cause physiological and environmental damage. Rather, noise is understood to have the capacity to have both positive and negative effects: to diminish and destroy, but also to enhance and create. Either way, noise is productive insofar as it is transformative – no matter how minor or fleeting that transformation is. Yet it is not just that noise might have some positives: that it is not all bad. Here, noise is understood to be ubiquitous, constitutive and primary, rather than secondary, contingent and intermittent. It not only disrupts transmission but also allows transmission to occur in the first place. In this sense, it is foundational: with no noise, there is no transmitted signal. Consequently, noise can never be abated in its entirety, only minimized or worked around. The approach that I take thus refutes the notion that noise involves the anomalous disturbance of a preceding state of clarity and perfection. Noise is inescapable, unavoidable and necessary.

The (re)turn to affect

Almost contemporaneous with the 'noise revival' has been a resurgence of interest in affect. Indeed, the current scholarly interest in both noise and affect can be seen as symptomatic of a broader turn towards the 'non-representational' dimensions of experience within cultural theory and the humanities – the move away from questions of representation, identity and signification and towards the material, the embodied, the sensuous and the networked. Emerging alongside late-capitalist politics of information and control and drawing significantly from feminist and queer theory, contemporary manifestations of affect theory have required a reconfiguration

of how we understand the relationships between the body (as-subject), bodies (in their broadest, Spinozist sense) and their (technological, political, economic, social, biological) milieux. This occurs without recourse to either a closed notion of 'self' or the dualisms that separate the human from machine, nature from culture, subject from object, science from art, technology from the aesthetic and body from mind. Affect theory thus views human experience as part of a wider field of inter- and intra-actions. As Michael Hardt notes 'Affects require us, as the term suggests, to enter into the realm of causality, but they offer a complex view of the causal relationship. They illuminate, in other words, our power to affect the world around us and our power to be affected by it, along with the relationship between these two powers'.[8]

In addressing the body, its affective powers (that is, its capacity to affect and be affected) and its engagements with other bodies, entities and environments, affect theory offers an alternative perspective on sociability, which seeks to (re)consider some of the perceived omissions of the mainstream intellectual trends of twentieth-century critical theory – for example, Lacanian psychoanalysis, structuralism, post-structuralism, deconstruction, semiotics and social constructivism. These modes of analysis, partly symptomatic of the so-called 'cultural' and 'linguistic' turns within the humanities and social sciences, have primarily been concerned with questions of signification and representation; the communication and dissemination of meaning; and how language constitutes sociopolitical realities. An affective approach, by contrast, deals first with an a-signifying register – the modulations of intensity, sensation and feeling that occur at the level of matter and constitute an encounter, happening or event.[9] However, despite certain polemical overstatements of its 'newness', affect theory is not a straightforward disavowal of these previous modes of understanding – a radical overthrowing of these 'wrong' approaches in favour of a new, 'correct' model. Rather, it extends beyond, while also drawing from and working alongside, these modes of analysis. Though functioning according to an alternative logic and requiring a different point of focus, affect remains implicated and entangled within the field of representation and signification. As is restated in Part 2, a-signifying forces can still have signifying effects. Indeed, given that this book uses affect to call into question dominant narratives of noise, then, the affective can be understood as requiring not so much an abandonment as a reconfiguration of the epistemological and the discursive. As Ben Anderson exemplifies, an affective standpoint can facilitate alternative understandings of seemingly antithetical categories of analysis – representation, for example, might be considered affective insofar as it consists of 'interventions in the world that may carry with them or result in changes of bodily capacity or affective conditions'; representations are 'presentations that create worlds … they have an expressive power as active interventions in the fabrications of worlds'.[10] In this regard, affect theory should not be treated as simply oppositional to representational approaches.

To label affect theory as a 'new' theoretical approach, moreover, is to downplay the long-standing genealogy of feminist, queer and postcolonial thought that precedes the contemporary 'affective turn' and its concern with embodied experience, the material transformations of the body and the role of feeling and emotion in creating and shaping worlds. As Carolyn Pedwell and Anne Whitehead argue: 'While affect theory provides a valuable resource to interrogate long-held assumptions and think social and political life differently, such openings are not framed productively (or accountably) through an elision of the critical and diverse contributions of feminist, postcolonial and queer analysis.'[11]

Pertinent to the aims of this text, affective approaches can be understood to continue the feminist, post-structuralist and deconstructionist critique of normative philosophical and political dualisms that govern the social. Clare Hemmings observes that theories of affect are interested in 'analogue' rather than 'digital' modes of power – the connected and relational over oppositional dichotomies.[12] Indeed, affect does not comfortably fit into binary constructions of power, in that it does not clearly 'belong' to one side or the other. While there has been a notable optimism surrounding affect, specifically regarding its capacity to transform, restructure and, subsequently, facilitate alternative modes of being, it is also 'a central mechanism of social reproduction', implicated in the desires and delights of consumerism, the terror, disgust and hatred manifest in racism, the feelings of collective belonging that are present in fascist rallies and patriotic ritual.[13] So, affect cannot be simply taken, politically speaking, as a 'way out'. While the affective may be surprising or unpredictable, it can also work to strengthen a hegemonic social order, and to dominate, regulate and alienate certain bodies. Affect is not 'either/or' but rather 'both-and' – *for better and for worse*.

In many ways, the relationship between noise and affect is immediately obvious. Noise can serve to startle, threaten and annoy; and is often associated with feelings of stress and frustration; however, it may also contribute to feelings of belonging, community and nostalgia. It may disrupt our sleep, causing us to shift from a state of inactivity to alertness. When noise functions as a stressor, it may induce adverse psychological and physiological effects.[14] Indeed, noise's 'unwantedness' typically pertains to a negative affective response from a listening body: noise is unwanted because it adversely affects the listener, inducing unpleasant or unhappy feelings. This correlation between noise, unwantedness and affect is gestured towards by Garret Keizer:

> To human beings, some sounds are just noise. Some sounds interrupt their sleep, damage their hearing, raise their blood pressure, slow their children's progress at school, and banish the sweet thoughts and tender feelings they harbor towards sex. Those sounds are unwanted.[15]

The connection between noise and affectivity is even apparent from the term's etymological roots; noise partly stems from the Latin *nausea,* which refers to the sensation of seasickness.[16] As this suggests, encounters with noise are transformative, sensuous and intensive: noise is often felt as well as heard, and known through feeling.

The question remains of what is meant by affect. Like noise, affect is not a singular concept but rather has numerous connotations, some compatible, some conflicted. Consequently – and, again, like noise – it is often claimed that affect remains resistant to definition, since affects have no meaning in and of themselves: they are both a-objective and a-subjective, a-signifying and a-representational, existing as part of, but never being fully captured by, subjects, objects or signifiers.[17] In its more anthropological guises, affect typically concerns the pre- or non-conscious autonomic transformations of the body-as-subject: 'Affect … is the name we give to those forces – visceral forces beneath, alongside, or generally *other than* conscious knowing … that can serve to drive us toward movement, toward thought and extension.'[18] Affect is involved in a body's fluctuations of feeling and sensation, its intensive rhythms and cycles, while also connecting the body to its wider milieu. Seigworth and Gregg describe it as 'persistent proof of a body's never less than ongoing immersion in and among the world's obstinacies and rhythms, its refusals as much as its invitations'.[19] As Teresa Brennan observes, affect ensures that no rigid distinction can be made between the 'individual' and 'environment', since the body (as-subject) is not 'affectively contained'.[20] Affects can be transmitted between bodies – one may pick up on the negative 'vibes' of another. Alternatively, affects may come from no body in particular – bodies can enter a room and just 'feel the atmosphere'. In such instances, 'the "atmosphere" or the environment literally gets into the individual'.[21] In doing so, it induces certain bodily changes – some of which are brief, some of which may be longer lasting. Affects thus imply an opening up of the body to shared and collective registers of the experiential.

Here, I primarily refer to a particular notion of affect that can be found in the work of the seventeenth-century Jewish-Dutch philosopher Baruch Spinoza. There is not one but many 'Spinozas', insofar as his work has been interpreted in different ways within different disciplines. Here, I refer to Spinoza's work as it is 'appropriated' by Gilles Deleuze. Indeed, references to Spinoza should be understood as references to Deleuze's Spinoza. Deleuze's reading of Spinoza is characteristically idiosyncratic, with the latter being brought into relation with both Henri Bergson and Friedrich Nietzsche. Indeed, for Deleuze, Spinoza was an exemplary Nietzschean thinker, where much of Nietzsche's philosophizing was 'strictly Spinozan'.[22] As shall become apparent, Deleuze's appropriation of Spinoza facilitates a departure from a dominant Western philosophical (idealist) lineage that connects Plato, Descartes, Kant and Hegel.

Spinoza's affect begins with the relation; it involves the in-between of the encounters of subjects, objects and environments. In his *Ethics*, affect refers to a body's capacity to affect and be affected, its modulating powers to act and be acted upon. This body may be the human body or the body-as-subject, but it might also be the animal-body, the machine-body, the crowd-body, the sonic-body, the code-body. This will be explained further in Part 2. A Spinozist notion of affect is non-anthropocentric: it does not treat the human as an ideal or the best body, since it is not yet known what bodies can do. As shall be discussed in Part 3, it is also inextricable from the ethical – affective encounters are also ethical encounters. Indeed, Spinoza's work refuses modern disciplinary distinctions: it, at once, concerns physics, metaphysics, ethics, politics and epistemology.

The Spinozist emphasis on relationality seems to exist in tension with some contemporary notions of affect, which present it as a realm of pure, unmediated experience.[23] Instead of associating affect with non-mediation, I follow Ben Anderson in suggesting that affect and affective life are intimately connected to various modes and practices of mediation. Here, mediation does not refer to the reconciliation of opposing forces, nor is it simply analogous with 'the media'; rather it is 'a general term for processes of relation that involve translation and change from which affects as bodily capacities emerge as temporary stabilisations'.[24] This notion of mediation is used to draw noise and affect together, insofar as both noise and affect, and noise as affect are constitutive features of mediating processes.

The noise of music

This book has at its centre a musicological concern for noise's use as an artistic resource and its potential to generate new sonic sensations: one of the principal aims of moving beyond unwanted sound is to allow more fully for noise's productive capacity as it has been readily utilized in music. The ethico-affective approach developed here helps to connect noise's use in artistic contexts to its other (social, technological, informational) manifestations. In decoupling noise from a constitutive unwantedness, musical uses of noise are no longer to be considered as anomalous or exceptional – as a making good of noise's inherent badness. Nor are they considered artistic simulations of noise 'proper'. When considered from an affective viewpoint, noise's artistic manifestations are just as 'real' as noise's manifestations as technological error, or neighbourly disruptions. Thus, although an extended discussion of noise's use in music takes place in Part 4, artistic examples are referred to throughout.

I make repeated reference to 'noise music' in this book. However, though a number of the artists I discuss might be considered as part of the highly fragmented and idiosyncratic noise 'scene', I do not remain faithful to the notion of noise music as a genre. Here, 'noise music' signifies a particular

approach, which involves extending and foregrounding the immanent noise of music. Consequently, it is simultaneously broader (insofar as it includes artists who might not be traditionally thought of as noise musicians) and narrower (insofar as it labels one method of noise out of many – it is *an* approach not *the* approach to noise's use as an artistic research) than its generic namesake. It is for this reason that I discuss a number of artists under this rubric that might seem far removed from the genre of noise music (which is often taken to be synonymous with harsh noise) – for example, the anachronistically noisy electronic music of UK production outfit Hype Williams, and the queer house music of the Soft Pink Truth. Noise music is therefore primarily referred to as a method rather than a genre.

An alternative framework

The ethico-affective approach to noise developed over the course of this book is intended to serve as an alternative, onto-epistemological framework for thinking through noise, which allows for a broader range of its manifestations and potentials. In disrupting the constitutive correlation between noise, unwantedness and badness, I do not deny that noise can be 'unwanted' or 'bad', nor do I deny that it can be loud and abrasive, or generated by machines. However, I do argue that these qualities, features and values are not sufficient as ontological qualifiers: just because noise is often felt to be negative does not mean that it is definitively so. What is advantageous about this alternative framework is that it pushes further the open-endedness of a subject-oriented definition (in that it allows for noise to be good as well as bad, generative as well as destructive, beneficial as well as harmful, perceptible as well as imperceptible), while also remaining consistent with regard to what noise is and what it does. In other words, it seeks to strike a balance between the vagueness and specificity of the notion of noise.

This book shares with noise its disciplinary messiness, weaving together, among other things, information theory, philosophy, social history, government legislation, musicology, acoustics and media theory. And though this is not a philosophical work, it is undoubtedly theoretical and abstract in places. However, I endeavour to always return to what this means 'in practice' by explicating these theoretical remarks in relation to empirical manifestations of noise. Indeed, in many ways, I consider this onto-epistemological approach to noise to develop out of what is already known through practice: musicians and sound artists have long worked with, and not just against, noise, interrogating its positively productive capacity.

To end this introduction by returning to where it began: *contra* Chion, this book can be summarized as an argument for the continuing salience of the notion of noise. Rather than seeing it as a reason to do away with the term altogether, the perceived insufficiency of noise's common definitions is taken as an invitation to think critically and speculatively about what noise

is and what noise might do – how noise may be defined so as to avoid these pitfalls, while also maintaining some sense of consistency and specificity. In any case, attempts to simply do away with noise in its entirety are destined to fail. There can be no eradication or elimination, only minimization. This book thus embraces noise as a necessary component of material life, of existence within an inevitably parasitic milieu. Spinoza's philosophy of affects postulates that to exist is to be affected. I assert that to exist is to be affected by noise.

Notes

1 Noise is not a precise translation of the French term *bruit*; indeed, this might be described as a 'noisy' translation. However, many of the problems Chion identifies with the notion of *bruit* can still be applied to noise. For more on the translation of *bruit* in Chion's work, see James A. Steintrager, 'Speaking of noise: from murderous loudness to the crackle of silk', *Differences* 22, no. 2 (2011): 249–75.

2 Michel Chion, 'Let's have done with the notion of "Noise"', trans. James A. Steintrager, *Differences* 22, no. 2 (2011): 240–8, 242.

3 David Hendy, *Noise: A Human History* [radio series] (London: British Broadcasting Corporation, 2013). There is now also an accompanying book to the series. See David Hendy, *Noise: A Human History of Sound and Listening* (London: Profile, 2013).

4 Hillel Schwartz, *Making Noise: From Babel to the Big Bang and Beyond* (New York: Zone Books, 2011).

5 For example, see Susan J Smith, 'Performing the (sound)world', *Environment and Planning D: Society and Space* 18, no. 5 (2000): 615–37; Paul Simpson, 'Sonic affects and the production of space: "music by handle" and the politics of street music in London', *Cultural Geographies* (2016). Advance online publication. doi: 10.1177/1474474016649400.

6 Steve Goodman, *Sonic Warfare: Sound, Affect and the Ecology of Fear* (Cambridge, MA: MIT Press, 2010), 191.

7 For example, see David Toop, *Ocean of Sound: Aether Talk, Ambient Sound and Imaginary Worlds* (London: Serpent's Tail, 1995); Tom Kohut, 'Noise pollution and the eco-politics of sound: toxicity, nature and culture in the contemporary soundscape', *Leonardo Music Journal* 25 (2015): 5–8.

8 Michael Hardt, 'Foreword: what affects are good for', in *The Affective Turn: Theorizing the Social*, ed. Patricia Clough and Jean Halley (Durham: Duke University Press, 2007), ix–xiii, ix.

9 This critique is pertinent with regard to Simon O'Sullivan's examination of the role of affects in art. He notes that both Marxist accounts of art, which are primarily concerned with interpreting art historically (i.e. in relation to the moment of its production), and deconstructionist accounts of art, which typically address art as a crisis in representation, entail a rejection of the

aesthetic. For the former, the aesthetic, as transcendent and disinterested beauty, is dismissed as an ideological construction; while for the latter, the discourse of aesthetics, translated as a discourse of/on representation, has been readily deconstructed, revealed as a 'broken promise'. However, as O'Sullivan argues, while deconstruction and critique are useful for counteracting a certain type of aesthetic *discourse*, the aesthetic – understood as involving sensation, feeling and affect – persists: 'After the deconstructive reading, the art object remains. Life goes on. Art, whether we will it or not, still produces affects.' Simon O'Sullivan, 'The aesthetics of affect', *Angelaki: Journal of the Theoretical Humanities* 6, no. 3 (2001): 125–35, 126.

10 Ben Anderson, *Encountering Affect: Capacities, Apparatuses, Conditions* (Farnham: Ashgate, 2014), 6.

11 Carolyn Pedwell and Anne Whitehead, 'Affecting feminism: questions of feeling in feminist theory', *Feminist Theory* 13, no. 2 (2012): 115–29, 118.

12 Clare Hemmings, 'Invoking affect: cultural theory and the ontological turn', *Cultural Studies* 19, no. 5 (2005): 548–67, 550.

13 Ibid., 551.

14 Stephen A. Stansfeld and Mary Haines, 'Environmental noise and health: a review of non-auditory effects', in *IEH Report on The Non-Auditory Effects of Noise* (Leicester: Institute for Environment and Health: Leicester, 1997), 7–64, 9.

15 Garret Keizer, *The Unwanted Sound of Everything We Want: A Book About Noise* (New York: Public Affairs, 2010), 44.

16 Oxford University Press, 'Noise, n.', *OED Online* (2012), http://www.oed.com/view/Entry/127655?rskey=3fdZZa&result=1&isAdvanced=false (accessed July 2012). It has also been suggested that there is a possible link between the Latin *noxia,* referring to harmful behaviour, which would link *noise* to nuisance, as well as the Catalan *nosa* from the late thirteenth century, meaning bother, hindrance.

17 Gregory J. Seigworth, 'Fashioning a stave, or, singing life', in *Animations of Deleuze and Guattari*, ed. Jennifer Daryl Slack (New York: Peter Lang, 2003), 75–105.

18 Gregory J. Seigworth and Melissa Gregg, 'An inventory of shimmers', in *The Affect theory Reader*, ed. Melissa Gregg and Gregory J. Seigworth (Durham: Duke University Press, 2010), 1–26, 2.

19 Ibid.,1.

20 Teresa Brennan, *The Transmission of Affect* (New York: Cornell, 2003), 6.

21 Ibid., 10.

22 Gilles Deleuze, *Spinoza: Practical Philosophy* (San Francisco: City Lights, 1988), 11, 21.

23 See Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham: Duke University Press, 2002).

24 Anderson, *Encountering Affect*, 13.

PART ONE

What noise has been

NOISE, n. A stench in the ear. Undomesticated music. The chief product and authenticating sign of civilization.

AMBROSE BIERCE, *The Devil's Dictionary*, 85.

Noise is obvious. It can be easily found and easily recognized. Many encounter it on a daily basis – be it in the home, the workplace or during leisure time. Despite all this, a troublesome question remains: what is it, exactly, that makes noise 'noise'? After all, noise refers to different things in different contexts. It means different things to different people. An absolute definition would thus seem impossible. Noise can be a judgement of sound or a type of sound. It might be empirical or abstract. Or it might be 'the constant grating sound generated by the movement between the abstract and the empirical'.[1] Noise frequently attracts grandiose rhetoric, particularly when it names the clamour of the new. And yet, just as frequently, noise is utterly banal – so familiar that it is unworthy of comment. Noise is often attached to ideas of loudness, nature, industry, technology, pollution and militarism. It can belie racist, classist and sexist sentiments; or serve as a metaphor for revolutionary action.

In this section, I critically consider what noise has been, outlining four common definitional approaches. First, I describe what I call a 'subject-oriented' definition. As unwanted, unpleasant or 'bad' sound, noise pertains to a value judgement that is made during perception. Second, I describe an 'object-oriented' definition, which defines noise in relation to particular acoustic qualities and attributes. I then discuss two definitions that overlap with both subject-oriented and object-oriented definitions: noise's definition in relation to particular sound sources, and noise's definition in terms of loudness. With regard to the former, it is shown how noise has

been associated with particular 'unnatural' sources, as well as certain bodies deemed 'other'. However, I also show how noise may come from an unknown source, as exemplified by an unexplained sonic phenomenon called 'the hum'. With regard to the latter, I discuss (loud) noise's capacity to cause physical damage, and its problematic equivocation with technology, modernity and capitalism.

Subject-oriented noise

Noise is most commonly understood to be an audible problem, referring to sound that is in some way negative: it is that which is deemed to be unwanted, unpleasant, undesirable or just 'bad'. Noise is something that we do not want to be around: we try to avoid and abate it as much as possible. It is associated with pollution, disorder and destruction. The British physicist G. W. C. Kaye, adapting the description of dirt as 'matter out of place', defines noise as 'sound out of place' – in space and/or time.[2] In being out of place, noise may inhibit communication, or mask 'meaningful' sound. Alternatively, noise can be sound that is considered meaningless, or whose meaning is disliked. Noise may be unwanted in the sense that it distorts and degrades an intended message; in the sense that it is judged to be excessive or degenerate; or in the sense that it may cause physiological and psychological harm. Or noise may be unwanted because it is sound that simply annoys us.

To describe noise as unwanted sound requires a listener to hear it as such. Sounds become noise when they are heard in a particular way – it is a value ascribed in relation to perception. The task of constituting noise thus lies with the listener. As Paul Hegarty states:

> Noise is not the same as noises. Noises are sounds until further qualified (e.g. as unpleasant noises, loud noises, and so on) but noise is already that qualification; it is already a *judgement* that noise is occurring. Although noise can occur outside of cognition (i.e. without us understanding its purpose, form, source), a judgement is made in reaction to it.[3]

For Hegarty, noise is sound that is judged to be negative, and so the presence of someone – or something – to hear noise is essential: noise needs a listener.[4] But hearing on its own is not enough: noise requires critical listening. According to Hegarty, there are two stages in the constitution of noise. First, there is the perception of sound by a listener; and second, there is the judgement of the perceived sound as unwanted and, by extension, 'bad' – it is received by the listener as irritating, frightening, potentially damaging, inhibitive and so on. Hegarty argues that without these two stages – of perception and valuation – there might be sound but there cannot be noise. From this perspective, noise is a status that is added onto sound in perception, rather than an inherent property of the sound itself.

Which sounds are judged to be wanted or unwanted, permitted or unpermitted, acceptable or unacceptable can vary radically between individuals: hence the well-worn axiom 'one person's noise is another person's music'. While some encounter the heaviness and sonic aggression of certain styles of music as unbearable and intolerable noise, there are others for whom this makes for a highly pleasurable musical experience. As a result, noise is often considered as an issue of personal taste. Yet, judgements of noise are often Kantian, in that they can often feel more important than a 'merely' personal matter. Judgements of noise seem more than subjective, and yet are not objective. Indeed, the listener often expects others to share his or her judgements, making appeals to a 'common sense' of what is reasonable, permissible and pleasurable, and what is not.

The difference – and tension – between individual judgements of what counts as unreasonable noise often becomes apparent in disputes over 'noisy neighbours': those who, through their use of sound, traverse the boundaries of what is perceived to be 'our' domestic space – disrupting or disturbing our homely activities in the process. Domestic spaces are particularly sensitive to noise given their cultural associations with peace, privacy and intimacy. A 2002 report for the UK government's Department for Environment, Food and Rural Affairs (DEFRA) found that the number of domestic noise complaints reported to the local authorities in England and Wales is equivalent to one in every five hundred people complaining once a year and that the most common cause of complaint is neighbour noise. The report adds that neighbour noise 'is an almost inevitable consequence of urban living and is highly dependent on standards of behaviour and personal consideration. Consequently it is found to cause problems everywhere.'[5] Similarly, a 2003 MORI report for DEFRA asserted that neighbour noise 'is one of the most annoying noises when it is heard'.[6] The report suggests that this is due to two key reasons concerning neighbour noise's connotations. First, while inhabitants seem able to develop a certain degree of 'immunity' to noises from traffic and trains, the irregularity and lack of utility from neighbour noise suggest that this does not apply. In other words, while transport noise may be heard as a 'necessary evil' – an unfortunate side effect of an ultimately useful, regular and thus predictable activity – noise from neighbours is heard to be useless and unexpected: there is no good reason for it. Second, neighbour noise is thought to be synonymous with a lack of consideration. According to the report, 'This "consideration" factor is critical in understanding the dynamics of disputes and demonstrates the importance of the *social context* of noise as opposed to its purely physical attributes.'[7] Neighbour noise is often infuriating because it is felt to communicate a lack of consideration, care or respect for others.

To return to the axiom of 'one person's noise is another person's music', loud music (along with shouting and banging) is listed in the MORI report as the most frequent cause of annoyance and disturbance. However, the report also found that '[neighbour] noise need not be "stereotypical"

nuisance noise to cause a dispute … fairly routine noises (such as vacuuming, washing or closing doors) can be considered inconsiderate if they go on for too long or occur late at night'.[8] These examples resonate with G. W. C. Kaye's description of noise as sound out of place. Neighbour noise can be 'out of place' spatially, in that it invades 'my' home; and temporally, in that it occurs for too much time or at the wrong time. Responses to these quotidian sounds, moreover, show that noise need not be particularly loud in order to cause irritation. Rather, sounds may become noise as a result of their persistence, invasiveness or their (perceived) inescapability.

While there are some common themes concerning what noises are considered irritating or disturbing, there are some neighbourly noises that individual listeners are more willing to endure than others. DEFRA's report identifies numerous factors that influence 'thresholds of tolerance', such as the time of day and regularity of the noise. However, it also finds that factors relating to lifestyles or 'life stages' are particularly important in people's judgements of noise. The report states:

> The ability to empathise with a neighbour, most likely through a similar personal *experience*, increases tolerance to certain types of noise. For example, noise from a baby crying at night is less of an issue for someone who has children but a source of annoyance for those who do not.[9]

Whether sonic intrusions from neighbours are endurable or intolerable is partly dependent on the listener's capacity to relate to the sounds in question. A neighbour may still experience the sounds of a relentlessly crying baby as unwanted and irritating. However, being able to empathize with the situation means that this unwanted noise is more likely to be accepted as understandable and endured without complaint. Likewise, whether music is judged to be a tolerable nuisance or an intolerable invasion can be influenced by a listener's familiarity with the type of music being played. The report also asserts that the music tastes and lifestyles of young people are

> clearly different from that of older generations. This is one reason why parties are not as annoying for young people as other noises, since the music style is considered a 'normal' social activity. In contrast, modern music among younger ages – particularly the greater emphasis on base [*sic*] – is unfamiliar to older generations.[10]

What this suggests (and sweeping generalizations regarding musical tastes notwithstanding) is that the issue of neighbour noise, as well as which noises are tolerated and which are endured, is significantly informed by a listener's own lifestyle, and its perceived similarity to the lifestyles of their neighbour's – whether they are capable of empathizing with a noisy situation due to their own personal experiences and tastes. Some noises, then, are considered more unwanted than others.

The judgement of particular sounds as negative – as bad, unwanted, unpleasant, intolerable and unnecessary – is also shaped by sociocultural norms. The dividing line that separates the tolerated from the taboo and the permissible from the unacceptable varies between as well as across cultures. Likewise, cultural changes can bring about changes in what sounds are accepted and what sounds are categorized as noise. The contemporaneous problem of neighbour noise, for example, relates to wider socio-economic shifts that have occurred over the past two hundred years in Eurocentric culture. When viewed historically, there is a correlation between a growing (vocalized) sensitivity to the noise of others and a growing desire for individual freedom. This is apparent in Alain Corbin's analysis of the role of bells in the auditory landscape of nineteenth-century France. In this, Corbin discusses the rising intolerance of church bells among urban communities, identifying the 1860s as a 'turning point', with which the sound of the bells were no longer tolerated: 'From this date on there was a greater determination to *lay claim to one's morning sleep*.'[11] Corbin argues that an 'enhanced desire for individual liberty' challenged the 'standardized rhythms' of everyday life, which were demarcated and regulated by bell-ringing. [12] Consequently, the bells – a signifier of an older way of life – came to clash with modern lifestyle patterns. A number of developments, including advancements in street lighting, the growing public presence of women and 'elites' and new trends in urban planning, influenced changes to the temporalities of sleep, work and leisure, with urban activity continuing into the evening and night.[13] The gradual modification in nocturnal behaviour led to an increasing need for rest in the morning – a need that was inhibited by the tolling of morning bells. In 1883, the French photographer Nadar sent an open letter to the *minister des Cultes,* declaring war 'upon a *noise* [that is] *excessive,* pointless, and incompatible with every right or with our liberty'.[14] Nadar declared that 'the question of the bells … is a matter of *general preservation* for all those craving peace and rest' and that this 'brutal noise, idiotic, as every noise is' was an 'infringement upon my liberty to take rest'.[15] The clergy had no right to 'violate my free enjoyment of my sense of hearing.' The noise of the bells was an impingement on the right to leisure, as well as the individual's 'most natural of rights'[16] – the right to silence.

Corbin's account exemplifies how it is not just the sound environment that changes but also the ways in which a sound environment is heard, categorized and evaluated that changes over time. The protests against bell-ringing were informed by new social attitudes and conventions, which lowered 'thresholds of tolerance' towards the noise of others and the outside world. This shift in attitude was not accompanied by any modification in sound – it was not that the bells had got louder, or that there had been a sudden increase in bell-ringing. In short, the bells became noise not because of changes to the soundscape but because of changing social attitudes and lifestyle patterns.

Corbin's account of the growing intolerance towards bell peals also points towards the broader social shifts that influenced a rising demand to have control over one's own sonic environment – the growing emphasis on the individual's right to silence and the subsequent increase in noise complaints, as well as the right to make sound in one's own home. As the rhetoric of individual rights indicates, this demand for control over one's own sonic environment corresponded with the nineteenth-century expansion of the bourgeoisie. Indeed, the contemporary notion of the domestic as a personal, intimate space that is closed off from the 'outside' world is largely indebted to a bourgeois conception of privacy and the subsequent separation of 'external' working life from 'internal' domestic life. The historian Peter Bailey describes how the bourgeoisie, following the nobility in their partitioning of domestic space, created (with)drawing rooms, studies and parlours, quietly set away from the clamorous work of servants and attendants. Outside the home, private grounds duplicated 'the secure and subdued enclosures of the private house, a noble ideal miniaturized in the innumerable Victorian suburban villas and back-gardens, hopeful invocations of rural peace and strongholds against the sounds of the city'.[17] Brandon LaBelle notes that the bourgeois home came to be 'a place for re-establishing a psychic center'.[18] The private, domestic sphere was a space of individual expression – it 'became a haven, refined through object collecting, interior design, furnishing and a general spatial ordering that might renew a feeling for the material world'.[19] In these domestic constructions, a set of values is expressed through an ordering of the soundscape. Family life is 'a ritualized production … what it aims for is regulated by the notion or image of the individual or family unit, and the expression of values contained therein'.[20] Within the private home, order is equated with quiet, and the maintenance of domestic order with audible regulation. Noise as a sonic intrusion from the outside world marks a transgression of domestic order: 'To come home is to seek refuge from the harangue of the exterior. Following the movements of this domestic imaginary, the home is heard as a set of signals whose disruption suggests breakdown, neglect or invasion.'[21] In such contexts, noise is judged to be negative in that it is felt to impinge on the liberties of the (bourgeois, sovereign) individual and the imagined right to control what is heard in one's own home. Noise is that which exists *beyond our control;* it features as an invasion from the outside that threatens to disrupt the domestic order as it has been established by those who belong (i.e. the family unit). Noise, when it breaks the quiet of the orderly home, works to blur liberalism's carefully constructed separation between the private and public spheres – the 'internal' home and the 'external' world. I will return to this blurring in Part 3.

From a subject-oriented perspective, noise is the product of the 'self' as much as it is of the 'other'.[22] It is sound that is judged to be bad and is thus deemed unwanted – it is to be excluded, abated and avoided. This 'badness' and 'unwantedness' is attributed to sound by the listening subject.

So noise requires a listener capable of processing, evaluating and judging it. As has been demonstrated, cultural norms and contextual factors, as well as an individual's lifestyle, personal experiences and thresholds of tolerance influence this judgement. However, the variability in why, what and for whom sounds are judged to be negative means that noise remains resistant to further generalization.

Object-oriented noise

Noise can be a sound judged by a listener as negative but it can also be a type of sound. Though often implicated in the former, the latter is what I refer to as an 'object-oriented' definition of noise.[23] Drawing principally from acoustics and physics, an object-oriented definition understands noise in relation to particular sonic qualities, properties or attributes, rather than in relation to the ear of the beholder. According to the nineteenth-century physicist Hermann von Helmholtz, noise is one of two categories of sound: 'The first and principal difference between various sounds experienced by our ear is that between *noises* and *musical tones*.'[24] Here, noise is defined as consisting of non-periodic (which is to say, irregular, or random) vibration. Consequently, noise lacks a specific pitch. Musical tones, by contrast, are composed of regular periodic vibrations and thus have a distinguishable pitch.[25] Helmholtz writes:

> We perceive that generally, a noise is accompanied by a rapid alternation of different kinds of sensations of sound. Think for example, of the rattling of a carriage over granite paving stones, the splashing or seething of a waterfall or of the waves of the sea, the rustling of leaves in a wood. In all these cases we have rapid, irregular, but distinctly perceptible alternations of various kinds of sounds, which crop up fitfully. … On the other hand, a musical tone strikes the ear as a perfectly undisturbed, uniform sound which remains unaltered as long as it exists, and it presents no alternation of various kinds of constituents. To this then corresponds a single, regular kind of sensation, whereas in a noise many various sensations of musical tone are irregularly mixed up and as it were tumbled about in confusion.[26]

In comparison to subject-oriented definitions, Helmholtz's acoustic or 'object-oriented' definition of noise lacks overtly negative connotations.[27] Musical tones are heard as simple, specific and distinguishable; while noises are heard as complex, confused and irregular. Furthermore, this acoustic distinction between musical tones and noise influences a division between 'pure' musical sounds and 'impure' or extraneous non-musical noises – the former being produced by musical instruments and the latter produced by extra-musical sound sources. Also belonging to the category of non-musical noise are the extraneous sounds produced by musical instruments that are

ordinarily minimized in recording production – for example, guitar fret squeaks, breath sounds, mouth clicks and pops.

From this perspective, noise demarcates the boundaries of the musical. However, Helmholtz's acoustic division between regular musical tones and irregular noise becomes untenable when one considers the use of non-pitched, complex sounds in music, such as cymbal crashes. Helmholtz is aware of this, conceding that 'noises and musical tones may certainly intermingle in very various degrees and pass insensibly into one another. … We can easily compound noises out of musical tones, as, for example, by simultaneously striking all the keys contained in one or two octaves of a pianoforte.'[28] Noise – as complex, irregular sound – thus has its place within music. Nevertheless, 'Their extremes [musical tones and noise] are widely separated.'[29] Consequently, Helmholtz's division between musical tone and noise is more accurately understood as a sliding scale of degrees, rather than an absolute, fixed opposition.

At the noise end point of Helmholtz's acoustic scale, one would find white noise. According to this acoustic distinction, pitched musical tones are 'narrowband' signals, in that their energy is focused on a narrow band of the frequency spectrum, while unpitched noise constitutes a 'wideband' signal, in that its energy is spread out across the frequency spectrum. White noise is a wideband signal at its widest. Taking its name from white light (which is a summation of all colour components), white noise is a summation of all frequencies with equal intensities distributed uniformly across the spectrum. In other words, white noise has a flat frequency spectrum. There are infinite types of white noise because white noise is independent in time. As Bart Kosko explains:

> Time independence explains the peculiar sound of white noise. Each hiss and pop in white noise is technically independent of the hiss and pop that preceded it in time and that follows it in time. … The time independence of white noise holds no matter how infinitesimally close a hiss is in time to the next hiss or pop.[30]

In other words, the hisses and pops of white noise are statistically random – there is no correspondence between what has happened previously and what will happen next. Each and every occurrence is singular and unpredictable.

The sound of white noise is often associated with the sound of a detuned radio or waves crashing. However, pure white noise, with an entirely flat frequency spectrum and time independence, can only exist as a mathematical abstraction; if it were to exist physically, it would require infinite energy. 'Real' noise signals (as opposed to the white noise abstraction) are to some degree 'coloured noise', which is to say that they have a non-flat frequency spectrum across a bandwidth. Consequently, in actuality 'white' noise can really only ever be an approximation of the flat spectrum ideal. Indeed, what tends to be labelled white noise is often pink noise. While white

noise has an equal energy across all possible frequencies, pink noise, by comparison, has equal energy per octave band, with which intensity is inversely proportional to frequency. Pink noise thus has more low-frequency components than white noise. There are also a number of other types of coloured noise, including brown noise, blue noise, grey noise and black noise (which consists of mostly silence).

Pink noise and approximations of white noise have been used as a means of minimizing the effects of other, potentially unwanted noises. In office environments, for example, constant white noise can be used to hide variations in office noise intensity during the day, creating a consistent acoustic environment, as well as preventing potentially disruptive sounds from carrying through the space.[31] With this, white noise comes to function as a form of noise abatement. Noise becomes desirable and useful, ensuring, rather than encroaching upon, privacy by preventing others from overhearing. However, though white noise machines, sleep-aids, CDs and smart phone apps are readily available, such deployments of noise against noise are not a recent development. In 1958, in Cambridge, Massachusetts, psychoacoustics researcher J. C. R. Licklider working with the dentist Wallace Gardener developed a noise masking device, which they labelled the 'audio analgesiac'. Offering a selection of music and tuned noise (the latter labelled 'waterfall sound'), the machine worked to mask the unnerving sounds of the dentist drill. In doing so, it was said to alleviate patient fear and minimize procedural pain. As Jonathan Sterne asserts, the use of noise as an 'audio analgesiac' is expressive of 'a new approach to noise as something potentially useful' rather than something that is to be simply abated.[32]

Subject-oriented definitions recognize noise as a value judgement relating to a listening subject's experience of sound. According to this perspective, any sound can be noise if it is heard as negative (and, thus, by extension, unwanted). Object-oriented definitions, meanwhile, recognize noise as a *type* of sound-signal: it is defined according to particular properties or attributes (e.g. complexity, non-periodic vibration, flat power spectral density). Such signals can be thought to have an innate 'noisiness' that exists irrespective of whether they are detrimental to or deemed unwanted by a perceiving subject – indeed, as the use of noise as a masking device demonstrates, object-oriented noise might even be considered useful in some contexts. Non-periodic, coloured and white noise are deemed 'noisy' because they tend to cover a wide band of frequencies. While a subject-oriented definition places noise in opposition to sound that is wanted, desirable and meaningful, an object-oriented definition places (complex, wideband, irregular) noise in opposition to (simple, narrowband, periodic) musical tones. Consequently, there are a number of tensions between subject-oriented and object-oriented definitions. An object-oriented definition tends to lack the overt negative connotations garnered by a subject-oriented definition – pink noise, for example, does not have to be heard as unwanted or be considered a nuisance for it to be recognized as noise. Likewise, while a subject-oriented

definition affords primacy to the listening subject (meaning that any sound can potentially be heard as noise), for an object-oriented definition, it is first the sound-signal (object) that is constitutive, irrespective of how it is heard or – as exemplified by white noise – whether it is heard at all.

Noise sources: The unnatural and the 'other'

Overlapping with both subject- and object-oriented definitions are causal definitions of noise, which associate noise with particular sound sources. Helmholtz's object-oriented definition associates tones with musical instruments and noise with other non-musical sound sources (e.g. waterfalls, the sea, rustling leaves, carriage wheels on granite paving stones). Likewise, with regard to a subject-oriented definition, unwanted sounds are often thought to be concomitant with unwanted sources.

Noise is often associated with 'unnatural' sources – namely, machines and technological artefacts. It soundtracks factory work, industrialism and the urban environment. Mel Gordon, for example, states:

> The concept of noise was a by-product of the Industrial Revolution. Throughout the jerry-built and already shabby proletarian living quarters and workplaces of Europe in the 1840s and 1850s, there was a constant din of construction and pounding, of the shrieking of metal sheets being cut and the endless thump of press machinery, of ear-splitting blasts from huge steam whistles, sirens, and electric bells that beckoned and dismissed shifts of first generation urbanized laborers from their unending and repetitive days. The normal sounds of rural life – the bleating of domesticated animals, the chirping of birds and insects, the ping of hand-held tools shaping wood and stone – whether pleasant or not, were all recognizable. Here, however, the cacophony of sounds in the nineteenth-century street, factory shop, and mine – seemingly random and meaningless – could not be easily isolated or identified. They became novel and potentially dangerous intrusions on the overworked human mind.[33]

There are connections here with both the object-oriented and subject-oriented definitions I have described. Unlike the distinguishable and clear sounds of the rural soundscape, the new, 'unnatural' noises of the factory and the machine are complex, disordered and irregular. Similarly, these novel new noises are heard to be possibly dangerous or detrimental to the overworked listening subject. The noise of the machine is thus both complex and unwanted.

Gordon's account also alludes to one of noise's oft-repeated origin myths, which will be explored more fully in Part 3 and 4: noise is born with the machine and is thus the antithesis of 'natural' sound. Indeed, noise has

frequently been located outside the realm of 'nature'. Dan McKenzie, one of Britain's most prominent anti-noise campaigners of the early twentieth century, claims, 'Unlike the world of men, the world of nature is not noisy.'[34] McKenzie does concede that, under particular circumstances, sounds from a natural origin can be a 'weary nuisance' – the braying of donkeys and the barking of dogs, for example. However, he argues that when all is considered, every sound of nature is in essence 'pleasant and therefore not noise'.[35]

With this separation of noise and natural sound – and *contra* the former's common association with unpredictability and lack of control – comes the notion that noise is something that can be controlled, restrained and prevented. In his *Manifesto for Silence*, Stuart Sim argues that the sounds of nature, though potentially unwanted, cannot be abated and must, therefore, be endured: there is nothing that that can be done to inhibit the howl of the wind or the clap of thunder. These natural noises are thus different from the unnatural and often 'unjustified' noises of (technology-assisted) human activity, which could – and often should – be prevented. Noises from natural sources can never be unjustified even if a listener feels them to be so, because they cannot be helped.[36]

From this perspective, unwanted noise is extraneous to the rules of nature. Yet, this assumed division between the natural and the unnatural, the necessarily tolerable and the preventable has not always been clear, with certain sounds from 'natural' sources being demoted to the realm of 'unnatural' and abatable noise. In the cities of late-nineteenth-century America, the birdsong of the English house sparrow, a species introduced to the United States in the 1850s, was not heard as nature's music. Rather, its calls were considered an objectionable and unpleasant racket, and a source of great irritation for middle-class city dwellers. A 'leading sparrow critic' in Washington D.C. remarked that the sparrow's harsh jabbering nearly obliterated the 'Comanche yell of the milkman' and the 'newspaper imps that screech every one deaf on Sunday morning'.[37] Similarly, in her 1885 article 'A Ruffian in Feathers', Olive Thorne Miller complained of the sparrow's calls tarnishing the dawn with its 'indescribable jangle of harsh sounds' that 'harmonizes perfectly with the jarring sounds of man's contriving; the clatter of iron-shod wheels over city pavements, the war-whoop of the ferocious milkman, the unearthly cries of the vendors'.[38] As Peter Coates remarks, citing Miller, this was evidence of the (non-native) bird's unnatural status, since the '"harshest cries" of "our" [American] native birds, "if not always musical in themselves" invariably were judged congruent "in some way with the sounds of nature"'.[39] The sparrow's characterization as a source of unearthly noise 'thus allowed its opponents to evict it from the natural world and lump it together with tainted humanity'.[40] Rather than belonging to the realm of nature's ultimately pleasant sounds, the 'foreign' sparrow chimed in with the unnatural and unpleasant cacophony of city life.

The noise of the 'non-native' sparrow points to the association of noise with bodies marked as 'other'. There is, for example, the characterization

of 'foreigners' as 'noisy', and numerous stereotypes of poor and/or the working classes as 'rough', 'brash', 'loud'. Women have been cast as frequent noisemakers in comparison to the dignified quiet of their male counterparts – they are imagined to talk more, and when they do, their talk is meaningless, extraneous and petty.[41] In the archives of colonialism, noise often serves to differentiate colonizer from colonized, civil culture from barbarous nature, human from non-human.[42] Meanwhile, black musical genres have been dismissed as incomprehensible and abrasive noise – a pejorative label appropriated by Public Enemy's *Bring the Noise*. Writing about free jazz and the black arts movement of the 1960s, George Lewis argues with reference to the historian Jon Cruz that the criticism of new black music as 'just noise' can be understood as 'a hold-over from antebellum days', when the music of black slaves 'appears to have been heard by captors and overseers primarily as noise – that is, as strange, unfathomable, and incomprehensible'.[43] Noise and its boundaries, in this instance, are racialized. As Cruz points out, for slave owners to hear only meaningless noise is 'tantamount to being oblivious to the structures of meaning that anchored sounding to the hermeneutic world of the slaves'; to hear only 'rude and uncouth', 'rough' or 'wild' noise is to 'remain removed from how slave soundings probed their circumstances and cultivated histories and memories'.[44] Similarly, Lewis notes: 'The noisy anger of the new [jazz] musicians seemed strange, surprising, and unfathomable to many critics, along with the idea that blacks might actually have something to be angry about.'[45] Black music was heard as meaningless and chaotic noise because it used a musical form alien to the ears of oppressors. With this, however, noise garners ideological value as a means of political resistance. As is often imagined to be the case with children, noise is disobedience to silence's obedience: it is the sound of protest, rebellion and uprising.

Indeed, the notion of an alternative and private black mode of communication was a cause of fear for slave owners, in that it was a potential threat to their power. The noise of black slaves might have been meaningless and incomprehensible to their oppressors, but its potential meaning to oppressed others made it dangerous. This can be clearly demonstrated in relation to the use of drums by slaves as a mode of communication. As Megan Sullivan notes, drumming played a critical role in the organization of early slave revolts – it could be used to spread messages in a rhythmic language to orchestrate revolts both on land and on slave ships. When the connection was made between drumming, communication and revolt, however, drums were subsequently banned.[46] As this suggests, there is a duality to the noise of the social 'other'. On one hand, the dismissal of particular bodies as noisemakers demeans and trivializes – it asserts the inferiority of another who is incapable of meaningful or pertinent comment. To be 'mere' noise is to be worthless, incomprehensible, extraneous, ugly or unpleasant. Yet, noise also carries with it the threat of disorder and disruption and is thus unwanted to the ears of the establishment.

Although 'unnatural' sound sources and sociopolitical 'others' have frequently been cast as exemplary noisemakers, noise might also be defined in relation to an unidentifiable source: it can be the sound of the thing that goes 'bump' in the night. In such instances, the question 'What's that noise?' remains unanswerable. Indeed, the inability of the listener to tell what is generating a noise can make it all the more threatening, irritating or, perhaps, even fascinating. Noise becomes sound that is inexplicable – it is that which cannot be accounted for by the listener. Such is the case with a series of elusive phenomena collectively labelled 'the hum'. These low-frequency sounds from unidentified sources have been reported worldwide, though most commonly in the United Kingdom and the United States. Many reports state that the hum is present or most apparent at night and is highly specific in terms of location, often being audible only inside a particular house or street. Some reports claim hearers suffer a variety of physical symptoms, including pain in the ears, headaches, discomfort, trouble sleeping, balance problems and anxiety, fatigue, nausea, nosebleeds, dizziness and muscle pain.

In 2011, the hum was reported by residents in the village of Woodland, County Durham. The unexplained noise was described as 'throbbing', and on other occasions as 'almost growling'.[47] It affected every resident in the main street, which is surrounded by farmland. One resident, Marylin Grech, described it thus:

> A constant very low-frequency humming noise that can be heard between midnight and 4 am and it's stopping me from sleeping … in certain areas of the house you can hear it more loudly. It vibrates through the house, we've turned all the electricity off in the house and we can still hear it, so its not that … at 4 am it's so clear, and because we live in such an isolated place with no traffic, it's heaven. But it leaves a buzzing in your head for the rest of the day.[48]

While no definitive source of the hum has been found, suspected sources range from farm or factory machinery, power lines, tinnitus and electromagnetic phenomena, to more outlandish speculations such as aliens and paranormal activity.[49] Irrespective of its actual cause, the unidentifiable noise is often amplified in perception, grasping the attention of the listener. The audiologist David Baguley argues that in such instances, there tends to be an affective 'feedback loop' in place such that 'the more people focus on the noise, the more anxious and fearful they get, the more the body responds by amplifying the sound, and that causes even more upset and distress'.[50] When the hum is heard, it generates fear, and this fear in turn causes the listener to focus more intently on it.

As accounts of the hum demonstrate, noise may strike the listener as negative because its cause remains unknown. It might therefore be tempting to say that the hum is 'noise' *because* the sound is unknown. Yet, while the

unknowability of the source may contribute to a subject hearing the sound as noise, it is not enough to label the hum as noise in and of itself. Were it to be determined that power lines were the source of the hum, for example, it is still possible that some listeners (using a subject-oriented understanding of noise) would continue to hear it as unwanted and intrusive noise. Thus, while the hum demonstrates the insufficiency of a source-oriented definition of noise, inasmuch as not all noises (either in the sense of unwanted or 'bad' sounds, or in the sense of complex or unpitched sounds) have known sources, taking the opposite definitional approach also appears insufficient.

Noise-as-loudness

In addition to source-based definitions of noise, the notion of 'noise-as-loudness' also lies between subject-oriented and object-oriented definitions. Although the quietest hum or whirr can irritate those reading in silence and the barely audible bleed of sound from headphones on the bus or train can irk other travellers, noise is frequently associated with high volumes. At times, this takes the form of an object-oriented definition, through which noise or 'noisy' becomes synonymous with loud sound. Noise, defined as loud sound, is placed in opposition to silence. Yet, noise-as-loudness can also be linked to a subject-oriented definition of noise. Loud sounds, for example, are likely to travel further and are thus more likely to become audible in places where they are unwanted and unpermitted (e.g. a music festival heard in a home two miles away). Alternatively, a sound that might not ordinarily be heard as noise may be so if it is particularly loud. (e.g. 'I wouldn't ordinarily mind the neighbours doing washing at this time of night but the noise of their washing machine is ridiculous.')

Loud noises are often assumed to be 'unnatural' inasmuch as they are generated and/or amplified by technologies. It is clear from Mel Gordon's description of the 'ear-splitting' blasts of whistles and the clamour and clash of metal that he understands the sonic environment to have grown louder with the Industrial Revolution and the subsequent birth of noise. Indeed, from Gordon's perspective, what was so new about the noise of the Industrial Revolution was its volume and intensity. In *Capital*, Marx describes the 'noise and turmoil' of the new system of production that came with the birth of the machine and modern industry, which, for him, led to the domination of the senses in the factory working environment by 'the deafening noise'.[51] Yet, while unpleasant and potentially damaging for the worker, the noise of industry was also applauded by some. As Emily Thompson argues, 'Generally speaking, most nineteenth-century Americans celebrated the hum of industry as an unambivalent symbol of material progress. Complaints might be voiced, but few were willing to slow the machines of progress to appease the complainants.'[52] For many nineteenth-century Americans, noise

was a necessary by-product of societal advancement and prosperity. As a result, it was to be not only tolerated but also welcomed.

Others have argued that the deafening noise of the industrial epoch has been matched – if not made louder – by the high-intensity noise of the 'electronic' era, with the development and ever-increasing use of amplification technologies. Jamie Kasser, for example, states:

> Although the ear itself is structured to minimize damage from loud sounds, modern electronics introduces a new factor in the history of humankind. It makes readily available the technology for reproducing steady-state and high-intensity impulse stimuli, thus increasing the risks to hearing not only of individuals but of large groups of people.[53]

With modern electronic technologies, volume levels that were exceptional within pre-industrialized, rural society have become the norm. For Keizer, this is evident from the changes in hearing thresholds: the average 'normal' hearing threshold for a sixty-year-old man in industrialized society is nineteen decibels higher than for a man of the same age living in a non-industrialized society.[54]

There is, however, a tension between such equivocations of technology with noise-as-loudness, on the one hand, and the smooth, silent and seemingly immaterial (that is, less obviously material) technologies of the late twentieth century, on the other. The latter is aptly captured in Donna Haraway's 'A Cyborg Manifesto', in which she highlights the turn towards miniaturized technologies in the post-industrial era:

> Modern machines are quintessentially microelectronic devices: they are everywhere and they are invisible. … Our best machines are made of sunshine; they are all light and clean because they are nothing but signals, electromagnetic waves, a section of a spectrum, and these machines are eminently portable, mobile – a matter of immense human pain in Detroit and Singapore.[55]

In many socio-economic milieus, the machine has grown quieter, as the boom and clatter of manufacturing have come to be replaced by the clacking of computer keyboards and the endless ringing of call-centre phones. The comparative quietness of new machines, moreover, has become a selling point. There are many who have connected noise to capitalist activity and corporate greed. Stuart Sim, for example, associates noise with the activities of 'big business' (i.e. the noise produced through the advertisement of commodities and the stimulation of consumption) and, by extension, silence with anti-capitalist resistance.[56] However, in a time of 'monastery chic' retreats and sleek gadgetry, it is evident that it is not just noise, but noise abatement that sells.[57] In 2012, Toyota launched its 'Silence the City' advertising campaign for its Yaris Hybrid car, emphasizing its lack of engine noise.[58] As the car drives past, it silences the noisy

conversations and complaints of the city's non-human inhabitants: a speed camera, ticket machine, traffic lights, a drain cover and a street light. The car moves without a sound, creating what comes as a blissful silence after the cacophonous racket of the objects' bickering about noise. The portrayal of the car's quietness alludes to its efficiency, while also reassuring the potential consumers that by purchasing the car, they will not be contributing to sound pollution in the city. In making the quietness of new machines alluring – and thus profitable – such marketing strategies inhibit any crude correlation between noise-as-loudness, technology and corporate activity. This is not to deny that there is a relationship between noise, technology and capitalism, but rather to argue that the relationship is much more complex than Sim's equivocation of noise with 'bad' corporate greed and silence with 'good' anti-capitalist resistance. I return to this issue in Part 3.

As is evident from Kassier's remarks, noise-as-loudness is understood to be negative in that it is capable of causing physical harm and damage to the listening body. It can cause short-term and long-term deafness or – at its most extreme – kill. As Jacques Attali states:

> In its biological reality, noise is a source of pain. Beyond a certain limit, it becomes an immaterial weapon of death. The ear, which transforms sound signals into electric impulses addressed to the brain, can be damaged, and even destroyed, when a frequency of a sound exceeds 20,000 hertz, or when its intensity exceeds 80 decibels. Diminished intellectual capacity, accelerated respiration and heartbeat, hypertension, slowed digestion, neurosis, altered diction: these are the consequences of excessive sound in the environment.[59]

Alongside noise-induced hearing loss and tinnitus, which can be understood as adverse auditory effects, there have been various empirical studies from psychiatry and medicine that have suggested a link between exposure to environmental or occupational noise, which is typically defined in terms of amplitude, duration and intensity; and a range of adverse, non-auditory physiological and psychological effects, including nausea, decreased motivation, increased irritability, increased stress levels, depression, and raised blood pressure levels. Yet, such studies face difficulty in distinguishing the impact of noise from other contextual factors. In their study on the non-auditory effects of noise, Stephen Stansfeld and Mark Matheson note that adverse symptoms reported by industrial workers 'regularly exposed to high noise levels in settings such as schools and factories include nausea, headaches, argumentativeness and changes in mood and anxiety'.[60] However, they add that studies on the impact of occupational noise from heavy industry are difficult to interpret 'because workers were exposed to other stressors, such as physical danger and heavy work demands in addition to excessive noise'.[61] Consequently, the extent to which these negative symptoms can be attributed to (loud) noise exposure remains ambiguous.

It has also been speculated that human (and mammalian) sensitivity to high-decibel noises is due to evolutionary 'hardwiring'. Like many environmentalist accounts of noise, evolutionary arguments often construct a distinction between a past in which loud sounds were exceptional and a modern era in which loud noise has become a ubiquitous norm (see Part 3). The claim is that our mammalian brains and endocrine systems evolved in low-decibel environments over the course of millions of years and in these environments, high-decibel sounds, such as screams or roars, were exceptional stressors that occurred in exceptional circumstances, where survival was at risk. Bart Kosko suggests that the 'modern cost' of this genetic sensitivity to loud noise is that 'more and more people live a life full of noise-induced stress – even before the invention of the iPod and ever more powerful car stereo speakers'.[62] Joachim Ernst-Berendt, meanwhile, claims:

> As soon as volume exceeds 80dB, blood pressure rises. The stomach and intestine operate more slowly, the pupils become larger and the skin gets paler – no matter whether the source of noise is found pleasant or disruptive, or is not even consciously perceived … unconsciously we always react to noise like Stone Age beings. At that same time a loud noise almost always signified danger. … That is therefore pre-programmed, and when millions of young people hear excessively loud music they register: danger. They become alarmed. That word comes from the Italian Alarm, which in turn leads to all'arme, a call to arms. When we hear noise, we are constantly – but unconsciously – 'called to arms'. We become alarmed.[63]

A potential difference is implied between what is consciously registered as alarming or threatening sound, and unconscious or pre-conscious experiences of loud sound. While listeners may react to high-decibel noise as a threat on a pre-conscious register (with, for example, the activation of certain autonomic bodily responses), they may receive such sounds positively on a conscious register (as is often the case with loud live music, for example) or fail to react at all.

It may seem that noise's loudness is objective, insofar as volume is quantifiable and thus measurable. Apropos of Attali and Ernst-Berendt, it might even be possible to say that sound becomes noise at eighty decibels – the point at which it is loud enough to be capable of causing harm, or loud enough to register as a threat. However, a distinction can also be drawn between the amplitude and intensity of sound (quantified as decibels and a property of the sound itself) and loudness as a qualitative perception of sound. Moreover, it is questionable whether loudness as either a quantifiable or qualitative value can be equated with noise, or noisiness. Kryter notes:

> It is generally believed that the louder a sound is, the more unacceptable, or noisy that it is. While this is generally true, it does not follow that

> measuring the physical energy in a sound is sufficient for predicting the subjective noisiness, or unwantedness of different sounds.[64]

Noise-as-loudness does not necessarily correspond to noise-as-unwantedness. There are situations where loud sounds are experienced as enjoyable and cathartic (irrespective of any potential pre-conscious response), and likewise (as was exemplified in relation to neighbour noise) where quiet sounds can be a source of disturbance, irritation and annoyance. Thus, as Hillel Schwartz states,

> Loudness and noisiness enjoy a temperamental marriage in which each is often unfaithful to the other – loudness may not seem noisy, noisiness may not be loud. Cochlear sensations of loudness are often independent of cultural relations of loudness. … What is loud alone may not be loud in a crowd, and what is loud in one ear may not be loud in the other.[65]

While high-volume sounds may 'objectively' harm the human body at a particular level and potentially garner certain instinctual physiological responses, whether high-volume sounds register as loud sounds and, furthermore, whether loud sounds register as 'bad' sounds (in the sense that they are recognized to be unwanted, harmful, threatening or damaging) tends to vary according to context. As Schwartz highlights, the perceived loudness of a sound is often relative. The high-pitched buzzing of a mosquito or the sound of a distant car alarm might seem much louder during the night – when it is preventing us from sleeping – than during the day. Similarly, as is the case with 'the hum', an ominous sound may be amplified in perception when a listener focuses on it. Loud noise need not be heard as unwanted noise; unwanted noise need not be heard as loud; and loudness as a qualitative judgement does not necessarily correspond to loudness as a quantitative value.

Conclusion: Noise's definitional noisiness

Noise has been many different things. It has been a negative judgement of sound and a type of sound. It has been constituted by the listening subject, but it has also been a sonic object. Noise has been unwanted, 'bad' sound and messy, complex sound. It has been empirical and abstract. It has been a cause of pain and a cure for pain. Noise has been a product of nature and culture, of self and other, of human, animal and machine. If anything can be said of noise, it is that it betrays binary oppositions.

Noise's empirical, aesthetic and acoustic variability means that it is often presented as resistant to definition. A subject-oriented definition of

noise allows for some of its qualitative variety: by rendering the listener constitutive, it remains open to which sounds can become noise. From this perspective, a sound's 'noisiness' does not rely on its source nor on its sonic qualities: what matters is that sound is perceived as negative. Consequently, what is considered noise may vary between individual listeners, contexts and cultures. As unwanted sound, noise might be in-your-face but it may also niggle at the thresholds of audibility; it may be the sound of traffic or drilling, but it may also be the sound of vacuum cleaners or music next door. However, understanding noise as a subjective judgement can lead to an unsatisfactory relativist end point, where noise can be anything to anyone: as a definition, it risks being too broad and too vague.

An object-oriented definition is comparatively more specific, in that it defines noise in relation to particular sonic qualities and acoustic properties. This approach divorces noise from its function, limiting it to a particular set of sounds. Certain types of sound are noise, or noisy, irrespective of what they do, how they are perceived, whether they are judged to be unwanted, damaging, bad or even pleasant and enjoyable. An object-oriented definition does not take into account the listener's experience of noise, beyond his or her perception of particular sonic qualities (e.g. lack of discrete pitch). So, while a subject-oriented definition risks being too broad, an object-oriented definition risks being too narrow and abstract.

There are also aspects of a subject-oriented definition that are too restrictive when applied more generally: namely, the assertion that noise is always negative and that noise is always heard by a listener. As shall be seen, there is much of noise that evades the ear. Moreover, noise's constitutive 'unwantedness' can be questioned: just because noise is often felt to be unwanted, does it mean it is definitively so?

The ethico-affective approach to noise outlined in the rest of this book seeks to overcome what I understand to be some of the shortcomings of subject-oriented and object-oriented definitions when they are applied more generally, avoiding both the relativist end point of the former and the restrictiveness of the latter. I aim to extend the open-endedness of a subject-oriented definition and the variety it allows in terms of noise's sonic qualities and sources. However, I also challenge its reliance upon a constitutive listening subject and the definitive correlation it draws between noise, unwantedness and badness. With regard to an object-oriented definition of noise, I look to share its lack of (overtly) negative connotations; but I also reject the notion that certain sounds are innately noisy irrespective of what they do.

If noise betrays the binary, then this suggests that it requires us to move beyond human subject and sonic object, and towards a more complex field of relations. This relational perspective is required by another type of noise, a noise that is neither of the subject nor of the object: the noise of information theory and the cybernetic parasite.

Notes

1 Douglas Kahn, *Noise, Water Meat: A History of Sound in the Arts* (Cambridge, MA: MIT Press, 1999), 25.

2 For Kaye, sound can become unhelpfully displaced by its 'excessive loudness, its composition, its persistency or frequency of occurrence (or alternatively, its intermittency, its unexpectedness, untimeliness, or unfamiliarity, its redundancy, inappropriateness, or unreasonableness, its suggestion of intimidation, arrogance, malice, or thoughtlessness … and so on'. G. W. C. Kaye, 'Noise and its measurement', *Proceedings of the Institution of Great Britain* (1931): 435–88, 443–5.

3 Paul Hegarty, *Noise/Music: A History* (London: Continuum, 2007), 3.

4 Ibid.

5 Environmental Resources Management, *Noise and Neighbourhood Noise – A Review of European Legislation and Practices* (Environmental Resources Management, 2002), http://archive.defra.gov.uk/environment/quality/noise/research/euroreview/documents/noise_euro_review.pdf (accessed May 2012), 47. The report notes the important difference between neighbour noise, defined as noise produced by a person's neighbours and noise that is produced in the neighbourhood, such as noise from pubs, commercial or local industry and construction sites (but not from transportation).

6 MORI Social Research Institute, *Neighbour Noise: Public Opinion Research to Assess its Nature, Extent and Significance* (London: MORI, 2003), http://archive.defra.gov.uk/environment/quality/noise/research/mori/documents/mori.pdf (accessed May 2012), 6.

7 Ibid.

8 Ibid., 7.

9 Ibid., 8.

10 ibid., 40.

11 Alain Corbin, *Village Bells: Sound and Meaning in Nineteenth Century France* (London: Papermac, 1999), 301.

12 Ibid., 302.

13 Ibid.

14 Ibid., 303.

15 Ibid.

16 Ibid., 304.

17 Peter Bailey, 'Breaking the sound barrier', in *Hearing History: A Reader*, ed. Mark M. Smith (Georgia: University of Georgia Press, 2004), 23–35, 28.

18 Brandon LaBelle, *Acoustic Territories: Sound, Culture and Everyday Life* (London and New York: Continuum, 2010), 50.

19 Ibid.

20 Ibid., 51.

21 Ibid.

22 In her historical account of noise, technology and society, Karin Bijesterveld describes how in the early twentieth century, influenced by developments in science and psychoacoustics, noise changed from being simply a problem created by the other to a problem caused (in part) by one's state of mind. She states: 'This new notion of the subjectivity of sound perception made it increasingly difficult to decide which sounds could or could not be treated as a nuisance. It had previously been acknowledged that some individuals were more sensitive to noise than others, but sensitivity was no longer considered a mark of social superiority – rather, it was viewed as something problematic: the result of a troubled personality or a strained mental health.' Karin Bijsterveld, *Mechanical Sound: Technology, Culture and Public Problems of Noise in the Twentieth Century* (Cambridge, MA: MIT Press, 2008), 173.

23 Though there might be resonances with them, describing such approaches to noise as 'object-oriented' refers neither to object-oriented ontology nor to Schaeffer's *objet sonore*; rather, it refers more broadly to the treatment of noise as a thing with qualities.

24 Hermann von Helmholtz, *On the Sensations of Tone as a Physiological Basis for Music* (New York: Cosimo, 2007), 7.

25 Helmholtz states: 'The regular motions which produce musical tones have been exactly investigated by physicists. They are *oscillations, vibrations* or swings, that is, up and down, or to and fro motions of sonorous bodies, and it is necessary that these oscillations should be regularly *periodic*. By a *periodic motion* we mean one which constantly returns to the same condition after exactly equal intervals of time.' Ibid., 8.

26 Ibid., 7–8.

27 Although noise's 'unwantedness' is primarily associated with a subject-oriented definition, this valuation of noise as 'bad' sound can also bleed into an object-oriented definition, such that musical sounds are prioritized over non-musical noises. As Michel Chion notes, to define non-musical or complex sounds as noise is to associate them with a stigma of being somehow irritating, inferior and extraneous, even if they are heard as pleasant. See Michel Chion, 'Let's have done with the notion of "Noise"', trans. James A. Steintrager, *Differences* 22, no. 2 (2011): 240–8, 242.

28 Helmholtz, *On the Sensations of Tone*, 7–8.

29 Ibid., 7.

30 Bart Kosko, *Noise* (New York: Viking Books, 2006), 69–70.

31 See Manna Navai and Jennifer A. Veitch, *Acoustic Satisfaction in Open-Plan Offices: Review and Recommendations* (Ottawa: National Research Council Canada, 2003), http://www.nrc-cnrc.gc.ca/obj/irc/doc/pubs/rr/rr151/rr151.pdf (accessed March 2012).

32 Jonathan Sterne, *MP3: The Meaning of a Format* (Durham: Duke University Press, 2012), 137.

33 Mel Gordon, 'Songs from the museum of the future: Russian sound creation (1910–1930)', in *Wireless Imagination: Sound, Radio and the Avant-Garde*,

ed. Douglas Kahn and Gregory Whitehead (Cambridge, MA: MIT Press, 1994), 197–243, 197–8.

34 Dan McKenzie, quoted in Peter A. Coates, 'The strange stillness of the past: towards an environmental history of sound and noise', *Environmental History* 10, no. 4 (2005): 636–65, 647.

35 Ibid.

36 Stuart Sim, *Manifesto for Silence: Confronting the Politics and Culture of Noise* (Edinburgh: Edinburgh University Press, 2007), 14.

37 Coates, 'The strange stillness of the past: towards an environmental history of sound and noise', 649.

38 Ibid.

39 Ibid.

40 Ibid.

41 For a discussion of the relationship between noise and cultural constructions of femininity, see Marie Thompson, 'Gossips, sirens, hi-fi wives: feminizing the threat of noise', in *Resonances: Noise and Contemporary Music*, ed. Michael Goddard, Ben Halligan and Nicola Spelman (New York: Bloomsbury, 2013), 297–311.

42 See Ana María Ochoa Gautier, *Aurality: Listening and Knowledge in Nineteenth-Century Columbia* (Durham, NC: Duke University Press, 2014).

43 George Lewis, *A Power Stronger than Itself: The AACM and American Experimental Music* (Chicago: University of Chicago Press, 2008), 44.

44 Jon Cruz, *Culture on the Margins: The Black Spiritual and the Rise of American Cultural Interpretation* (Princeton, NJ: Princeton University Press, 1999), 48.

45 Lewis, *A Power Stronger than Itself*, 44.

46 Megan Sullivan, 'African-American music as rebellion: from slave song to hip-hop', *Discoveries* 3 (2001): 21–39, 21. Jon Cruz also describes how noise (understood as meaningless sound) was also incorporated into the system of slave domination, with slaves being forced to make noise by overseers. From their very earliest moments of capture aboard slave ships, slaves were forced to make sounds, to move and to jump in their chains. The 'silent' slave was deemed untrustworthy and thus slaves were required to 'make a noise' during work. Cruz argues that 'sound making was a requisite to appease the discomfort of owners who preferred to know that whatever occupied the slave's mind was not inimical to the well-being of overseers'. Coerced soundings were also designed to limit slave communication, blocking dialogue and displacing talk. See Cruz, *Culture on the Margins,* 51–2.

47 Martin Wainwright, 'On the trail of the mysterious Durham hum', *The Guardian*, 9 June 2001, http://www.guardian.co.uk/uk/the-northerner/2011/jun/09/hum-woodlands-durham-hamsterley-bristol-largs-gateshead-newcastle-cakebook-surtees (accessed March 2012).

48 Ibid.

49 For more on this, see British Broadcasting Corporation, 'Who, what, why: why is "the hum" such a mystery', *BBC News Magazine*, 13 June 2011, http://www.bbc.co.uk/news/magazine-13752688 (accessed March 2012); David Deming, 'The hum: an anomalous sound heard around the world', *Journal of Scientific Exploration* 18, no. 4 (2004): 571–95; James P. Cowan, *The Kokomo Hum Investigation* (Cambridge, MA: Acentech, 2003).

50 James Alexander, 'Have you heard the hum?', *BBC News*, 19 May 2009, http://news.bbc.co.uk/1/hi/uk/8056284.stm (accessed March 2012).

51 Karl Marx and Friedrich Engels (eds), *Capital: A Critique of Political Economy Vol.1 Part 1* (New York: Cosimo, 2007), 304–5.

52 Emily Thompson, *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900-1933* (Cambridge, MA: MIT Press, 2004), 120.

53 Jamie C. Kasser, 'Musicology and the problem of sonic abuse', in *Music, Sensation, and Sensuality*, ed. Linda Phyllis Austern (New York and London: Routledge, 2001), 321–34, 325.

54 Keizer, *The Unwanted Sound of Everything We Want*, 30.

55 Donna Haraway, 'A cyborg manifesto: science, technology, and socialist-feminism in the late twentieth century', in *Simians, Cyborgs and Women: The Reinvention of Nature* (New York: Routledge, 1991), 149–81, 153.

56 Sim states: 'Noise is used extensively as a marketing tool (bars, restaurants, public spaces in general, radio, television, film) as a way of stimulating consumption. Put crudely, noise sells and the corporate world is very aware of this and concerned to exploit it to the full.' There is, for example, the noise created by all-night opening hours and the 'raucous hedonism' that comes with the hugely profitable and noisy combination of alcohol and popular music. Sims offers the caveat that noise has often been on the side of rebellion and resistance, as a metaphor for the disruption of social norms. However, this ethos has been readily exploited 'by the business world for its own, anything but rebellious, ends. The grand narrative of "big business" has a practised ability to commercialise, and thus neutralise, rebellious behaviour and lifestyles.' Sim, *Manifesto for Silence*, 30–1.

57 For more on 'monastery chic', see Sara Lipton, 'Monastery chic: the ascetic retreat in a neoliberal age', in *Evil Paradises: Dreamworlds of Neoliberalism*, ed. Mike Davis and Daniel Bertrand Monk (New York: The New York Press, 2007), 241–50.

58 See Oliver Kmiecik, 'New Yaris Hybrid TV ad: "silence the city"', *Toyota Blog*, 2 June 2012, http://blog.toyota.co.uk/new-yaris-hybrid-tv-ad-silence-the-city (accessed May 2012).

59 Jacques Attali, *Noise: The Political Economy of Music,* trans. Brian Massumi (Minneapolis: University of Minnesota Press, 2003), 27.

60 Stephen A. Stansfeld and Mark P. Matheson, 'Noise pollution: non-auditory effects on health', *British Medical Bulletin* 68, no. 1 (2003): 243–57, 248.

61 Ibid.

62 Kosko, *Noise*, 56.

63 Joachim Ernst-Berendt, quoted in Steve Goodman, *Sonic Warfare: Sound, Affect and the Ecology of Fear* (Cambridge, MA: MIT Press, 2010), 65.

64 Karl D. Kryter, *The Effects of Noise on Man* (Orlando: Academic Press, 1985), 112–13.

65 Hillel Schwartz, *Making Noise: From Babel to the Big Bang and Beyond* (New York: Zone Books, 2011), 678.

PART TWO

The parasite and its milieu: Noise, materiality, affectivity

What is this sudden dangerous noise at the door that prevents me from finishing and leads me to other actions?

MICHEL SERRES, *The Parasite*, 8.

There is no such thing as an empty space or an empty time. There is always something to see, something to hear. In fact, try as we may to make a silence, we cannot.

JOHN CAGE, 'Experimental Music', 7.

Introduction: The inventor's voice

The voice of Thomas Edison reciting 'Mary Had a Little Lamb' signifies a landmark moment in the history of sound recording. In 1878, Edison bellowed the nursery rhyme into the horn of his phonograph. The vibrations of his voice were translated into a series of engravings on a cylinder wrapped in tinfoil. When the cylinder was rotated, it played back Edison's voice, marking the first successful instance of sound recording and reproduction. Yet it is not just the inventor that speaks. The 'voice' of the invention is also audible. The crackling of tinfoil and the whirring of the machine underline and sometimes distract from Edison's recital.

Although the surviving phonograph recording of Edison reciting the nursery rhyme is of a re-enactment of the original event that took place in 1927, Edison's ghostly and distorted voice still pays testament to the major

advances in recording technologies that have taken place over the past century. This noisy, lo-fi recording sounds very distant from contemporary recording culture. Indeed, it might sometimes seem as if noise is a thing of the past, having been banished to the archives by the ever-greater fidelity of sound reproduction. But noise still lurks in even the most perfect of recordings. Not all noise is as obvious to modern ears as that of Edison's recording: while its semblance may change and while its presence may remain unnoticed, noise can never be fully conquered.

To call Edison's recording noisy is not simply to assert that it contains sounds that are unwanted, nor is it to assert a division between regular and irregular sounds. Rather, noise, as I understand it here, pertains to the presence of the invention – the medium and means of the recording's existence. In this section, I introduce a materialist, relational and affective understanding of noise. Drawing upon Spinoza's philosophy of affects, in combination with Claude Shannon's general model of communication and Michel Serres's cybernetic figure of the disruptive, transformative parasite, I instigate a disruption of the definitive correlation of noise, 'unwantedness' and 'badness'. What characterizes noise, I argue, is not negativity but affectivity. By drawing together these bodies of thought via noise, moreover, I make apparent the latent connections between Spinozist notions of affect and cybernetics.

Thinking noise through affect is useful inasmuch as the latter encourages a relational, non-dualistic and process-oriented perspective, focusing on the formative and transformative influence of the relations between entities, backgrounds and environments. Given that affect traverses disciplinary distinctions, it can also help to connect technological, informational, social, artistic and acoustic notions of noise. Rather than characterizing noise as a type of sound or a value judgement that is made of sound, I recognize noise as a perturbing force-relation that, for better or for worse, induces a change. This understanding of noise stems from Shannon and Weaver's information theory. However, Shannon maintains that noise is a 'necessary evil', insofar as he prioritizes stasis, accuracy and efficiency in communication systems. By recognizing these seemingly *a priori* values as contextual and thus contingent, a space opens up for noise to be something other than unwanted. Furthermore, picking up on Serres's wordplay between the middle, medium, milieu and means, it is also shown how noise is a necessary component of material relations: there can be no relation, no mediation without it. To describe noise as necessary refutes noise's subordinate positioning as accidental, secondary and contingent. Consequently, the hierarchical and dichotomous relationship between 'wanted' signal and 'unwanted' noise is complicated.

I explicate this understanding of noise in relation to two key examples. First, I examine the affective 'microdisruptions' that occur at the level of the material medium. The medium stores and carries information but also leaves a noisy trace upon it. This noisy imprint often becomes more prevalent

as the storage media are affected by the forces of the milieu over time. I explore how media/milieu noise and the question of 'what a medium can do' have been utilized by three artists – Christian Marclay, Maria Chavez and Yasunao Tone. For Marclay, Chavez and Tone, the noise of the medium is a source of creative potential – a means of discovering new sonic expressions.

Second, I consider the 'macrodisruptions' of sonic weapons that are intended to disrupt – and thus diminish – the collective power of crowds, groups and populations. This affective logic connects the use of sonic booms in Gaza to subtler means of audio-affective control, such as the Mosquito device and the broadcasting of classical music at public transport stations. While these two examples draw from very different contexts, neither the noise of the medium nor the noise of sonic weapons can be fully grasped through a consideration of the personal affections of a listening body-as-subject. Rather, they show noise to be affective in the broadest sense – of one entity acting upon another. As this suggests, an affective understanding of noise can allow for a fuller range of perturbations that range from the barely noticeable to the overwhelming.

Finally, I turn to another, seemingly distinct, notion of noise, which posits it as an inaudible but affective, transcendental[1] background. It is this noise that is brought to the fore in the 'creation story' that is John Cage's *4'33"*. Returning once again to Serres's wordplay on the milieu/medium/means, I connect parasitic noise and background noise to each other: while the former names a relation with the medium/milieu, the latter names the vibrational medium/milieu from which the signal emerges and travels through.

Relationality, affect and the non-human

Despite being unfaithful to such thinking, noise is frequently conceptualized using binary pairings. In the previous section, I presented four definitional approaches to noise: a subject-oriented definition, which understands noise to be an unwanted or 'bad' sound; object-oriented definition, which defines noise as a type of signal that is the antithesis of musical tones; a causal definition, which defines noise in relation to particular sources; and the definition of noise in terms of loudness. All of these definitional approaches are informed, implicitly or explicitly, by a series of dualisms. An incomplete list might include:

Signal	Noise
Music	Noise
Silence	Noise
Wanted	Unwanted
Intended	Unintended

Desirable	Undesirable
Order	Disorder
Natural	Unnatural
Necessary	Contingent
Normal	Accidental
Meaningful	Meaningless
Comprehensible	Incomprehensible
Norm	Taboo
Good	Bad

In the case of a subject-oriented definition, noise is defined according to divisions of wanted and unwanted, good and bad, positive and negative, meaningful and meaningless. An object-oriented definition connects to distinctions between order and chaos, purity and impurity, regularity and irregularity, musical and non-musical. The causal definitions of noise that were discussed are influenced by binary pairings of natural/unnatural, meaningful/meaningless oppressor/oppressed, permitted/unpermitted and self/other. Finally, noise-as-loudness is constituted according to the polarities of loud/quiet, dangerous/safe, and nature/machine. So, noise is an entity that is defined by its oppositional relation to that which it is not.

As is characteristic of binary systems, the dyadic relations that constitute noise are asymmetrical and hierarchical, with one side subordinate to the other. The signal is more valuable than the noise that stands against it, wanted sound is prioritized over unwanted sound and meaning is placed above non-meaning. Noise, as the inferior category, is a secondary and derivative phenomenon. Consequently, it is negatively constituted, only existing as the antithesis of a superior category. As Paul Hegarty states: 'Noise is a negativity: defined in opposition to something else, for example, meaning, music, structure, skill, beauty, etc.'[2] From this perspective, noise is defined by a lack – a lack of organization, significance, information, purpose, specificity, desirability and so on. This negative constitution of noise is made more obvious when it is defined by its 'un-ness' – as unwanted, unpermitted, undesirable, unintentional or unorganized. Alternatively, noise can be conceived as that which remains when signification is subtracted. In Lacanian terms, it can be understood as that which exists outside or in the gaps of the Symbolic: 'Noise breaks with the language base … [it] can only find its way to language by the acknowledgement that it can't.'[3] Noise is the presence of a disturbing and disruptive absence; it marks the emergence of a hole or a void, occupying those moments where language and signification break down.

While noise has been primarily conceptualized via binary oppositions, I aim to develop a *relational* approach that works to complicate noise's connection to dualist pairings and, by extension, the correlation of

noise, 'unwantedness' and 'badness'. To name this alternative approach as 'relational' might appear to be something of a misnomer: a binary opposition, after all, is a type of relation, albeit one that is hierarchical and unidirectional. Moreover, though its effects are often perceived as negative, there is nothing inherently wrong with dichotomous thinking when it is one mode of thinking among many. Rather, as Raia Prokhovnik asserts, the issue at stake is 'the repressive effect on other modes of thinking that the dominance of dichotomy has exercised over the past two hundred years'.[4] Binary oppositions have not been seen as one mode of relation among multiple others but have been *the* mode of relation. A relational approach seeks to generate a distinct explanatory metaphor: it refers to an alternative, more complex mode of relation. Indeed, a relational approach is not simply a corrective replacement for a binary metaphor; rather it is one alternative among many. Likewise, a relational approach to noise does not simply replace dualist understandings; rather it enables the development of one alternative perspective.

A relational approach, as the name suggests, begins with the relation, foregrounding its productivity. From a relational perspective, individual entities do not pre-exist their relations; rather, entities are formed and reformed through them. In other words, a relational approach does not treat entities as pre-given, static and autonomous units.[5] Moreover, while the mutual exclusivity of the binary opposition results in a closed-ended holism, with which 'the two opposed positions of a dichotomy between them sum up the extent and range of possibilities', a relational approach prioritizes open-endedness, fluidity, transformation and plurality.[6] If the binary opposition is characterized as 'either/or', a relational approach can be characterized as 'both-and'.

This section develops a relational understanding of noise by approaching it in terms of affect. Affect connects the 'both-and'; it moves between, within and across subjects and objects, the 'natural' and 'unnatural', 'human' and 'non-human'. Consequently, affect can be thought to encourage a more complex, networked and dynamic view of relations, interactions and power. Affects, as they are being understood here, concern movement, process, change – they are a-signifying and transformative forces of becoming. Affects are relational insofar as they are positioned in the middle of things. As Greg Seigworth and Melissa Gregg note: 'Affect arises in the midst of *in-between-ness*: in the capacities to act and be acted upon. Affect is an impingement or extrusion of a momentary or sometimes more sustained state of relation *as well as* the passage (and the duration of passage) of forces or intensities.'[7] Brian Massumi, similarly, describes affect as 'a third state, an excluded middle, prior to the distinction between activity and passivity'.[8] Affects concern the transitional: they can be located in the moments of confusion of indiscernibility between determinable stances.

Affects are often understood to be synonymous with force, or forces of encounter. They are 'real forces that are part of the composition of worlds

rather than mere epiphenomena'.[9] However, as Seigworth and Gregg are careful to note, affect is often not particularly *forceful*.[10] Affect is implicated in both 'the ordinary and its extra'[11]: it may be overwhelming, resulting in a radical shift or transformation but it also permeates the unnoticeable and often mundane micro-transformations of the everyday. Affect is thus useful for accounting for noise's traversal of the everyday and the extraordinary, as Douglas Kahn observes: 'In a predictable world noise promises something out of the ordinary, and in a world in frantic pursuit of the extraordinary noise can promise the banal and quotidian.'[12]

Affect, like noise, has numerous definitions: it refers to different things in different disciplinary contexts. Here, I draw upon a particular, non-anthropocentric notion of affect that can be found in the work of the seventeenth-century Jewish-Dutch philosopher Baruch Spinoza, as it is appropriated by Gilles Deleuze. In its Spinozist–Deleuzian conception, affect involves, but is not limited to, the affectations of the body-as-subject: it pertains to a web of relations that traverses the divisions that hold apart the human and non-human, beings and things. Deleuze's Spinoza, as approached herein, places an emphasis on materiality. However, this is a materiality that does not just pertain to objects and artefacts but extends to include elements that have been thought of as immaterial by virtue of their invisibility – atmospheres, forces, sounds and vibrations.

In his 1978 lecture on Spinoza, Deleuze identifies a crucial distinction between two interconnected dimensions of affect that can be found in Spinoza's *Ethics*: *affectus* and *affectio*. In earlier translations of Spinoza's work, these terms had been conflated, referring to 'affection' or 'emotion'. For Deleuze, *affectus* should be properly translated as affect and *affectio* as affection. *Affectus* refers to the continuous variation of a body's capacity to act and be acted on – its power to affect and be affected. The body's affective encounters with other bodies shape this intensive scale of power, its quantitative increase or diminution. *Affectus* is the 'continuous variation of the force of existing' – to exist is to have some capacity to act or be acted upon.[13] Conversely, death (which is to say, non-existence) can be equated with unaffectivity – it is to be entirely without power, unable to act or be acted upon.[14]

If *affectus* or affect is a body's intensive capacity to affect or be affected, then *affectio or* affection can be summarized as how a body is affected. It indicates the state of a body as it is acted upon and thus modified by another affecting body. In other words, *affectio* is 'a mixture of two bodies, one body that can be said to act on another, and the other receives the trace of the first'.[15] As that which arises through relation, it does not 'belong' to one body. In order to demonstrate *affectio,* Deleuze gives the example of feeling of the sun on one's body as an affection of the body. The affection is the action of the sun and its effect on one's body – the affective trace that is left as the sun-body and our body mix. Similarly, the melting of wax or the hardening of clay through its exposure to the sun is the affection of the

affected wax-body or the affected clay-body. This melting or hardening arises from the relation between the body of the wax, or clay, and the body of the sun.[16] *Affectio* marks the relational encounter of the affecting body on the affected. Yet, how a body is affected is also shaped by its capacity to be affected: in order for the clay-body to harden and the wax-body to melt, they must have the capacity to be affected in such a way. This capacity to affect and be affected, furthermore, is defined by a body's relations with other bodies – the ways in which it affects and is affected. In this sense, one affective power flows through the other: *affectio* – how a body is affected by its relational encounters with other bodies – shapes and is shaped by *affectus* – the body's continuous variation in its power to affect and be affected.

In referring to wax and clay as bodies that undergo affections (and thus, as bodies that possess an affective power), Deleuze makes clear that Spinoza's affecting and affected body is not restricted to the transformative encounters and experiences of the human body-as-subject. Rather, Spinoza's notion of affectivity pertains to a specific non-anthropocentric concept of the body. A Spinozist body is defined in accordance with two principles, which Deleuze refers to as longitude and latitude. The longitude of a body can be understood as the structural composition of dynamic relations. As Spinoza states: 'Bodies are distinguished from one another in respect of motion and rest, quickness and slowness, and not by reason of substance.'[17] A body, irrespective of size, is a composite of an infinite number of particles. These particles, which can be understood as simple bodies, exist in relations of motion and rest, of speed and slowness.[18] A body's latitude, as Deleuze refers to it, is its affective capacity: its power to act and be acted upon by other bodies and the affections of which it is subsequently capable. Different bodies have different affective powers, as Deleuze explains: 'A horse, a fish, a man, or even two men compared one with the other, do not have the same capacity to be affected: they are not affected by the same things, or not affected by the same things in the same way.'[19] Two questions thus govern the existence of Spinoza's body: (1) What is the structure of a body (which is to ask, what is the composition of its relations?)? (2) What can a body do (which to ask, what is its affective capacity – how and to what extent can it affect and be affected by other bodies?)? The Spinozist body is always already enmeshed within a network of relations, insofar as its extensive and affective relations with other bodies constitute its affective capacity and dynamic structure. In other words, the individual body – its structure and its power to act and be acted upon – is constituted by its engagement with a wider milieu.

From a Spinozist perspective, a body is not defined by abstract notions of genus or species. When affect is viewed as definitive, 'a racehorse is more different to a workhorse, than a workhorse is from an ox'.[20] Nor does it take the affected and affecting body to be a 'natural' or 'organic' phenomenon. Indeed, Spinoza has a particular concept of Nature that should not be

confused with what might be distinguished as the 'natural'. For Spinoza, Nature consists of *all* bodies, engaged in extensive and affective relations. As Deleuze explains:

> The plane of immanence, the plane of Nature that distributes affects, does not make any distinction at all between things that might be called natural and things that might be called artificial. Artifice is fully a part of Nature, since each thing, on the immanent plane of Nature, is defined by the arrangements of motion and rest into which it enters, whether they are artificial or natural.[21]

Affect and extension thus traverse the imagined distinction between the organic and non-organic, the natural and artificial, inanimate 'things' and animate 'beings'. A body is not simply that of the human or an animal, nor is it a fixed, immutable unit. Rather, it is that which exists in dynamic, affective and only temporarily stable relationships. As Deleuze states: 'A [Spinozist] body can be anything; it can be an animal, a body of sounds, a mind or an idea; it can be a linguistic corpus, a social body, a collectivity.'[22] A body can also be understood as a heterogeneous composition of different types of bodies. A computer network, a telecommunications channel or a sound system could be understood as composite bodies of smaller bodies that exist in relations of motion and rest and can each 'do' a particular thing (or things). Even a sound wave can be conceived of as a body, in that it is composed of dynamic relations of motion and rest (i.e. the movement of the air particles or another medium in a particular pattern) and has a certain capacity for modification (by, for example, other sounds and vibrations).

Understood via this Spinozist notion of affect, which approaches the experiential and its extra – in terms of relations, forces, capacities and powers – noise can be thought of as an a-signifying force-relation. This is not quite the same as positing noise as the absence of meaning or a gap in the semantic. Rather, it is to suggest that noise does not in and of itself function in accordance with meaning or signification: it operates according to rules other than those of the Symbolic. In other words, I maintain that noise (and with this, affect) is primarily positioned outside of language, meaning and signification, while also looking to push beyond a somewhat unsatisfactory end point of describing noise as non-meaning to a message's meaning. This is by no means to deny that noise (and affect) is frequently entangled with signifying registers: noise often has an impact on how a sonic event is heard, understood and interpreted. Nor is to deny that the presence of noise might convey meaning: as shall be seen, noise can often tell the listener something about the means or context of communication. However, these semantic attachments arise as an effect or outcome, rather than being a constitutive feature of the noise force-relation itself.

What does noise do?

Although dualist definitions tell us of the properties that noise might have (e.g. unwantedness, chaos, lack of meaning), they struggle to capture precisely what it is that noise does. Taking the lead from Spinoza's philosophy of affects, the question 'What is noise?' can be reformulated to ask 'What does noise do?' As shall be demonstrated, if noise is first defined by its function, then this necessitates a perspective that allows for a complex and entangled web of connections, disconnections, forces, processes and interactions. What is it that noise does *before* it is deemed unwanted or undesirable? What is it that noise does to *become* unwanted or undesirable?

In his seminal article, 'A Mathematical Theory of Communication' (1948), the mathematician and electrical engineer Claude Shannon outlined a new, formal model of technical communication. Devised during his time working at the American Telephone and Telegraph Company's (AT&T) Bell Laboratories, Shannon's model of communication is considered to be the founding work of information theory. Building on telegraphy research of fellow Bell Laboratories workers Harry Nyquist and R. V. L. Hartley, Shannon's model posits communication as a measurable process: the various aspects of transmission – the sent and received signal, system capacity and, crucially, noise are quantifiable attributes. Consequently, Shannon's model is not concerned with the meaning or content of a message transmitted via communication systems: like Hartley before him, Shannon asserts that 'semantic aspects of communication are irrelevant to the engineering problem'.[23]

What is innovative about Shannon's model is its approach to the presence and effects of noise in communication systems. As that which lessened efficiency, noise and error were of great interest to AT&T: to minimize noise and thus enhance system efficiency was to maximize profit. In this regard, it is important to note that despite the abstract language it employs, Shannon's model is by no means 'neutral'. Rather, it is reflective of the financial imperatives of the telephone and telegraph company.[24]

In his 1928 paper 'Transmission of information', Hartley outlined his own general model of communication. In this he states that 'external interference … always reduces the effectiveness of the system. We may, however, arbitrarily assume it to be absent, and consider the limitations which still remain to the transmission system itself.'[25] Where Hartley positioned noise (i.e. 'external interference' that diminishes the effectiveness of a system) as coming from outside the communication system, Shannon recognized it as *part* of the system and sought to address it accordingly.[26] Noise is thus represented in relation to the six key components in Shannon's general schema, which consists of (1) an information source, which produces a message; (2) a transmitter, which converts a message into signals; (3) a channel, through which signals are transmitted; (4) a noise source, which

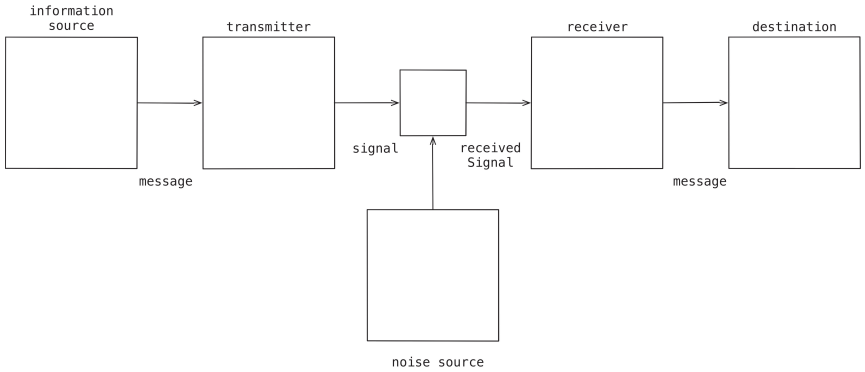

FIGURE 1 *Claude Shannon's schematic diagram of a general communication system.*

affects transmission; (5) a receiver, which converts the signals into a message, and (6) a destination where the message arrives (Figure 1).

Shannon's general schematic was popularized by the mathematician Warren Weaver. In his introductory essay for their joint publication *The Mathematical Theory of Communication*, published the year after Shannon's article, Weaver considers the implications of Shannon's model beyond an engineering context. Although it was initially intended to represent the communicative process in relation to telegraphy and telephony, Weaver discusses its broader application:

> The word *communication* will be used here in a very broad sense to include all of the procedures by which one mind may affect another. This, of course, involves not only written and oral speech, but also music, the pictorial arts, the theatre, the ballet and in fact all human behaviour.[27]

The message of Shannon's diagram may consist of spoken or written words, but it may also be a musical melody or a series of images. Moreover, insofar as it concerns the measurability of communication, it is of little importance to Shannon's model whether the message being transmitted is a series of instructions or something entirely nonsensical. The channel may be a wire (as with telegraphy), but it may also be air (as with oral communication). The signal can be digital, consisting of a series of bits, or it can be analogue, consisting of variations in air pressure (as with sound) or an electromagnetic wave (as with radio).

In Shannon's diagram, noise is depicted not as a component but as a *relation*. The line that connects the noise source to the transmitted signal represents noise – and this relation that is noise *does* something. According to Shannon and Weaver, noise is that which interferes with and subsequently modifies a signal in its passage between emitter, transmitter and receiver. Shannon differentiates between two types of noise in communication

systems. If a given signal produces the same received signal, insofar as the signal always undergoes the same change in transmission, then this is referred to as distortion. In a case where the signal does not always undergo the same change in transmission, noise is understood as a chance variable. The received signal (E) is thus understood as a function of the transmitted signal (S) and a second variable, noise (N). This process is represented by Shannon's equation $E = f(S,N)$.[28]

Reading Shannon via Spinoza, the relationship between noise source and signal is affective: the former transforms the latter. Noise perturbs the signal during transmission, potentially inducing error, miscommunication or extraneous artefacts – distortion, glitches, crackles, hiss etc. In doing so, it ensures that the signal sent and the signal received differ. Put in Spinozist terms, what is received is an affection of the signal (i.e. the affected body), upon which a noise source (i.e. the affecting body) leaves a trace – just as the sun (the affecting body) leaves a trace on the clay (the affected body). The general question of 'What does noise do?' can be answered with the general answer: 'It affects.' As shall be made apparent, what noise affects, and the extent to which it affects, depends upon the nature and context of the noise-relation: the bodies in which it acts upon, the series of relations it acts within. By extension, if noise is what noise does, then the original question 'What is noise?' might be answered rather simply: 'an affective relation'.

By modifying a signal-message, the noise force-relation results in increased uncertainty or 'information'. Weaver notes: 'It is generally true that when there is noise, the received signal exhibits greater information – or better, the received signal is selected out of a more varied set than the transmitted signal.'[29] As this makes clear, 'information' has a particular meaning in this context that is distinct from colloquial understandings of the term. Put simply, information for Shannon and Weaver is a measure of choice. More information means more uncertainty as to which signal is the intended signal, what message is the 'right' message. In communication systems noise is understood to generate information.[30] The greater the presence of noise – which is to say, the more interference, interruptions or perturbations to which the signal is exposed – the greater the information (i.e. uncertainty) in a signal's reception. Conversely, if a message was to travel through a noiseless channel, remaining unchanged and unaffected by the transmission process, then there would be no information: the message would be entirely predictable.

Shannon proposes that the effects of noise – the potential increase of error or miscommunication – can be minimized or countered by increasing the source's rate of redundancy. Redundancy refers to the fraction of the message structure that is determined by the accepted statistical rules of the particular system, as opposed to the free choice of the sender. Though time consuming, since a greater rate of redundancy means that it takes longer

to transmit a message, redundancy enables errors arising from noise to be more easily corrected. As Weaver notes:

> When there is noise on a channel … there is some real advantage in not using a coding process that eliminates all of the redundancy. For the remaining redundancy helps combat the noise. This is very easy to see, for just because of the fact that the redundancy of English is high, one has, for example, little or no hesitation about correcting errors in spelling that have arisen during transmission.[31]

These principles of redundancy are incorporated into many contemporary media technologies. For example, they inform the design of compact discs, from which audio is generated through a mix of unscrambling, reconstruction, error correction and prediction.[32] CDs contain a layer of error correction code, which means that even a scratched CD can (potentially) be played without the effects of noise becoming audible. These error correction codes work by increasing redundancy, so that the digital audio data can be transmitted faithfully. CDs consist of a plastic surface that is engraved with a series of pits and bumps and coated in a reflective surface. A CD player reads CD data using a laser, which is reflected back to a sensor and which, in turn, detects changes in the beam. The variations in the beam that are caused by the minute pits and bumps of the CD's surface are translated into binary data: if the laser hits the sensor, it is read as a one; if the laser misses the sensor, it is read as a zero. This data is processed and finally converted into analogue sound. A mark on the CD surface can affect the laser focus, subsequently disrupting the reading of the CD and introducing error into the digital data – ones can be read as zeros and zeros can be read as ones, or may not be read at all. Error correction coding can compensate for damaged or corrupted data, cancelling out the error introduced by a mark on the disc surface and thus preventing the CD playback from being affected.

CD players also prevent noisy errors becoming audible with the error concealment technique of 'interpolation'. Interpolation works by finding an average based on the 'good' data that comes before and after an error. Since audio waveforms are largely continuous across a short amount of time, the player can use interpolation to 'fill in the gaps' created by a small mark or scratch on the CD surface. Depending on the severity of the scratch (i.e. how much data it has corrupted), the result of successful interpolation can range from the error being concealed entirely (i.e. the CD playback is not audibly affected) or a small glitch being introduced in the playback.

The use of redundancy and interpolation in CD systems alludes to noise's independence from human perception. Interruptions and interferences still induce a change, but this is combated by the playback system, so that it potentially remains unheard and unnoticed by a listener. Noise and error are pre-empted and controlled: the system and its coding anticipate them, adapting and compensating in order to conceal their effects. Such processes

present a challenge to subject-oriented approaches to noise. Salomé Voegelin, for instance, observes that noise 'needs me': 'Noise ingests me and yet it is only noise because it works on my body. When I am not there my neighbour's stereo is not noisy.'[33] Yet, if noise can be hidden from audibility, then this would suggest that the listening body-as-subject is no longer its arbiter.

Taken as a force-relation, rather than a type of sound or judgement of sound, noise has an existence independent of – or, rather, not limited to – particular sounds and sources: it does not need to be loud, harsh or abrasive. Noise and its effects can also be imperceptible: operating out of earshot of the listening subject and hidden from human perception by error correction or other 'masking' processes. Indeed, cybernetic communication theories and practices have long approached noise as something that is to be controlled, constrained and concealed from perception. An outgrowth of US militarism and the technological environment of World War II, cybernetics recognizes system control and metastability as an issue of communication and transmission. *The Mathematical Theory of Communication* is a canonical text in the history of cybernetics: Shannon and Weaver's recognition of noise as an irreducible part of the transmission process was key to cybernetic thought. Thus, as Jonathan Sterne asserts, cybernetics and its characterization of noise emerges in relation to not only the technical logics of war and weaponry but also the economic imperatives of AT&T.[34] Following Shannon, cybernetics recognized that while there was no ultimate possibility of ridding systems entirely of the intervening effects of noise, there were always ways of examining, mapping and constraining noise. Systems can adapt around noise, in order to correct or conceal its effects (as is the case with CD systems). Interfering noise can be continuously monitored and the circuit can be modified in response, so as to optimize message intelligibility.[35] As this suggests, it does not follow that all noisy disruptions, disturbances and perturbations are unpredictable: as cybernetic paradigms reveal, many manifestations of noise are anticipated, expected and controlled accordingly. Noise cannot be entirely eradicated, but its effects can be pre-empted.

Yet, noise is not just hidden by machines and programming. Even when noise is potentially perceptible to the human ear or eye, it frequently goes unnoticed. As Greg Hainge argues, the noisiness of media technologies really becomes noticeable only as they age. This can be demonstrated in relation to 'nostalgic' uses of older, 'realer' and seemingly more physical writing media. Hainge suggests that although media noise is connected to process and flux, it is, nonetheless, often associated with less transitive, more stable modes of production.[36] Noise provides older technologies and their modern emulations with their sense of physicality and 'oldness' – it is what marks them as being 'of the past'. So there are the carefully designed ink splatters of typewriter-style computer fonts, or the ruptures of the handwritten text that take the form of crossed out words, comments and arrows. Extending

Hainge's argument into the sonic realm, the crackle of the vinyl record or the fuzz and hum of the cassette tape are often recognized (and sometimes fetishized) as authentic analogue 'warmth'. These nostalgic characterizations, however, are embedded in a contradiction: though the noise of the medium carries significance for current users of older technologies, its presence and effects would not have been noticed, at least to the same degree, by their original users – just as the 'noisiness' of contemporary technologies tends not to be perceived by current users. The noise of the medium is what is valued, celebrated and foregrounded by technostalgia and yet it was never meant to be noticed. Media noise is 'only recognized after the fact, and thus nostalgia is turned on its head; for no longer being simply a return to the past it becomes a premonition of the future also, a noisy proclamation that today's PC is tomorrow's typewriter'.[37] It is not known quite how noisy a cassette tape is until it is heard in comparison to a CD, just as the extent of the noise of a two-megapixel image is only really seen when it is brought into relation with a five-megapixel image. The listener or viewer, then, is not always a reliable judge of noise.

In defining noise as an affective force-relation, it is not assumed that noise affects a listener, or only acts upon, and is perceptible to, the 'human'. As shall become more apparent throughout, noise also acts within and in relation to that which is designated the 'non-human': both noise and affect, and noise *as* affect traverse the distinctions drawn between organic and machinic, natural and 'unnatural', acoustic and electric, analogue and digital. Following Spinoza, noise might be thus described as non-anthropocentric in that it acts within registers other than the 'human' (such as with the CD player system). Indeed, Shannon's information theory and the cybernetic models that follow it share something of Spinoza's non-anthropocentrism: it does not matter to his general model whether noise effects communication between two humans, between two machines, or between a human and machine. Likewise, to cybernetics, which approaches life in terms of informational exchange and transmission, the distinction between people, animals and machines, and, by extension, between consciousness, unconsciousness and pre-consciousness is of little relevance.[38] To describe noise as non-anthropocentric is not to *dispose* of the human listening subject – of course, noise is frequently perceptible to human listeners, and frequently acts upon human bodies and relations. Rather, it *decentres* the listening subjects in that they are no longer the privileged constitutors of noise. Noise might affect but it doesn't 'need me'.

As an affective force-relation that perturbs a signal or operations of a system, noise can be thought of as productive in that it generates some kind of change, no matter how minor or fleeting. It is important to note, however, that to describe noise as productive is not the same as referring to noise as positive or beneficial. As will be discussed in more detail in Part 3, in a Spinozist framework, the terms 'good' and 'bad' describe the nature of an affective encounter from the perspective of the affected entity. If it is to be

asserted that noise is always negative, then this means that the affective relation between signal and noise source is always detrimental to the former.

Shannon maintains such a view. As N. Katherine Hayles argues, Shannon's theory of communication and his characterization of the relationship between noise and signal is informed by 'a conservative bias that privileges stasis over change. Noise interferes with the message's exact replication, which is presumed to be the desired result. The structure of the theory implied that change was deviation and that deviation should be corrected.'[39] Noise is a necessary evil: it is 'bad' to the desirable signal's 'good'. It takes communication off track and obstructs the perfect transmission of the message. It is a hindrance to communication efficiency. Consequently, Shannon's information theory is marked by a desire to have mastery over noise. Noise's affective power should be minimized and pre-empted; its effects should be concealed or corrected so as to maintain accuracy and efficiency. However, if noise's characterization as a necessary evil that needs to be controlled is underlined by the financial (i.e. capitalist) motivations of the American telephone company, then this suggests that Shannon's general model might not be so 'general' after all. In a context in which accuracy, efficiency and stasis are not prioritized as imperative, noise might be something other than detrimental.

Even within the context of cybernetics, the prioritization of system stasis was called into question. The biophysicist Hentri Atlan revised Shannon's classical perspective of noise in order to allow for noise's seemingly paradoxical potential to be beneficial. Atlan sought to apply the observations of information theory and cybernetics to living organisms and their ecological systems. Though frequently associated with cyberneticists such as Heinz von Foerester, Atlan's work on complexity and self-organization is also indebted to Spinoza's non-anthropocentrism, monism and his particular concept of an immanent, processual and self-causing Nature.[40]

Noise and its effects are integral to Atlan's (Spinozist) concepts of self-organization and complexity. While Shannon's information theory and the early cybernetic paradigms of Norbert Weiner prioritized stasis and stability, Atlan's work (among others) challenges this view by drawing attention to the ways in which change, adaptability and variability are beneficial to certain systems. As that which results in change and requires adaptability, Atlan argues, it is possible to imagine a perspective from which noise is viewed as constructive and generative. For Atlan, whether noise is considered useful or destructive, good or bad, positive or negative relates to the position occupied within a system of relations. In a communication system, noise will result in a deviation from an intended message for the sender. However, for the receiver, noise may play an alternative role – it may be a source of new information that is of potential interest. The noisiness of Edison's recording to modern ears, for instance, expresses its temporal distance and is made meaningful accordingly: its lack of fidelity serves as a reminder of the changes that have occurred in recording practices since

the phonograph's invention, as well as communicating something about how Edison's phonograph worked. Noise threatens the reliability of the original message by distorting it and thus increasing its ambiguity. Yet, in doing so, noise has the potential to unlock new information. Likewise, noise can destroy or diminish the functioning of a system, but it can also cause systems to reorganize with greater complexity and variety, increasing their capacity to act. In requiring a system to adapt to its effects (i.e. error and anomaly), noise helps generate new orders. Atlan states:

> From the moment the system is capable of responding to these errors not just so that it does not disappear, but rather so that the system uses them to modify itself in a way that benefits it or at least ensures its subsequent survival – in other words, from the moment the system is capable of integrating these errors into its own organization – then these errors lose, *a posteriori*, a little of their character of error. They retain this only from a viewpoint exterior to the system, in that the effects of the environment on the system do not themselves correspond to any pre-established program contained in the environment and designed to organize or disorganize the system. On the contrary, from the interior perspective, insofar as organization consists precisely in a series of recaptured disorganizations, they do not appear as errors except at the instant of their occurrence and in relation to a maintenance of the status quo (which would be as unfortunate as it is imaginary) of the organized system. … Indeed, after this instant, the errors are integrated, recuperated as factors of organization. The effects of noise then become events in the history of the system and its process of organization.[41]

In such instances, noise's 'positive' role – its capacity to generate a new or augmented order of relations – coexists with its 'negative', destructive role.[42] The political implications of this shift in cybernetic values – from system metastasis to adaptability/complexity – are gestured to later in the conclusion of this book. However, for the moment, it can be said, following Atlan, that the impact of noise might be 'good' and 'bad', positive as well as negative, depending, in part, on the nature of the system – what kind of noise and how much noise there is to contend with. Noise's 'unwantedness' is not definitive but contextual.

Including the excluded middle: Noise as necessary

It has already been suggested, apropos of Shannon and cybernetics, that noise is necessary to communication systems. I now turn to the French philosopher Michel Serres's cybernetic figure of the parasite in order

to make clear why noise is necessary. Indeed, noise is an inextricable component of not just communication systems but also material relations more generally. Though using a different terminology, Serres's account of the parasite further exemplifies the affectivity and relationality of noise. As that which both interferes with and enables communication, moreover, Serres's parasite makes apparent the insufficiencies of the constitutive dualism of primary, wanted signal and secondary unwanted noise. Instead, building upon Shannon and Atlan, the parasite is used to reveal a more complex and entangled relation.

Serres could be accurately described as a philosopher of noise. His work is marked by a fascination with translation – he is preoccupied with the crossing and recrossing of disciplinary borders, and the errors and mistranslations that may arise. In his earlier writings, Serres regularly and liberally draws on information theory and cybernetics to address interdisciplinary problems, which unexpectedly connect the social to the technological, literature to science, and myth to mathematics. Like Shannon, Serres's work involves the creation of general models, which he applies to a variety of contexts. While his application of general models beyond their particular disciplinary context has garnered criticism, this is not so much an attempt on Serres's part to discover universal laws and truths. Rather, as Steven Brown notes, Serres uses general models to create provisional connections between otherwise disparate phenomena. However, these connections cannot be formed without exposure to noise.[43] The distortion of ideas, models and theories when they are taken outside their disciplinary context is not only a necessary risk but also – more importantly – a possible source of invention. The perturbation of these disciplinary 'messages' comes with potentially unexpected insights that may allow alternative ways of understanding phenomena and their operations. In Serres's work, noise is both a recurring theme and a strategy of inquiry.

These interests are manifest in *The Parasite* – a complex, multiplicitous text that weaves together information theory, physics, philosophy, fable, economics, biology, theology and politics, in order to explore the parasitic nature of social relations. *The Parasite* is also an extended critique of media, which demands that the 'third term' of communication is taken seriously. This 'third term' is noise. Serres begins by telling a story of parasitic encounters, based on a fable by La Fontaine. The country rat is invited to dine at the home of the city rat. The city rat feeds off the larder at the home of the tax farmer. The tax farmer has produced nothing: he is a parasite feeding off the fat of the land, using law and power. However, the dinner of the rats is interrupted by the arrival of another parasite – noise:

> The two companions scurry off when they hear a noise at the door. It was only a noise, but it was also a message, a bit of information producing panic: an interruption a corruption, a rupture of information. Was the noise really a message? Wasn't it, rather, static, a parasite? A parasite

> who has the last word, who produces disorder and who generates a different order.[44]

In French, the term 'parasite' has three distinct but related meanings. It may name a relation with which one entity hosts another, such as a cat hosting a flea. The parasitic organism feeds at the expense of the host but gives nothing in return. Second, parasite may be a pejorative term used to refer to those branded as social scroungers – those who 'feed off' the state but 'contribute' nothing in return. The social parasite may also be the uninvited guest, who charms his or her way onto the host's dinner table and who eats for free, taking something for nothing, or, alternatively, who makes an unequal exchange; trading food for stories. These two usages of parasite will be familiar to English speakers. However, the third parasite is obscured with the translation of French to English. The third parasite is an informational parasite, which takes the form of static or interference in a channel. The figure of the parasite connects the biological, the social and the informational. These three parasites – the biological feeder; the social scapegoat or uninvited guest; and the noise of communication – are all thought of as interferences within a system. They interrupt the usual flow of things, disrupting pre-existing relations and, in turn, transforming them.

The parasite is the 'excluded middle' that exists as the intermediary between entities A and B: 'The position of the parasite is to be between.'[45] The parasite can thus be understood as structurally analogous to affect, insofar as 'in-betweenness' characterizes them both. Serres, moreover, does not understand the parasite as a discrete entity – it is not a type of being or organism. His focus is on *parasitism* as a particular kind of asymmetrical, disruptive and affective relation. Parasites are not a type of organism; rather, organisms are defined as such when they take up a parasitic relation with another organism: the parasite is what the parasite does. As the third term, it is neither in the place of the subject nor in the place of the object. Rather, it is the relation to relations: it takes up a perturbing relation to the relations between subjects and objects. In the case of the country rat and the city rat, the disruptive noise acts upon the relation between the rats, transforming the encounter: 'The banquet is a relation of the two rats … and the third person intercepts it, parasites it by means of parasitic noise. He makes it stop.'[46]

Where Shannon's general model represents communication as a linear process, in Serres's schema, the system of relations is non-linear and fluid, with entities changing between the positions of sender, receiver and noise; or guest, host and parasite: 'The guest becomes the interrupter, the noise becomes the interlocutor; part of the channel becomes an obstacle and vice-versa. … The same and the other change places with the third.'[47] Consequently, the relationship between the role of host and parasite is not always clear: who is a parasite on whom? In the case of the rat's feast, for example, there is a chain of parasitic relations: the country rat parasites the

city rat, the city rat parasites the tax farmer, and the tax farmer parasites the land. So, the parasites (i.e. the rats) parasite (i.e. the parasitic relation) the parasite (i.e. the city farmer). For Serres, the problem of the parasite – of 'parasites parasite parasites' – is very different from the Hegelian master-slave dialectic. Hegel's dialectic describes how the subject becomes the object or vice versa. However, the parasite is neither subject nor object: it is the means by which subjects relate to objects, or how subjects are transformed into objects.[48] Both the tax farmer and the city rats simultaneously act as hosts and parasites, or, rather, they occupy the position of host and parasite in a different series of relations; the tax farmer is a parasite of the land but a host to the city rat, the city rat is a parasite to the tax farmer and his larder, but a host to the country rat. This chain of relations, however, is broken by the appearance of another interrupting parasite. This final parasite is thought to be the noise of the tax farmer-parasite: the return of the parasited-parasite:

> Who is the parasite here, who is the interrupter? It is the noise, the creaking floorboards of the floor or of the door? Of course. It upsets the game and the system collapses. If it stops, everything comes back and is reformed and the meal continued. Think of another noise: the chain is broken again and everything vanishes in the bewildered flight. … Theorem: noise gives rise to a new system, an order that is more complex than the simple chain.[49]

The chain of parasitic relations (the tax farmer parasited by the city rat, the city rat parasited by the country rat) is disrupted as the first host (the tax farmer) counter-parasites his guests, 'not by taking away his food from them … but by making noise'.[50] The noise interrupts the meal of the country rat and the city rat, changing their relation. In this scene, the affective power of noise is foregrounded once again. The noise acts upon the country rat – it startles the rat, causing it to flee. The city rat, however, remains *un*affected by the noise: 'The city rat gets used to it, is vaccinated, becomes immune.'[51] The city rat urges the terrified country rat to return, but he cannot bear the noise of the unfamiliar environment: 'Let us go to the country where we eat only soup, but quietly and without interruption.'[52] But the country rat, it transpires, is also responsible for the disturbing, parasitic noise that frightens it. Noise moves round the tax farmer's house – the noise of the tax farmer that disturbs the feast comes because the tax farmer is disturbed by the noise of the feast. The rats disturb the tax farmer and the tax farmer disturbs the rats, both parasite one another. Relations between host and parasite are formed and reformed and one interrupts the other but never exactly in the same way.

Serres asserts that there are two primary responses to a parasite's intrusion: incorporation or expulsion. The two parties – guest and host; sender and receiver – may adapt in order to accommodate the parasite's

interfering presence. Food portions are redistributed in order to allow for the presence of the unexpected guest. Or interlocutors may work through noise and its effects by, for example, increasing the redundancy of a message; or using gestures to accompany conversation in order to communicate in spite of interfering background noise. In allowing for the presence of the parasitic noise, an alternative form of communication is established and the relationship between communicants is transformed. Alternatively, the two parties may work together to cast out the parasite. Two diners may work together to expel an uninvited guest. Or sender and receiver may work together to create a more efficient channel. In this instance, an alternative system is formed around the exclusion of the parasite; in working together to exclude the noisy intermediary, the relationship between sender and receiver is once again transformed. But, as cybernetics tells us, the exclusion of the third term can never be complete: 'What is repressed, but remains anyway, still parasites communication.'[53]

Either way, and *for better or for worse,* the parasite is a productive, generative force: whether the noisy third term is incorporated or (partially) excluded, it nevertheless affects and transforms relations. The parasite, in inventing a new logic, generates an alternative order; it engineers a transformation by intercepting relations. Relations end and begin with the parasite, the never-fully-excluded middle – its interruption marks the ending of one structure of relations and the beginning of a new one. The cybernetic figure of the parasite foregrounds noise's function as a transformative force: the noisy parasite is what the noisy parasite does. And what the noisy parasite does is affect relations: it is the guarantor of change.

Although Serres is at pains to emphasize the fluidity of relations – the parasite becomes the host, the host becomes the parasite, noise becomes part of the message and the message becomes noise – he asserts that the parasite is always positioned *behind* its host. The relation between sender and receiver precedes the parasitic relation, inasmuch as the parasite takes up a relation with relations. As an affective, perturbing force, noise requires something to affect, to perturb: 'The host is in the row in front, the parasite behind him … the host comes before and the parasite follows.'[54] This would seem to suggest that the parasitic relation is secondary, while the host relationship is primary. The relationship between A and B, sender and receiver comes first, with the parasitic third relation coming after, only existing in relation to and acting upon pre-existing relations. If the relationship between host and parasite is framed in this way, then it would appear that the dualist hierarchy between accidental noise and necessary signal is maintained.

There is, however, a second wordplay integral to Serres's model of relations, based upon the etymological connection between the 'milieu', 'mediate', 'intermediary', 'means' and 'medium', which prevents the parasitic, third relation from being positioned as secondary and subordinate, and makes apparent the necessary affectivity of noise.[55] A milieu is literally the

middle, or mid-place. In its more common usage in both French and English, a milieu refers to an environment or context: a set of framing circumstances that envelops a stance, or a standing point.[56] The medium is the middle – the milieu that necessarily stands between sender and receiver, and any other relation between seemingly free and discrete entities.

In communication, messages pass through a material middle. It is this material middle that constitutes mediation, by standing in the way of immediacy. The material middle – the medium – is the third position, the excluded middle that must be included. If noise is understood as a transformative force-relation that induces a change, then the medium is always noisy insofar as it acts upon the signal, transforming it in some way. Relations require a medium, and so communication systems are noisy by definition – hence noise's inclusion in Shannon's diagram alongside sender, receiver, transmitter and signal. The 'noise source' that acts upon the signal pertains to the medium. While its presence often remains unnoticeable, overshadowed by the symbolic or meaningful content of a message, the medium is, nevertheless, influential: it always leaves a noisy 'trace'. In other words, the medium is affective: it *does* something, as well as having something done to it. It pushes back, modifying that which it carries or contains. Noise is what marks this affective interaction between medium and content, between the signal transmitted and the material means.

Different media act upon the information they store or carry in particular ways, according to their affective capacity: what a medium is or is not affected by; what relations it can or cannot form with other bodies; and which impressions it may or may not retain. A recording played from a vinyl record is different to a recording played from a compact disc, partly because of the alternate ways in which the analogue medium and the digital medium affect the signal. However, apropos of Serres's wordplay, the medium of communication is not only that which signals, information and messages pass through and across but also refers to the environment – the milieu – within which communication occurs (or fails to occur). As Steven Connor states: 'The milieu mediates between channel and environment.'[57] The parasitic interruption makes the medium/milieu appear, pointing to the wider context within which relations take place. The noise of the tax farmer that disturbs the two rats indicates the broader context of the feast, just as interference on a phone line draws attention to the material means through which communication is taking place. The disruptive noise of a neighbour points to the wider milieu that surrounds the four walls of 'our' home. The intermittent satellite transmissions of television and broadband services caused by adverse weather conditions are expressive of the environment within which such technologies operate.

Communicators must do battle with the effects of the noisy milieu/medium in order for communication to take place. However, the noisy medium/milieu must exist for there to be any passage at all. With no

middle, medium, milieu – without context, environment or channel – there can be no relation: 'As soon as we are two, there is a medium between us.'[58] Serres writes:

> Systems work because they do not work. Nonfunctioning remains essential for functioning. And that can be formalized. Given, two stations and a channel. They exchange messages. If relation succeeds, if it is perfect, optimum and immediate; it disappears as a relation. If it is there, if it exists, that means that it failed. It is only mediation. Relation is nonrelation. And that is what the parasite is. The channel carries the flow but it cannot disappear as a channel, and it brakes (breaks) the flow, more or less. But perfect, successful, optimum communication no longer includes any mediation. And the canal disappears into immediacy. There would be no spaces of transformation anywhere. There are channels and thus there must be noise. … The best relation would be no relation.[59]

If there is to be a relation, if there is to be mediation, there must be a medium/milieu, and so there must be noise. In other words, noise does not simply destroy but constitutes the relation.[60] It is not possible to truly isolate a transmitted signal from its inherently noisy medium/milieu, unless we are to insist on an ideal, immediate and immaterial form of communication, in which the signal is subject to no transformation. Relations always take place within a context or environment, and therefore must be exposed to the noisy third term. In this sense, the third position comes prior to the second; the noisy medium comes before the connection between sender and receiver: 'A third exists before the other. … I have to go through the middle before reaching the end.'[61]

Noise, then, is something other – and something more – than an extraneous thing that needs to be subtracted from an intended signal-message. Rather than being a secondary and unnecessary nuisance, or a disruption of a pre-existing calm, the parasitic noise, occupying the third position, is an ineradicable and constitutive element of any communicative process, and of relations more broadly. No matter how fast and smooth the exchange of information may seem, so long as there is mediation, there is noise – each new media innovation that promises to minimize noise inevitably generates its own new brand of clamour.[62] Such an understanding of noise thus allows for a dismantling of the hierarchical relationship of signal and noise, first by understanding the relational positions of sender, receiver and noise as interchangeable (the host becomes the parasite and the parasite becomes the host) and second, by recognizing noise as an essential component of material relations (the parasite is constitutive of the relation). Noise is not simply accidental or contingent – a 'bad' interrupting a signal's 'good'. It might hinder communication, but it also allows communication to occur in the first place.[63]

Microdisruptions: Container technologies, bit rot and wounded CDs

To recognize it as necessarily noisy – as a turbulent, dynamic and transformative space – calls into question characterizations of the material medium as passive, neutral and inert. The medium functions as a 'container technology': it facilitates, stores and carries. As Zoe Sofia observes, container technologies – from magnetic tape to cup and jugs – have been devalued in analyses and histories of technology, having been framed as unintelligent, static and 'feminine' receptacles. They are overshadowed insofar as 'aggressive tools and dynamic machines capture more attention than the quietly receptive and transformative "feminine" elements of container technologies'.[64] However, the binary between dynamic tools and passive containers fails to acknowledge the affective functioning of the latter: containment, storage and facilitation are active processes.

The noisy affectivity of the containing medium can be exemplified by cassette tape recording. All recording processes involve a modification of the medium. In the case of tape recording, audio-signals are translated into electromagnetic fluxes, which then magnetize the oxide surface of the tape. As a series of sounds is recorded, these fluxes affect and thus modify the surface of the tape, arranging the magnetic particles in a particular order of relations. Yet the affective process does not only work one way, with sound-signals transcribed onto and stored by the surface of the medium. When the sound-signals are recorded onto tape, affecting the ordering of particles, they are also affected in return by the material medium: the medium pushes back, leaving a noisy trace. The surface of the tape is never 'perfect' – the size and non-uniform distribution of the magnetic particles means that it is never an entirely smooth and silent container even if it is blank (hence the familiar sound of tape hiss). The tape exposes the sound-signal to microdisruptions, interferences and perturbations arising from the uneven magnetic surface. Some of these will infect the recording with audible pops, warbles and crackles. Consequently, what is heard in the playback is the sent audio-signal after it has been exposed to, affected by and combined with the effects of noise. Recording is not simply a one-way process of sound being inscribed onto and contained by a passive surface: rather, it involves an affective exchange between signal and medium. The recorded sound-signal modifies the medium, inscribing its surface with a particular order of magnetic fluxes, while the medium also modifies the signal, so that there is a difference between what is recorded and what is played back. The medium transforms and is transformed – affects and is affected by the signal.

Recalling Serres's etymological play on the medium/milieu/means, it is not just the material medium that infects the recorded sound-signal with noise. The wider milieu – the medium within which the medium exists – is also noisy: it affects and acts upon entities and relations. Over time, the magnetic

tape of the cassette changes as it is affected by environmental forces such as heat, moisture, dust and dirt. This slow decay of the medium introduces additional warbles, pops and crackles to the playback, further affecting the recorded signal. From a Spinozist-materialist perspective, this 'decay' should not simply be understood in terms of subtraction – the loss of meaningful information, fidelity and the capacity to contain. Rather, it can be thought of, perhaps more neutrally, in terms of modification – the gradual morphing and mutating of matter over time, as it is acted upon by its milieu. So the sound-signal is affected by the medium and the medium is affected by the wider milieu. While material media are affected to a greater or lesser extent by the conditions of their environment – shellac records are more durable than the fragile tinfoil cylinders of the early phonograph, for example – no medium remains unchanged forever.

Despite the rhetoric of perfection and immateriality that surrounds them, digital technologies also face this transformative process of material decay or 'bit rot' – the alteration or corruption of stored data that occurs as the containing medium ages. Bit rot is an unavoidable and inescapable disease, insofar as 'there isn't any pure information devoid of material. Bits of information are stored as modulations in the structure of material objects – for instance, as colour, reflectivity, residual magnetism, buried charge. However, these materials change form, composition, and position over time.'[65] As the materials of the digital medium gradually mutate, data is erased, files are corrupted, errors are introduced and the capacity to retain and read information decreases. This process of degradation – the 'bleeding out of readability' – means that the information stored on CDs, hard drives and zip drives is rendered unreadable not just by obsolescence but also by contagion.[66] Indeed, though they are often imagined to be more durable than their analogue equivalents, digital storage media are arguably at a greater risk of being rendered defunct through the noisy modification of their material means. Digital storage media lack resilience insofar as 'a single fragment of corrupted or missing data (bit rot) results in the entire file becoming unreadable. This is a major difference with analogue media.'[67]

The medium's material degradation is typically assumed to be negative, in that it often leads to a loss of (intended and/or meaningful) information, as well as an increase in noise, the effects of which include the introduction of new audio and visual artefacts – pops, hisses, crackles and glitches – distortion and errors. It can even stop the medium from functioning at all. Consequently, this 'rotting' process provides significant challenges for, among other things, the conservation and archiving of media art. As Martha Buskirk observes, 'For works involving time-based or electronic media … the clock is constantly running, wherever the work resides. Rather than keeping them pristine, leaving your tapes or disks in the vault for any significant period can be catastrophic.'[68]

Yet, the noisy, affective relations between milieu, medium and content have also been 'positively' utilized in electronic media artworks. In the

context of these artworks, the informational ideals of predictability, fidelity and accuracy are no longer primary. Consequently, noise has the potential to be something other than unwanted. Through an investigation of the transformative capacities of media noise, these projects pose the Spinozist question: 'What can a medium do?' – What is its potential? What sounds and effects might it be capable of? What are the ways in which it can function? In what ways can it affect the recorded content?

These interests are manifest in the work of experimental turntablist Christian Marclay, who has frequently been engaged in discovering what a 'damaged' record can do. Marclay's work with vinyl is expressive of an interest in the materiality of the musical object. Marclay has described his work as arising in relation to vinyl record's shift in status, with which the record went from being something to be respected, collected and carefully stored to a cheap commodity to be used and abused.[69] He began by using skipping records to provide rhythm tracks in a performance duo with guitarist Kurt Henry in the late 1970s, before going on to develop sound collages from multiple turntables and second-hand records.[70] In these, Marclay sought to foreground the 'extraneous' noise of the medium, emphasizing its material presence:

> I realized that when I listened to a record, there were all these unwanted sounds, clicks and pops, because of the deterioration of the record, the surface noise, scratches. Instead of rejecting these residual sounds, I've tried to use them, bringing them to the foreground to make people aware that they're listening to a recording and not live music. These sounds make people aware of the medium, of the vinyl, a cheap slab of plastic. … We usually make abstractions of the medium. For me, it was important to have this awareness and underline it, to give it a voice. *It has an expressive power in itself*. When something goes wrong, like when the needle skips, something unpredictable happens, that wasn't the intention of the recording artist. In that incident, something new and exciting happens. For me, it has creative potential.[71]

Here, Marclay emphasizes that the medium is neither passive nor abstract. Rather, it has, in Marclay's words a 'voice', an 'expressive power' – that is, the capacity to affect and to act. In doing so, the medium can produce something new and potentially interesting. The noisy affectivity of the vinyl record transforms the sonic content when played: it may work to modify the flow of music by jumping and skipping, or introduce new, unusual combinations of sound. The medium is inventive.

The temporal degradation and expressive capacity of the medium is central to Marclay's first solo release: *Record Without a Cover* (1985).[72] The release was recorded on a four-track and constructed from samples taken from other records: it features classical music, film scores, jazz, military fanfares and salsa, as well as various sound effects. However, as the title

suggests, the record is sold without any protective covering: it carries the instruction: 'Do not store in a protective packaging.' This means that the vinyl disc is left completely exposed to the affective, transformative forces of the milieu as it is stored and used. Marclay's record thus goes against the normative ideals of audio techno-culture – the aspiration to preserve sounds with maximum fidelity and minimal noise. The record is not conceived of as a document of a live performance but rather as 'a record that could change with time, and would be different from one copy to the next'.[73] These noisy 'battlescars' that arise from exposure are intended to modify the recording over time, so that each pressing is unique. They become part of the record's music, as Liz Kotz notes: 'The collision or layering of real-time and recorded traces leaves us unable to distinguish between original record and surface damage.'[74] The markings of the record – the traces of its particular affective encounters – give rise to a noise that ensures that no two versions of *Record Without a Cover* are the same. It is these noises, furthermore, that draw attention to the underlying materiality of the record. As Marclay states: 'With *Record Without a Cover* you can't ignore the medium. You can't ignore that you are listening to a recording. There is confusion between what is intentionally recorded and what is damage to the surface of the disc.'[75] In this instance, noise and its effects are not simply extraneous or detractive. Rather, they help to determine the music heard. The (intended) sonic content of *Record Without a Cover* exists as a combination of sounds selected, produced and recorded by Marclay, and the effects of media noise.

The noise of the vinyl record takes on a similar function in the work of improvisatory turntablist Maria Chavez. Like Marclay, Chavez utilizes the affective potentials of 'damaged' records in order to discover new sounds and sonic affectations. She describes her practice as considering the creative possibilities of the vinyl record, of unlocking previously unconsidered modes of expression: 'As a 21st century artist I feel I'm listening to vinyl in a different manner, in a different language, and I'm bringing out specific characteristics that people … maybe don't think about or … wouldn't consider even existed within the realm of vinyl.'[76] Unlike *Record Without a Cover*, however, which was produced and sold as a record, Chavez uses scratched and worn records as a component of her live performances.

As a turntablist, Chavez is concerned with drawing a wide range of sounds and textures from a limited number of records in various conditions ranging from 'immaculate' to 'ruined'. In live performance, she typically uses one turntable and focuses on a small number of grooves. For Chavez, scratches and noise are markers of the record's ongoing mutability as it affects and is affected by other entities. She describes the destruction of her records as a 'very organic process'. Though she has some records that have been intentionally scratched or 'damaged' by others, Chavez notes that she does not use those records very often. Rather:

> The records that I actually use the most are ones that have been naturally ruined on their own. Because I keep them all in my backpack without

> their sleeves, so they're in and out, they move around, they touch each other. So there's always new scratches. Sometimes I'll leave them outside, or leave them in the car, just so they can kind of mould into each other. Some will stay out, some will warp around it.[77]

Chavez's creative practice draws upon the noisy, affective relations between the environment, medium and sonic content. As the material record is transformed over time by the forces of the milieu (for example, the heat that warps the plastic) and the encounters it has with other material bodies (records touching and rubbing against one another, gathering of dust and dirt), the record will move differently in the playback. The scratches on the surface can cause the record to skip, or allow locked grooves to develop so that the same short segment of recorded sound is repeated. In this context, these affective relations between milieu, medium and sonic content are not seen as inhibitive or degrading, insofar as they result in a corruption or loss of information, or prevent 'normal' playback. Rather, for Chavez, this processual approach to the material record and the noises that arise ensures that there is always something new to be heard; new sounds, textures and rhythms are generated as the record is 'damaged' by the forces of the world.

While Marclay and Chavez explore the potentials of an 'outmoded' medium that is already obviously noisy to contemporary ears, Yasunao Tone's experimentations with compact discs used – and 'abused' – state-of-the-art technology. Formerly an active member of the Tokyo Fluxus movement and the free improvisation collective Group Ongaku, Tone began to experiment with CD technologies in the early 1980s. At the time of its emergence, the CD was advertised as a noiseless and timeless technology; Sony and Philips notoriously promoted the new medium under the tagline 'Perfect Sound Forever'. As noted earlier in this section, the CD is designed with the concealment of noise in mind: the effects of noise and error are minimized by an error correction system before they can reach the ears of the listener. It is these hidden, inaudible noises that Tone sought to unlock by overriding the error correction system of the CD player. By modifying the surface of the disc, the CD began to act differently in the playback in ways that had not been intended by its designers:

> A new technology, a new medium appears, and the artist usually enlarges the use of the technology. … Deviates. … The manufacturers always force us to use a product their way. … However people occasionally find a way to deviate from the original purpose of the medium and develop a totally new field.[78]

In 1984, Tone started using scotch tape with pinholes to affect the playback of compact disc recordings. His first attempt involved a recording of Debussy's *Preludes*. The modification of the CD surface affected the pitch, rhythm and speed of the original recording, as well as introducing a stuttering effect that was different with each playback of the CD. Tone recalls: 'I was pleased with

the result because the CD player behaved frantically and out of control. That was a perfect device for performance.'[79]

Tone's first release involving modified CDs was the 1986 *Music for 2 CD Players*, for which he used 'famous music, so you recognized parts of Beethoven and Tchaikovsky tunes but very much distorted'.[80] This was followed in 1997 with the recorded release *Solo for Wounded CD*.[81] This was a studio version of his 1995 performance of *Musica Iconologos* (1993) – a media-specific piece created for CD.[82] Tone had wanted to perform *Musica Iconologos* live, without simply replaying what already existed on the disc. In order to do this, he prepared the CD of the piece using his scotch tape technique, which produced an indeterminate and unpredictable outcome. The transmission of information between medium, machine and output was disrupted, causing the disc to indeterminately stutter, jam and glitch during live performance, 'remixing' *Musica Iconologos* in the process.

Tone's prepared discs work by disrupting the communication process between the CD and the playback device. The scotch tape was carefully placed where the laser hit the disc surface, resulting in a modified reading of the digital signal. As Tone remarks:

> The scotch tape enables me to make burst errors without significantly affecting the system or stopping the machine. The error-correcting software constantly interpolates between individual bits of misread information, but if adjacent bits are misread, a burst error occurs and the software mutes the output. If a significant number of bursts occur in one frame, the error increases until it eventually overrides the system.[83]

Modifying the CD disc surface causes the CD system to behave in a peculiar manner: 'It cannot decide what to do.'[84] At times, this causes the disc to hesitate and search for the signal. In such instances, Tone intervenes: 'When the CD player stops or hesitates to advance, I tap it or slightly shake it. This very tiny movement affects the machine's behaviour – maybe changing the focal distance of the laser beam – and it recovers from malfunctioning.'[85]

Tone's overriding of the CD's error correction system and distortion of the disc's information not only created unpredictable sounds – glitches, clicks and stutters. It also affected the CD player's control function, so that the progression of the CDs playback order was unpredictable. However, as Caleb Kelly notes, there is an irony to Tone's wounded CDs, in that getting the disc to effectively malfunction is a very delicate operation. The marks on the disc surface have to be placed in precise positions, or error correction will 'catch' the modified data or simply fail to play at all.[86] Tone's experiments sought to evade both the CD system's 'normal' functioning – the usual, repeated affective cycles of CD and playback system – and system failure, with which the CD becomes unaffective/unaffected and cannot be played.

While Marclay understands noise to be part of the expressivity of the medium itself, and Chavez views it as part of an ongoing, 'organic process' of material interactions, for Tone, noise is an issue of 'de-control'. While the process of 'wounding' is precise, once modified, the effects it may have in terms of both the functioning of the machine and its sonic output are for the most part unknown: 'The sound I generate does not come from my conscious mind or a projection of my mind. I do not know what will come out beforehand.'[87] Tone's prepared, or 'wounded', CDs thus transform a technology designed to reproduce a recording with near perfection into a highly entropic and indeterminate system producing sounds that had not been heard before, revealing in the process the diegetic noise that is always there but rarely reaches the listener's ears.

Though taking different approaches, Marclay, Chavez and Tone's practices depart from the notion of the master-composer controlling and manipulating an inert 'thing'. Noise's affectivity does not result in a deviation from the ideal, an unwanted decline in accuracy and fidelity, but is celebrated as the cause of unpredictable, serendipitous outcomes. The Cartesian distinction between 'active' musicking subject and 'passive' musical object is rendered insufficient in that the medium and media noise are understood as having some kind of creative capacity or 'liveliness' – they help to generate what is heard in playback and performance. Such an approach is complemented by the Deleuzian–Spinozist emphasis on material bodies and their transformative relations. While the composer may engineer the conditions in which the medium acts, it is viewed as having an affective capacity in and of itself that stretches beyond human determination. This capacity, in turn, is determined by its material-affective connections with a playback system and the wider milieu: the medium's functioning within a larger network of relations.

Macrodisruptions: Noise as weapon

Thus far, noise has primarily been approached as a technical phenomenon, arising from discs, records, wires, tapes and tinfoil cylinders. Yet, while the notion of noise as an affective, transformative force, as I have framed it, emerges from information theory, it also operates as such within and across other registers. Indeed, as Serres's parasite reminds us, noise connects the social, the biological, the acoustic and the technical.

Here I move from 'de-control' to extreme control, from the creative and generative to the harmful. Noise's affectivity – its capacity to disturb, interfere and transform – can be demonstrated in relation to the weaponized uses of sound and vibration. In these instances, acoustic-vibrational force is deployed as a means of disrupting, dispersing and ultimately weakening the power of groups, collectivities and populations. For Steve Goodman,

acoustic force frequently functions as a means of inducing fear, dread and anxiety; in short, it helps create a 'bad vibe'.[88] In Goodman's exposition, these affectations pertain not only to the individual body-as-subject's emotions or feelings but also to the collective sensory registers of crowd-bodies and population-bodies. In these instances, sonic weapons are designed to affectively function as noise – they are meant to induce a transformative disruption that, in Spinozist terms, involves a weakening of the targeted body's capacity to act.

While sonic warfare has numerous geo-historical lineages, it is significant that some of the key paradigms underlining the use of sound as an audio-affective weapon and other militarized 'environmental technologies' stem from cybernetics and information theory.[89] The cybernetic notion of feedback and its recognition of the affective relationship between individual and environment lends itself to a behaviouralist model that posits the milieu as a mechanism of control: a means of intervening in the affective lives of those who exist in relation to it. Indeed, the cybernetic subjects upon which this model is predicated and which is continually co-produced with their environment has clear resonances with the relational Spinozist body that I have employed here. Consequently, it is important to recognize that notions of the relational body-as-subject and affective environments are by no means exclusive to, but are entangled with, militarist histories and agendas.[90]

In the context of sonic warfare, affect becomes an 'object-target' as well as a bodily capacity and mode of relation. For Ben Anderson, object-targets are constituted by their 'apparatuses', which in turn consist of institutions, materialities, techniques, people and much more.[91] Through the 'object-target', the affective lives and registers of bodies become knowable and actionable. In the context of 'total war', in which no clear distinction is drawn between 'solider' and 'civilian', 'military' and 'population', named affective conditions such as morale, panic and dread are intimately connected to modes of governance and exercises of power. These affective conditions are neither universal nor static; rather their corresponding apparatuses and geopolitical contexts are constitutive of the ways in which they are defined, known and measured.[92] Technics and techniques of noise might be understood as a component of the apparatus of sonic warfare, insofar as they have been mobilized in relation to particular object-targets (e.g. dread, fear, panic, exhaustion) so as to modulate the affective capacity of a target-body.

This affective logic underlines the Israeli Defence Forces' use of sonic force against 'enemy' bodies. Since (at least) 2005, the IDF has indiscriminately deployed 'sonic booms' against the civilian populations inhabiting the Gaza Strip. The booms, which typically occur at night, are the result of low-flying Israeli Air Force fighter jets breaking the sound barrier over the densely populated strip, sending shockwaves through the territory. It was reported that over the course of a single week in 2005, twenty-eight sonic booms were deployed, sometimes at hourly intervals through the night. According

to affected Palestinians, these sonic booms are often indiscernible from the sound of a missile strike or bomb explosion. They describe the experience as being hit by a wall of air that is painful to the ears, that 'leaves you shaking inside'. Stress, panic attacks, heart problems and nosebleeds were also attributed to the booms.[93] Children were said to be particularly affected by the attacks, with reported symptoms including bed-wetting, anxiety attacks, concentration problems, loss of hearing and breathing difficulties.[94]

Israeli and Palestinian human rights groups described such attacks as the 'collective punishment' of civilians and as constituting a breach of international law. However, Israeli officials have denied the severity of such tactics, insofar as they are not thought to cause any 'real' or lethal damage – in short, sound bombs are considered preferable to 'actual' bombs.[95] In 2005, *The Guardian* cited an anonymous Israeli intelligence source as stating that the attacks were designed to encourage civilians to withdraw their support for armed Palestinian groups: 'We are trying to send a message in a way that doesn't harm people. We want to encourage the Palestinian public to do something about the terror situation. … What are the alternatives? We are not like the terrorists who shoot civilians. We are cautious. We make sure nobody is really hurt.'[96] The claim that sonic booms are preferable to 'actual' attacks is echoed by Rannan Gissin – an advisor to Ariel Sharon: 'The inconvenience that it [sonic booms] causes the Palestinian population cannot be measured against the question of life or death for Israelis on the other side.'[97] Sonic booms were thus argued to be less 'damaging' than a physical attack: while they may negatively affect the bodies of the victims who experience it, the 'discomfort' they caused was deemed temporary.

Both Israeli and Palestinian accounts understand sonic booms to disturb, disrupt and negatively affect targeted civilians – though, as is clear, the extent to which civilians are negatively affected is disputed. In 2005, Israel's Prime Minister Ehud Olmert claimed that 'thousands of residents in southern Israel live in fear and discomfort, so I gave instructions that nobody will sleep at night in the meantime in Gaza'.[98] The logic behind the use of sonic booms was to (re)create an atmosphere of 'fear and discomfort' through the disturbance and disruption of the people's lives, inhibiting the usual functioning of the social. More generally, the purpose of sonic booms is to weaken the morale of populations – to decrease their capacity to act through the induction of a particular collective affectation. By indiscriminately disturbing smaller bodies – of individuals, families, schools, and local communities – sonic booms act upon the larger, collective, Palestinian population-body through inducing a particular, negative ambience or vibe.[99] In other words, the affective registers of the Palestinian population-body, and, specifically, the nameable affective experience of 'fear and discomfort', are rendered object-targets of the Israeli military apparatus. However, as Goodman notes, the deployment of sonic booms 'threatens not just the traumatized emotional disposition and physiology of the population but the very structure of the built environment'.[100] Following

the 2005 attacks in Gaza, there were reports of broken windows, cracked walls and structural damage to buildings.[101] This suggests that sonic booms not only disrupt and subsequently (negatively) transform the affective lives of individual and collective civilian bodies, but also transform the broader, architectural milieu.

In addition to these more obvious, overtly militarized uses of sound and vibration as a force of disruption, the deployment of sound as a way to affectively police social space and target enemy bodies has been used in 'everyday' power struggles that occur on the high street, in bus shelters and outside of libraries. In 2006, the 'Mosquito' device became audible (to some) in what might have once been considered public spaces. Operating according to similar principles as ultrasonic pest controls, this 'anti-loitering' device emits an uncomfortable, pulsing, high-pitched frequency around seventeen kilohertz, at a thirty-five to forty metre range, and at a maximum volume of one hundred and eight decibels. It aims to dispel what are deemed to be socially 'undesirable' groups of young people and prevent them from congregating in particular areas – outside shops, fast food outlets, building foyers and housing estates – without the need for face-to-face confrontation.

The Mosquito targets a particular demographic according to age and affective capacity. The high-frequency sound is designed to be heard only by those under twenty-five, since the higher bandwidth of audible frequencies ordinarily deteriorates with age. For those who are able to hear it, the Mosquito makes a space uncomfortable to occupy for a sustained period of time. Those who cannot hear it (i.e. those over twenty-five, or those whose hearing bandwidth has sufficiently deteriorated) remain unaffected by the device. The Mosquito's 'power' does not come from the 'inherently' noisy frequency it emits. Rather, it is intended to affect targeted bodies as noise. As with other forms of weaponized sounds, the Mosquito is designed to interfere in its targets' lives, making a space uncomfortable to occupy and, in turn, disrupting and inhibiting the formation of crowd-bodies. In other words, like sonic booms, the device negatively affects both 'individual' and 'collective': it acts upon both the body of a young person under the age of twenty-five and the composite body of 'youths' that it seeks to dispel.[102]

The deployment of the Mosquito device has been controversial and has faced significant opposition – namely, because it indiscriminately affects children and young adults, and is argued to impinge on their human rights.[103] Consequently, a subtler audio-affective deterrent has emerged that no longer relies on generating physical discomfort in order to inhibit the occupation of particular social spaces. Since 2010, Compound Security Systems – the original manufacturer of the Mosquito device – has been offering a 'Music Player' device for those who feel they are no longer able to use the Mosquito device because of 'local public youth pressure'.[104] Rather than emitting loud and uncomfortable high-frequency tones, this system plays either 'royalty free Classical or Chill-out music'.[105] The premise behind the device is simple:

'youths', 'hoodies' and other 'loiterers' are understood to find classical music unpleasant or irritating. Subsequently, playing it outside shops, at public transport stations or even in library foyers deters them from occupying those spaces.

While proposed as an alternative, the use of classical music as an audio-affective deterrent actually predates the Mosquito. North East England's Tyne and Wear Metro became one of the first companies in the United Kingdom to employ such tactics, broadcasting Fredrick Delius's incidental music for the play *Hassan* (1923) at their stations in 1997. Speaking in 2005, Mike Palmer, the General Director of Tyne and Wear Passenger Transport Executive (Nexus), asserts that the introduction of the music is not intended to soothe and calm passengers, 'but to provide a background of music that people who we are aiming at ["troublemakers"] don't actually like and so they move away'.[106] The music was principally understood to target 'low level antisocial behaviour', including swearing and smoking at stations. While not criminal in and of itself, this behaviour was thought to create a *fear* of crime: Tom Yeoman, a spokesperson for Nexus, states that 'even if they [loitering "youths"] didn't have a violent agenda, they looked like they might have'.[107] The groups congregating in stations were felt to be menacing by some passengers and so inhibiting their presence, via music, was understood to make passengers feel more secure. Furthermore, like the mosquito, the piped classical music is thought to target only a certain demographic. The BBC reporter Melissa Jackson states: 'It's a win-win situation. Troublemakers have been driven out, but the music continues by popular demand because passengers say it helps pass the time while they are waiting for their train.'[108] The piped music is thought to be disturbing only for menacing social 'undesirables', while the 'right' clientele remain unaffected as they are thought to find the music pleasant. Indeed, the organization of social space through such tactics – the attraction of certain bodies and the repelling of others according to age and social status – can be thought of as a form of 'low-intensity class warfare',[109] in which the music of the elite is deployed against the young, the poor and the bored.

Classical music's deployment as an everyday sonic weapon exemplifies the entanglement of affective, discursive and semantic registers: its extra-musical associations and symbolic connotations (e.g. of 'propriety', 'civility', 'oldness') both inform and are reinforced by classical music's use as an audio-affective deterrent.[110] However, affective states and bodily capacities are 'not linear effects of apparatuses and the ideas and intentions that make them'.[111] As Michael Gallagher has shown apropos of the habituation of birds to gas gun bird-scarers (i.e. avian sonic warfare), it is not inevitable that particular sounds will generate particular affects: sound's affectivity is neither subjective nor objective but contextual, arising in situ.[112] By extension, there is no guarantee that this music will generate the affections it is intended to in the bodies that it targets – that is, irritation and annoyance. Affect exceeds such determinations.

The disruptive, transformative functioning of these three examples of audio-affective control – sonic booms in Gaza, the Mosquito devices of UK streets and the piped classical music of bus stops and metro stations – cannot be sufficiently captured in relation to the individual body-as-subject. Though they undoubtedly affect individuals, these sonic weapons also target the composite bodies of a particular demographic or populace; they are intended to interrupt, fragment and thus weaken the relations of collectivities. It is not just that these sonic weapons generate negative affections in an individual listening subject. Nor is it that they are experienced as unwanted or unpleasant sound. Rather, these weapons are designed to be disruptive (and subsequently destructive) to the formation and functioning of larger, compound bodies within and upon a particular space. In doing so, they seek to diminish their affective power: the capacity to, and ways in which a composite body can, act and be acted upon. In this context, noise not only affects individuals but also groups, crowds and even the built infrastructure of an environment.

If noise is understood as an affective, transformative force-relation, then the noisiness of sonic weapons does not pertain to what they sound like – be it a high-pitched frequency, a sonic emulation of an explosion or the music of Vivaldi – but to what they do. However, noise's deployment as a weapon also makes apparent the need to distinguish between necessary and unnecessary noise. Just because a degree of noise is inevitable, insofar as the medium/milieu always affects relations, it does not follow that all manifestations of noise are therefore unavoidable. Likewise, as was noted apropos of cybernetics, though they are often associated with notions of suddenness and shock, it does not follow that all noisy disruptions are unpredictable: as the use of sonic weapons makes clear, noise can be wilfully and strategically deployed. Noise and affect; and noise as affect can be intentional and unintentional, unpredictable and calculated, random and targeted.

4'33" and the vibrational milieu

The inevitability and affectivity of noise can be accounted for from an alternative definitional approach that complements the notion of noise as a parasitic perturbation, while also further countering the dualist hierarchy between necessary signal and contingent noise. This second notion of noise pertains to a ubiquitous backdrop, an inaudible hubbub that fills every silent space or, rather, *is* every silent space. Though this might be thought of as autonomous from noise's parasitic manifestations, I assert that these two noises – noise as inaudible background and noise as the perturbing relation to relations – can be connected to one another by returning, once again, to the notion of the medium/milieu.

In *Genesis* (1982), which was published two years after *The Parasite*, Serres describes a noise that is the 'the ground of our perception, absolutely uninterrupted, it is our perennial sustenance … the residue and cesspool of our message'.[113] While noise is often thought of as distracting – it diverts attention away from a particular activity and towards itself – in this instance, it goes largely unnoticed, overshadowed by the presence of discrete signals. This continuous background noise inaudibly fills the silence of the absent sound-signal:

> Background noise may well be the ground of our being. … Noise cannot be a phenomenon; every phenomenon is separated from it, a silhouette on a background, like a beacon against the fog, as every message, every cry, every call, every signal must be separated from the hubbub that occupies silence in order to be perceived, to be known, to be exchanged. As soon as a phenomenon appears it leaves the noise; as soon as a form looms up or pokes through, it reveals itself by veiling noise. So noise is not a matter of phenomenology, so it is a matter of being itself. It settles in subjects as well as in objects, in hearing as well as in space, in the observers as well as in the observed, it moves through the means and the tools of observation, whether material or logical, hardware or software, constructed channels or languages; it is part of the in-itself, part of the for-itself, it cuts across the oldest and surest philosophical divisions, yes, noise is metaphysical.[114]

Noise, from this perspective, is not just necessary in the sense that it is inevitable (that is, a signal will inevitably encounter interference), but necessary in the sense that it is foundational. There is no escaping background noise; it cannot be abated – it has no outside, no antithesis, no contrary: 'The background noise is permanent, it is the ground of the world, the backdrop of the universe.'[115] Nor is this noise defined in opposition to signal but, rather, exists in itself: as noise itself. It is not signal's antithesis but its precursor: 'the originating rumor and murmuring'.[116] It is noise that is continuous and the signal that is intermittent.

It is this noise that is gestured towards but never truly grasped in John Cage's notorious 'silent' piece: *4'33"* (1952). The piece famously exemplifies the impossibility of absolute silence by foregrounding the background noise that occupies every silence, or, rather, *is* silence. *4'33"* draws the listener's attention towards the sonic base that hearing usually ignores but which accompanies every sound and musical performance. The piece shows that, contrary to popular belief, music cannot and does not begin in silence because the concert hall is already full of sound – the sound of the wind outside, the gentle hum of an air conditioning unit or the drone of the distant traffic. It is this noise that Cage primarily refers to in his 1937 essay, 'The Future of Music: Credo': 'Wherever we are, what we hear is mostly noise. When we ignore it, it disturbs us. When we listen to it, we find it fascinating. The sound of a truck at fifty miles per hour. Static between the stations. Rain.'[117] Yet,

the Cagean notion of a 'silent' background noise is more than a collection of ignored sounds. Cage's noise also pertains to a vibrational realm that exceeds audibility, remaining external to, but providing the conditions for, signal, sound and music.[118] It is 'the perpetual sonic flux of the world that is the condition of possibility for any audibility of sound'.[119] This transcendental component to Cagean background noise exists out of earshot – as what Cage refers to as 'non-sound'.[120] Even the most still spaces are buzzing: the air is never at rest, filled with vibrations. These vibrations, however, cannot be heard through paying attention and listening closely. They persist in silence.

Sound-signals emerge from and return to background noise. As Aden Evens notes, audible sound does not come into being with the vibration of a pre-existing stillness (i.e. silence) but emerges with 'the vibration of vibration', insofar as the space in which it occurs and moves through is already moving: 'Every string plucked, every throat cleared vibrates a vibration.'[121] When a new sound reverberates, it ripples the vibrational reservoir that is background noise, forming a crest. With this, it is 'explicated'. Yet, Evens argues that there is always something of the imperceptible background noise that is 'implicated' in sound: 'Explication only goes so far and the contraction that draws clarity from noise drags along a residue of obscurity, lines of relaxation that anchor every sound to the noise it came from.'[122] In other words, sound remains tethered to the vibrational substrate from which it emerges; the perceptible crest remains connected to its imperceptible depths. When a sound-signal fades into inaudibility, it relaxes into this vibrational plane. Sounds, as audible vibrations, 'do not disappear but dissipate. … Sounds spread out, they become less and less contracted, they fuse, but still they remain, their energy of vibration moving the air and the walls in the room, making a noise that still tickles the string of a violin playing weeks later.'[123] The emerging and dissipating sound-signal affects and is affected by the ever-changing vibrational space: as sounds dissipate, they remain resonant but become imperceptible, rejoining and transforming the energetic substrate from which they arose.

Background noise, as the inaudible depths from which audible sound emerges and returns to, can be thought of as consisting of past and future sounds. Yet, as Evens argues, audible sound, as the vibration of vibration, is not simply noise given form. Noise, rather, is the imperceptible medium that sound emerges from and through. Indeed, Evens echoes Serres's remarks on the necessarily noisy middle/milieu/medium when he argues that physicists have it the wrong way round when they insist that the formal relationship between noise and signal is one where noise modulates an otherwise calm and consistent signal: 'Though it is often the case that signal overwhelms noise, it is noise that binds the signal, that *serves as a medium,* a baseline, a plane of relief against which signal stands out.'[124] And, like all material mediums, this background noise is affective: it not only provides the conditions for sound's emergence but also shapes and is shaped by the sound-signal. Emergent sound-signals resonate with the background buzz or form patterns of interference with it: they affect and are affected, animate

and are animated, by the vibrational plane. Background noise and sound-signal are co-productive: sounds transform the noisy, vibrational medium/milieu as they emerge and return to it, while the noisy, vibrational medium/milieu helps to shape the sound, contributing to its timbral quality and undertone. The timbre of a violin or piano tone, for example, involves not only the wave components issued by the instrument but also the incidental vibrations that already animate a space.[125] In short, noise contributes to a sound's qualitative particularity: though it is imperceptible and inaudible in itself, it has perceptible and audible effects.

It is the notion of the noisy medium/milieu, moreover, that connects parasitic noise to background noise. Parasitic noise is considered to be an effect of the medium, while background noise *is* a medium: it is the vibrational milieu that sound emerges from but also travels across and through. So, if the medium exposes the signal to noise, and background noise functions as a medium, then the latter (the vibrational milieu) can be understood to expose the signal to the former (the parasitic relation). Understood in this way, parasitic noise (the relation to relations) and background noise (the vibrational milieu) become two distinct dimensions of one type of noise.

Conclusion: From negativity to affectivity

In *Edison's Residue* (2006) by John Bowers, the landmark recording of the phonograph inventor's voice takes on a new life as the base material for a series of six improvised pieces. It is not Thomas Edison's recitation that is the focal point of the work: rather, as its title suggests, *Edison's Residue* foregrounds the noise of recording that is often hidden from earshot – be it through listening practices or production conventions. Using noise reduction software, the 'signal' of the voice of Edison is stripped away, rendering the inventor absent. The residual media noise becomes the focal point and is combined with other noises ordinarily suppressed in 'good' recording practice: the sounds of handling microphones, feedback, switch clicks and so on. The piece foregrounds that which is normally overshadowed by the presence of meaningful 'content' but nonetheless remains. Fittingly, the six variations are not dedicated to Thomas Edison, but to Charles Cros, the French poet and inventor who came close to inventing the phonograph prior to Edison. Cros had written up a description of the 'Paleophone' – a device that recorded sound using a cylinder and a screw – and sent a paper describing his proposed process of sound recording to the French Academy of Sciences in April 1877 (a number of months before Edison invented the phonograph) – but had not got round to constructing a prototype by the time Edison's recording device was introduced in the United States.[126]

Like the work of Marclay, Chavez and Tone, 'Edison's residue' can be thought of as drawing attention to the inevitable presence of the necessarily

noisy medium, which underlines, affects and persists in the absence of the signal. Both noise and Cros have played important roles in the history of sound recording but are often sidelined: just as the sound of Edison's voice overshadows the noisy presence of the material medium, Edison's successful invention overshadows Cros's alternative medium.

Understood as an affective, transformative relation between entities, or between entities and milieus, noise is detached from both the constitutive listening subject and particular acoustic qualities: it names a relational force, rather than a judgement or thing. It is also detached from a constitutive series of hierarchical dualisms. Noise is the 'excluded middle' that must be included. It is not secondary and contingent but necessary and unavoidable. Hence this relational, affective understanding of noise assumes no correlation between noise and unwantedness; it does not suppose that noise only induces 'negative' effects, or affections. Noise is constituted by its affectivity rather than its negativity.

At first glance, it would seem unlikely that skipping records and sonic weapons would have much in common. However, these examples helpfully demonstrate noise's affectivity. For Marclay, Chavez and Tone, the disruptive, transformative relations between milieu, medium and sonic content generate new creative potentials, allowing the artist and his or her audience to discover more of what a medium-body can do. Their work reveals the *a priori* values of information theory – stasis, clarity and accuracy – to be contextual and contingent, thus opening up a space for noise to be something other than a 'necessary evil'. For the collective-bodies targeted by sonic booms, mosquito devices or even classical music, noise is also disruptive and transformative. However, in this instance, the transformation involves a weakening of a collectivized enemy or opponent – a diminishment of what its body can do. Neither of these examples, moreover, can be grasped by thinking of noise in terms of a subjective, personal event – as something that happens to, and acts upon, an individual listener. Rather, they require us to take affect in its broadest, Spinozist sense – of one entity acting upon another: be it an engagement between two signals; the milieu, medium and its content; or the relationship between a mass of vibrations and a population. Thus, just as Serres understands there to be a relational connection between social, biological and informational parasites, affect can be used to connect the noise that occurs on informational, artistic and sociopolitical registers, while also allowing for the aesthetic, ethical and contextual differences between these manifestations.

Notes

1 I am using the term 'transcendental' as it is defined by Deleuze, referring to an impersonal and pre-individual field that provides the genetic conditions

for real experience (hence Deleuze's seemingly paradoxical 'transcendental empiricism'). This differs significantly from the Platonic transcendentalism of R. Murray Schafer (see Part 3), in that it is not positioned atop or apart from the given and the perceptible. Rather, the transcendental field (distinct from the transcendent) is in excess of but also entangled with actual, perceptible forms.

2 Paul Hegarty, 'Just what is it that makes today's noise music so different, so appealing?', *Organised Sound* 3, no. 1 (2008): 13–20, 13.

3 Salomé Voegelin, *Listening to Noise and Silence: Towards a Philosophy of Sound Art* (London: Continuum, 2011), 65.

4 Raia Prokhovnik, *Rational Woman: A Feminist Critique of Dichotomy* (London and New York: Routledge, 1999), 21.

5 See Karen Barad, *Meeting the Universe Halfway* (Durham: Duke University Press, 2007).

6 Prokhovnik, *Rational Woman,* 37.

7 Gregory J. Seigworth and Melissa Gregg, 'An inventory of shimmers', in *The Affect Theory Reader*, ed. Melissa Gregg and Gregory J. Seigworth (Durham: Duke University Press, 2010), 1–26, 2.

8 Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham: Duke University Press, 2002), 32.

9 Ben Anderson, *Encountering Affect: Capacities, Apparatuses, Conditions* (Farnham: Ashgate, 2014), 77.

10 Seigworth and Gregg, 'An inventory of shimmers', 2.

11 Ibid., 3.

12 Douglas Kahn, *Noise, Water, Meat: A History of Sound in the Arts* (Cambridge, MA: MIT Press, 2001), 22.

13 Gilles Deleuze, 'On Spinoza', *Les Cours de Gilles Deleuze* (English translation), http://www.webdeleuze.com/php/texte.php?cle=14&groupe=Spinoza&langue=2 (accessed March 2012).

14 This connects with the definition of death offered by Bruno Latour. He describes how at a conference he asked participants to offer an antonym for the term 'body'. He was intrigued by the response of 'unaffected': 'To have a body *is to learn to be affected.* … If you are not engaged in this learning you become insensitive, dumb, you drop dead.' Bruno Latour, 'How to talk about the body: the normative dimension of science studies', *Body and Society* 10, nos. 2–3 (2004): 205–29, 205. However, this boundary between life/death and affectivity/unaffectivity is not always clear. Indeed, while a human body is thought to die when a heart ceases to beat for an extended amount of time, this deceased body continues to change; its relations decompose as it is affected by the forces of the milieu until eventually it becomes something new, that is to say a new series of relations. In other words, the human body dies as it can no longer maintain its key relations but, as matter, it also lives on; it becomes a new type of body, with different affective powers and capacities.

15 Deleuze 'On Spinoza'.

16 Ibid.

17 Benedict de Spinoza, *Ethics,* trans. Edwin Curley (London: Penguin Books, 1996), II/L3, 41.

18 The mind, as an idea of the body, consists of the innumerable ideas of the simple bodies that constitute a larger, composite body. In other words, the structure of the body, as a complex relation of dynamic parts, is similarly mirrored in the structure of the mind, as a composite of the ideas of simple bodies.

19 Gilles Deleuze, *Expressionism in Philosophy: Spinoza* (New York: Zone Books, 1992), 217.

20 Ibid., 257.

21 Gilles Deleuze, *Spinoza: Practical Philosophy* (San Francisco: City Light Books, 1988), 124.

22 Ibid., 127.

23 Claude Shannon, 'The mathematical theory of communication', in *The Mathematical Theory of Communication*, ed. Claude Shannon and Warren Weaver (Chicago: University of Illinois Press 1998), 29–115, 31.

24 For more on this, see Jonathan Sterne, *MP3: The Meaning of a Format* (Durham, NC: Duke University Press, 2012), 78–89.

25 R. V. L. Hartley, 'Transmission of information', *Bell System Technical Journal* 7 (1928): 535–63, 535.

26 See Sterne, *MP3*: *The Meaning of a Format,* 87.

27 Warren Weaver, 'Some recent contributions to the mathematical theory of communication', in *The Mathematical Theory of Communication*, ed. Claude Shannon and Warren Weaver (Chicago: University of Illinois Press 1998), 1–28, 3.

28 Shannon, 'The mathematical theory of communication', 65.

29 Ibid.

30 Weaver notes that if one forgets the particular definition of noise used in information theory, then it might seem paradoxical that noise increases information: 'If noise is introduced, then the received message contains certain distortions … and that would certainly lead one to say that the received message exhibits, because of the effects of noise, an increased uncertainty. But if the uncertainty is increased, the information is increased, and this sounds as though the noise were beneficial!' Ibid.

31 Ibid., 22.

32 James Allen-Robertson, 'The materiality of digital media: the hard disk drive, phonograph, magnetic tape and optical media in technical close-up', *New Media and Society* (2015), 1–16.

33 Voegelin, *Listening to Noise and Silence*, 48.

34 Sterne, *MP3: The Meaning of a Format*, 76–7.

35 Jussi Parikka, 'Mapping noise: techniques and tactics of irregularities, interception and disturbance', in *Media Archaeology: Approaches, Applications and Implications*, ed. Erkki Huhtamo and Jussi Parikka (Berkley and Los Angeles: University of California Press, 2011), 256–77, 260—3.

36 Greg Hainge, 'No(i)stalgia: on the impossibility of recognising noise in the present', *Theory, Culture, and Society* 46 no. 1 (2006), 1–10, 3.

37 Ibid., 9.

38 Sterne, *MP3: The Meaning of a Format*, 77.

39 N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies and Cybernetics* (Chicago: University of Chicago Press, 1999), 63.

40 Stefanos Geroulanos and Todd Meyers (eds), *Henri Atlan: Selected Writings* (New York: Fordham University Press, 2011), 17. In addition to his scientific work, Atlan has written a number of essays on Spinoza, addressing the ramifications of his ontology for notions of causality, determinism and free will. For Atlan, however, there is no hierarchy between scientific and philosophical modes of exploration. Scientistic paradigms do not explicate philosophical ones or vice versa; rather they each support and are supported by the other. Spinoza's thought mirrors self-organization's theory of nature, while also further enabling Atlan to consider the ethical and political implications of this theory.

41 See also Henri Atlan, 'Noise as a principle of self-organization', in *Henri Atlan: Selected Writings*, ed. Stefanos Geroulanos and Todd Meyers (New York: Fordham University Press, 2011), 95–113, 111.

42 Noise's beneficial capacity can also be seen in relation to the phenomenon of stochastic resonance, which refers to instances where a small amount of noise can improve a (non-linear) system's detection of faint signals. Noise may help boost a signal above a particular threshold. In image processing, for example, the contrast of an image may improve and then degrade as the level of pixel noise increases. There are also a large number of 'natural' examples, in which noise helps in the detection of particular signals. David Russell, Lon Wilkens and Frank Moss have shown that stochastic resonance enhances the normal feeding behaviour of paddlefish. With the optimum amount of electrical noise present, paddlefish were able to locate and capture more distant plankton, than when there were higher or lower noise levels. See David F. Russell, Lon A. Wilkins and Frank Moss, 'Use of behavioural stochastic resonance by paddle fish for feeding', *Nature* 402 (1999): 291–4.

43 Steven D. Brown, 'Michel Serres: science, translation and the logic of the parasite', *Theory, Culture and Society* 19, no. 3 (2002): 1–27, 2.

44 Michel Serres, *The Parasite,* trans. Lawrence R. Schehr (Minneapolis: University of Minnesota Press, 2007), 3.

45 Ibid., 230.

46 Ibid., 51.

47 Ibid., 53–4.

48 For more on this, see Stephen Crocker, 'Noise and exceptions: pure mediality in Serres and Agamben', *CTheory* (2007), http://www.ctheory.net/articles.aspx?id=574 (accessed January 2012).

49 Serres, *The Parasite,* 14.

50 Ibid., 52.

51 Ibid., 14.

52 Ibid., 3.

53 Ibid., 77. The French *Chasser* means both hunt and chase. Serres plays on this definition by taking up the parasitic relation of the hare and the gardener: 'The hare is in the third position, and thus, he must be excluded. He must be chased, hunted down. I fear that this is the origin of hunting. The only things that are hunted are those that have to be chased away. In the end, there are two kinds of animals: those that are invited and those that are hunted. Guests and quarry. Tame and wild.' Ibid.

54 Ibid., 14.

55 'A trunk, the tail the head: the trunk of the relation between head and tail. The milieu, the mediate. What is between, what exists between. The middle term. The means and the means to an end. The means and the tool; the tool and its use; the means and its use.' Ibid., 65.

56 See Steven Connor, 'Michel Serres's milieux', *ALBRALIC* '*Meditations*' *Conference,* Belo Horizonete, 23–26 July (2002), http://www.stevenconnor.com/milieux/ (accessed March 2011).

57 Ibid.

58 Serres, *The Parasite,* 70.

59 Ibid., 79.

60 Ibid.

61 Ibid., 63.

62 Connor, 'Michel Serres's milieux'.

63 Serres's understanding of noise in *The Parasite* marks a significant departure from its theorization in earlier works, such as *Hermes*. Prior to *the Parasite,* Serres primarily recognizes noise as the enemy of communication. Variations and errors in communication were seen as extraneous and required removal. See Michel Serres, *Hermes: Literature, Science, Philosophy* (Baltimore: John Hopkins University, 1982).

64 Zoe Sofia, 'Container technologies', *Hypatia* 15, no. 2 (2000): 181–201.

65 Paul DeMarinis, 'Erased dots and rotten dashes, or how to wire your head for preservation', in *Media Archaeology: Approaches, Applications and Implications*, ed. Erkki Huhtamo and Jussi Parikka (Berkley and Los Angeles: University of California Press, 2011), 211–38, 211.

66 Ibid.

67 Anne Laforet, Aymeric Mansoux and Marloes de Valk, 'Rock, paper, scissors and floppy disks', http://pi.kuri.mu/rock/ (accessed November 2015).

68 Martha Buskirk, 'Bit rot: the limits of conservation', *Hyperallergic* (2014), http://hyperallergic.com/131304/bit-rot-the-limits-of-conservation/ (accessed November 2015).

69 See Liz Kotz, 'Marked records/program for activity', *Christian Marclay: Festival* issue 1 (New Haven, CT: Yale University Press, 2010), 10–21.

70 Jason Gross, 'Christian Marclay: Interview', *Perfect Sound Forever* (1998), http://www.furious.com/perfect/christianmarclay.html (accessed March 2012).

71 Ibid., My emphasis.

72 Christian Marclay, *Record Without a Cover* (Recycled Records, 1985).

73 Rob Young and Christian Marclay, 'Don't sleeve me this way', *The Guardian,* 14 February 2005, http://www.guardian.co.uk/music/2005/feb/14/popandrock (accessed March 2012).

74 Kotz, 'Marked records/program for activity', 14.

75 Michael Snow and Christian Marclay, 'Michael Snow and Christian Marclay: a conversation', in *Replay Marclay*, ed. Jean-Pierre Criqui (Zurich: JRP Ringier, 2007), 126–36, 129.

76 Kelly Armendariz, 'Words of the artist: Maria Chavez and Jen Liu', *Splatterpool,* 24 October 2010 [online video] http://www.youtube.com/watch?v=vEYUilNWgg0&feature=related (accessed January 2012).

77 Tara Rodgers, *Pink Noises: Women on Electronic Music and Sound* (Durham: Duke University Press, 2010), 98.

78 Yasunao Tone, quoted in Caleb Kelly, *Cracked Media: the Sound of Malfunction* (Cambridge, MA: MIT Press, 2009), 238.

79 Ibid., 236.

80 Chris Buck, 'Yasunao Tone: random tone bursts', *The Wire* (2011), http://www.thewire.co.uk/in-writing/interviews/yasunao-tone_random-tone-bursts (accessed January 2013).

81 Yasunao Tone, *Solo for Wounded CD* (Tzadik: TZ 7212, 1997).

82 Tone's compositional process for *Musica Iconologos* involved translating the characters of two Chinese poems – 'Jiao Liao Fruits' and 'Solar Eclipse in October' into sound. Tone chose images that he considered to represent the characters of the poems' scripts. These were then translated using an 'optical music recognition' program. For more on this, see Kelly, *Cracked Media*, 241.

83 Christian Marclay and Yasunao Tone, 'Record, CD, analogue, digital', in *Audio Culture: Readings in Modern Music*, ed. Christoph Cox and Daniel Warner (London: Continuum, 2006), 341–7, 342.

84 Ibid.

85 Ibid.

86 Kelly, *Cracked Media*, 217.

87 Jared Davies and Yasunao Tone, 'Yasunao Tone interviewed by Jared Davies', *Un Magazine* 2, no. 2 (2008), 12–15, 14.

88 The term 'vibe', as Goodman uses it, marks the connection between vibration and affective atmosphere. So 'bad vibes' refers to both negatively affecting vibrations and a negative collective affect, dominated by feelings of fear and dread.

89 Anderson, *Encountering Affect*, 41, 62.

90 For more on this, see Donna Haraway, 'A cyborg manifesto: science, technology, and socialist-feminism in the late twentieth century', in *Simians, Cyborgs and Women: The Reinvention of Nature* (New York: Routledge, 1991), 149–81.

91 Ibid., 33.

92 Ibid.

93 Chris McGreal, 'Palestinians hit by sonic boom air raids', *The Guardian,* 3 November 2005, http://www.guardian.co.uk/world/2005/nov/03/israel (accessed October 2012).

94 Associated Press, 'Human rights groups sue to stop Israeli sonic booms over Gaza', *Haaretz* (2005), http://www.haaretz.com/news/human-rights-groups-sue-to-stop-israeli-sonic-booms-over-gaza-1.173053 (accessed January 2013).

95 See Goodman, *Sonic Warfare*, xiv.

96 McGreal, 'Palestinians hit by sonic boom air raids'.

97 Wilf Dinnik, 'Israel's sonic booms terrifies Gaza children', *ABC News*, 29 December 2005, http://abcnews.go.com/WNT/story?id=1453692 (accessed October 2012).

98 B'Tselem, 'The sonic booms in the sky over Gaza', *B'Tselem* (2010), http://www.btselem.org/gaza_strip/supersonic_booms (accessed October 2012).

99 I use negative here in its Spinozist sense, insofar as sonic booms inhibit the affective power of a body. For more on what constitutes a positive/negative encounter from a Spinozist perspective, see Part 3.

100 Goodman, *Sonic Warfare*, xiv.

101 McGreal, 'Palestinians hit by sonic boom air raids'.

102 The Mosquito device has also been innovatively appropriated by its target demographic. In 2006, it was reported that schoolchildren had adapted the frequency used by the Mosquito device into a mobile phone ringtone that could be heard only by students and not by teachers. Consequently, students could hear phone call and text message alerts in class without their teachers noticing. See Valerie Strauss, 'The Mosquito ringtone: kids hear it, adults can't', *The Washington Post,* 19 March 2010, http://voices.washingtonpost.com/answer-sheet/student-life/the-mosquito-ring-tone-kids-ca.html (accessed October 2012).

103 The joint campaign 'Buzz off', which involves Liberty and the National Youth Agency, has called for the Mosquito device to be banned. See http://www.liberty-human-rights.org.uk/campaigns/buzz-off/ (accessed July 2013).

104 Compound Security Systems Limited, 'The CSS music player', *Compound Security Systems*, http://www.compoundsecurity.co.uk/sites/default/files/css-music-player-03.pdf (accessed October 2012).

105 Ibid.

106 Melissa Jackson, 'Music to deter yobs by', *BBC News Magazine* (2005), http://news.bbc.co.uk/1/hi/magazine/4154711.stm (accessed January 2013).

107 Ibid.

108 Ibid.

109 Theo Kindynis, 'Weaponising classical music: waging class warfare beneath our streets', *Ceasefire Magazine* (2012), http://ceasefiremagazine.co.uk/weaponising-classical-music-class-warfare-waged-beneath-cities-streets/ (accessed January 2013).

110 See Lily Hirsch, 'Weaponizing classical music: crime prevention and symbolic power in the age of repetition', *Journal of Popular Music Studies* 19, no. 4 342–58.

111 Anderson, *Encountering Affect*, 78.

112 Michael Gallagher, 'Sound as affect: difference, power and spatiality', *Emotion, Space and Society* (2016), Advance online publication. doi: http://dx.doi.org/10.1016/j.emospa.2016.02.004.

113 Michel Serres, *Genesis,* trans. Geneviève James and Nielson James (Ann Arbor: University of Michigan Press, 2005), 7.

114 Ibid., 13.

115 Ibid., 62.

116 Ibid., 14.

117 John Cage, 'The future of music: credo [1937]', in *Silence: Lectures and Writings* (London: Marion Boyars Publishers, 2009), 3–6, 6.

118 Christoph Cox, 'Sound art and the sonic unconscious', *Organised Sound* 14, no. 1 (2009): 19–26, 22.

119 Ibid., 23.

120 'A sound does not view itself as thought, as ought, as needing another sound for its elucidation … it is occupied with the performance of its characteristics … urgent, unique, uninformed about history and theory, beyond the imagination, central to a sphere without surface, its becoming is unimpeded, energetically broadcast. There is no escape from its action. It does not exist as one of a series of discrete steps but a transmission in all directions from the field's center. It is inextricably synchronous with all other sounds, non-sounds, *which latter, received by other sets than the ear, operate in the same manner.* A sound accomplishes nothing; without it life would not last out the instant.' John Cage, 'Experimental music: doctrine [1955]', in *Silence: Lectures and Writings* (London: Marion Boyars Publishers, 2009), 13–17, 14. My emphasis.

121 Aden Evens, *Sound Ideas: Music, Machines, and Experience* (Minneapolis: University of Minnesota Press, 2005), 14.

122 Ibid.

123 Ibid., 13.

124 Ibid., 14. My emphasis.

125 Ibid., 6.

126 Bowers, J. M. '*Edison's Residue* by J. M. Bowers', *Onoma Research*, http://www.onoma.co.uk/jmbowers.html (accessed June 2013).

PART THREE

Acoustic ecology, aesthetic moralism and the politics of silence

Noise is the chief enemy of the acoustic community.

BARRY TRUAX, *Acoustic Communication*, 58.

He who sleeps in continual noise is wakened by silence.

WILLIAM DEAN HOWELLS, *Pordenone* IV.

Introduction: Forest noise

Francisco López's *La Selva: Sound Environments from A Neotropical Rainforest* (1998) presents the listener with a series of sonic snapshots from the lowland rainforest of Costa Rica. The seventy-minute piece draws its sonic matter from the complex and mutable soundscape: tropical rain, waterfalls, plants, leaves; and the activities of insects, amphibians, birds and mammals – including, infrequently, humans. These sounds, however, are not intended to function as referents to various flora and fauna. Nor is the recording meant to serve as a representation of a 'live event'. López makes clear that the piece was created as a musical composition. Though he does not deny the piece's representational qualities, López describes these as 'side-effects' as opposed to essential content. Apropos of Pierre Schaeffer's *l'object sonore*, López proposes that the compositional work should be heard via an acousmatic listening approach, with which attention is focused on the experiential qualities and properties of sounds themselves. Many of López's 'natural' sounds are rendered abstract, their sources elusive: there

are electronic-sounding chirrups and abrasive buzzing of unidentifiable origins. Some sounds move gradually between background and foreground, while others rapidly appear and disappear.

La Selva is noisily dense throughout. Though it is often quiet, the soundscape that is created is cluttered, with repetitive calls, rustlings, creaks, cracklings, squeaks and drones overlapping and interfering with one another. Indeed, López considers noise an integral component of both his musical composition and the sonic milieu of the rainforest. Where acoustic ecology has frequently framed noise as an 'enemy of the acoustic community'[1] and a threat to the 'natural' soundscape, López's piece makes apparent the necessity and affectivity of noise. Contrary to normative bioacoustic recording practices that typically seek to isolate sounds according to species, López takes a more systemic approach, presenting these sounds within their wider acoustic milieu: 'The sound-producing animal species appear together with other accompanying biotic and non-biotic components of the sound environment that happened to be there when the recordings were done.'[2] In López's piece, the presence of the noisy milieu/medium is not minimized. Rather, signal and noise, foreground and background, event and context are presented together, alluding to the notion that what is heard stems from the combination of sound source and its environment: 'The birdsong we hear in the forest is as much a consequence of the bird as of the trees or the forest floor. If we are really listening, the topography, the degree of humidity of the air or the type of materials in the topsoil are as essential and definitory as the sound-producing animals that inhabit a certain space.'[3] Just as the vibrations of the string in combination with the background vibrations of the concert hall determine the tone of the violin, the chirrup of the cicada or the rustling of the leaves on the forest floor are necessarily infected and affected by their medium/milieu: 'As soon as the call is in the air, it doesn't belong to the frog that produced it anymore.'[4] Though it is often imagined to be inimical to it, noise, as López's piece demonstrates, is by no means antithetical to the natural. The rainforest is full of noise.

In this section, I build upon the affective approach to noise outlined in Part 2 in order to call into question the conservative politics of silence. This auditory politics is constituted by a dualistic 'aesthetic moralism', which positions noise as 'bad' to silence's 'good'. At its centre is a nostalgic and Romantic imagination of nature and the natural as tranquil, harmonious and pure. The natural is characterized as belonging to a 'better' time, uninfected and unbroken by the noise of technology and modernity. R. Murray Schafer's environmentalist praxis of acoustic ecology is taken as exemplary of this view, in that it presents silence as a rare and precious phenomenon that has been destroyed by a vulgar and polluting noise. Noise is equated with a negative affectivity; it is considered detrimental and damaging to individual listeners, social relations and the natural environment. I do seek to deny the legitimacy of Schafer's concern for the sonic environment and the environment more generally. However, as López's *La Selva* suggests, the ontological and moral coupling of noise with 'badness' is both reductive and

reactionary. I aim to radically reconfigure the conservative politics of silence and its underlying aesthetic moralism by drawing out the ethical dimension of Spinoza's philosophy of affects, as appropriated by Deleuze.

I begin by discussing the ideological basis of Schafer's aesthetic moralism, outlining the 'origin myth' that features in his book *The Soundscape: Our Sonic Environment and the Tuning of the World*. This details how, with the birth of the machine and electronic amplification, the soundscape has shifted from 'quiet' to 'noise'. In this narrative, noise is characterized as a perturbing force that has upset a 'natural' sonic order. In the past, a balance was maintained between sound and silence. This balance, however, has been upset by the noise of Western modernity and industrialism. Now, a constant cacophony dominates the acoustic environment.

It is important to note that aesthetic moralism and the conservative politics of silence are by no means unique to Schaferian acoustic ecology: its characterizations of noise and silence are mirrored by many perspectives within and outside of the field. Indeed, though some of the views in Schafer's text might be dismissed as simply outdated (it was originally published as *The Tuning of the World* in 1977), its groundbreaking status means that it remains influential within soundscape discourses, and for a significant number of contemporary artists and researchers. I also draw upon more recent accounts by Ursula Franklin and Stuart Sim to demonstrate how silence, *contra* noise, is associated with a positive affectivity. Where noise is characterized as damaging and destructive, silence is afforded a healing, reviving and rejuvenating capacity.

The Schaferian prioritization of silence is not just political: it is also metaphysical. The aesthetic moralism of Schafer's account is further enforced by a Platonic transcendentalism, which posits a perfect and unbroken silence to underpin all worldly activity. I interrogate the relationship between Schafer's pure, ideal and inaudible silence and the fundamentally impure, material and imperceptible background noise referred to in the previous section, before discussing the limitations of this Schaferian approach to noise and silence. Returning to the topic of neighbour noise, I critically consider examples that complicate these affective and moral characterizations of acoustic environments: the policed silence of the suburbs, the complex auditory politics of the post-industrial 'creative city', and the 'positive' experiences of neighbour noise revealed by Jacqueline Waldock's soundscapes project based in Liverpool's Welsh Streets.

Returning to Spinoza's philosophy of affects as appropriated by Deleuze, I argue for a shift away from a transcendental moral order, and towards a more nuanced, ethical understanding of noisy encounters. In this Spinozist context, the ethical pertains to the relational, while 'good' and 'bad' describe the character of the relation. Against Schafer's aesthetic moralism, I argue that there is nothing inherently 'good' or 'bad' about noise; rather, such categorizations are secondary, relational and contingent. Again, this is not to deny that noise can – and does – have negative effects, but neither is it to deny that noise can – and does – have beneficial, positive and serendipitous

outcomes. In other words, my argument is not that understanding noise as negative is necessarily incorrect, but rather that noise's negativity has been overstated, insofar as it has been treated as constitutive. Indeed, as Waldock's project makes clear, by drowning out other possibilities and potentialities of auditory experience, this coupling of noise with negativity has had broader political implications. By foregrounding the ethical dimension of Spinoza's philosophy of affects, the affective approach outlined thus far is converted into an *ethico-affective* approach, which serves to further rupture the correlation between noise, unwantedness and badness.

The loss of silence

In the introduction to *The Soundscape: Our Sonic Environment and the Tuning of the World*, R. Murray Schafer boldly announces that the soundscape has 'reached an apex of vulgarity in our time'.[5] More and larger sounds have come to dominate in all corners of the soundscape, resulting in an imperialistic and incessant cacophony. The acoustic environment is sick, ravaged by the disease of noise. Left untreated, Schafer warns, this sickness could result in a 'universal deafness'. Indeed, it is precisely because we no longer listen sensitively that the noise disease has got this far: noise pollution is what happens when the world no longer listens carefully. However, this situation cannot be sufficiently resolved through noise abatement legislation. Though it might assist in some localized instances, noise abatement is ultimately a reactionary and negative strategy in that it only deals with specific and quantified symptoms rather than the broader root problem. Instead, Schafer proposes a positive, didactic and qualitative approach, centred on the listening subjects who must develop a learnt appreciation and respect for their acoustic environment: 'Which sounds do we want to preserve, encourage, multiply? When we know this, the boring and destructive sounds will be conspicuous enough and we will know why we must eliminate them.'[6] If this cacophony has been allowed to continue because listeners have become desensitized, then Schaferian acoustic ecology's solution lies with a resensitization of listeners to the sounds of their surroundings. Through the collection and analysis of sound recordings, information databases and community surveys, and through pedagogical workshops, listening exercises, sound walks and musical compositions, acoustic ecology seeks to reopen the listener's ears to the world so as to raise awareness of the positive and detrimental effects of sound upon humanity.

Schafer's proposed field of soundscape studies – the exploration of the listener's relationship to the sounds of his or her environment – occupies a middle ground between science, the social and the arts. Acoustics and psychoacoustics bring an awareness of 'the physical properties of sound and the way sound is interpreted by the human brain'. Social analysis reveals 'how man behaves with sounds and how sounds affect and change his behaviour'. The pedagogical values of the arts – particularly music – teach

us 'how man creates ideal soundscapes for that other life, the life of the imagination and psychic reflection'.[7] For Schafer, these three disciplinary strands are the foundation for what he refers to as 'acoustic design': an interdisciplinary field in which musicians, acousticians, psychologists, sociologists and others would study the world soundscape together in order to make intelligent recommendations for its improvement at both local and global registers. This collaborative approach would involve the assessment of sound's influence and impact upon the behaviour of listeners within a particular milieu – for example, acoustic design would study 'the effects of new sounds before they were released into the environment', as well as 'human behaviour patterns in different sonic environments in order to use these insights in planning future environments for man'.[8] Thus, central to the Schaferian model of acoustic ecology is a recognition of the affective dimensions of environmental sound and a consideration of its capacity to harm or uplift, disturb or comfort, or to encourage or inhibit thought and contemplation.

Schafer understands environmental sound to be an active component in the formation of social, political and cultural relations; it influences the way in which a society or community takes shape and the behaviour and activities of its inhabitants. Similarly, a society's soundscape – the prominence, frequency and order of certain sounds and the absence of others in a particular setting – is taken to be an indicator of the social conditions that produce it, insofar as the soundscape both effects and is an effect of social practices, power relations and ideologies. Echoing a Platonic concept of musical mediation, Schafer posits that the soundscape can reveal the 'sickness' or 'well-being' of a society. Where an ordered and harmonious soundscape reflects an ordered and harmonious society, a disordered and dissonant soundscape is revealing of social disorder and disharmony: 'When the rhythms of the soundscape become confused and erratic, society sinks to a slovenly and imperilled condition.'[9] The deafening cacophony of our contemporary soundscape is both a damaging force within and a signifier of our destructive, urbanized epoch, which negatively affects the health of both the individual and collective. Thus, from a 'bottom-up' perspective, the noise of the urban milieu shapes the ways in which inhabitants behave and engage with the world. From a 'top-down' perspective, the prevalence of noise within contemporary life communicates the purported decline in social and moral values: it is expressive of (metaphorical and literal) illness. Through his notion of sonic mediation, Schafer problematically conflates the aesthetic with the moral, the political and the medical.

With the establishment of an 'imperialist urbanism' has come the death of a 'natural' quietness. Schafer laments the loss of, sonically speaking, a better time, during which silence was prevalent within everyday life:

> In the past there were muted sanctuaries where anyone suffering from sound fatigue could go into retirement for recomposure of the psyche.

> … At one time stillness was a precious article in an unwritten code of human rights. Man had reservoirs of stillness in his life to restore the spiritual metabolism. Even in the hearts of cities there were dark, still churches and libraries, or the privacy of drawing room and bedroom. Outside the throb of cities, the countryside was accessible with its lulling whirr of natural sounds. There were still times too. The holy days were quieter before they became holidays. In North America, Sunday became Fun-day. The importance of these quiet groves and times far transcended the particular purposes to which they were put. We can comprehend this clearly only now that we have lost them.[10]

Schafer's description of the audible past makes apparent certain ideological dualisms that organize the relationship between noise and silence in *The Soundscape*. Noise is heard as the product of urbanization and capitalism – it is aligned with the city and industry. Silence and quietness, by contrast, are imbued with a spiritual naturalism – they characterize the acoustic territories of the church and the countryside. In Schafer's account, silence is equated with tranquillity; tranquillity is equated with the natural; and the natural is equated with the good. Where noise is the product of Western (i.e. Eurocentric) modernity, natural sounds and soundscapes are feminized (e.g. 'What was the first sound heard? It was the caress of the waters. … The ocean of our ancestors is reproduced in the watery womb of our mother and chemically related to it') and Orientalized (e.g. 'a visit to the bazaars and traditional towns of the Middle East will impress one by the quiet, almost furtive manner in which large numbers of people manage to go about their business without disturbing one another').[11] Natural quietude is romanticized as belonging to a lost, better time unbroken by the sounds of machines, the presence of antisocial teenagers and the outpourings of twenty-four-hour entertainment. If silence is a 'human right', noise is what inhibits that right.

Schaferian acoustic ecology's nostalgic characterization of the 'natural' soundscape of the past and the 'unnatural' soundscape of the present reflects what Zsusi Kovacs et al. have identified as a beauty bias inherent to many ecological practices, with which 'positive' and 'negative' environments are delineated according to aesthetic notions of beauty and ugliness. This is enforced by the marked preference in ecological practices for 'pristine', 'remote' and 'wild' locations – virgin forests, undisturbed wetlands and ungrazed grasslands – that remain untouched by human activity or development. By contrast, urban and human-dominated landscapes have only recently been recognized as an important point of focus for ecology and have typically been viewed as aesthetically and environmentally inferior.[12] However, while Schafer certainly conflates the natural with the beautiful and the beautiful with the good, his aesthetic moralism does not just arise from an exclusive focus on natural sounds, nor from a straightforward categorization of organic sounds as good and synthetic sounds as bad. There

are certain machine sounds that Schafer sees as worthy of preservation: there are the 'rich and characteristic' sounds of early steam locomotives and the whistle of the Canadian Pacific Railway engine.[13] Rather, the prioritization of silence over noise (and correspondingly, the rural over the urban, the natural over the synthetic, the human over the machine) is primarily articulated through Schafer's analytical classifications of hi-fi and lo-fi soundscapes.

Just as a hi-fi sound system possesses a favourable signal-to-noise ratio, Schafer's hi-fi soundscape 'is one in which discrete sounds can be heard clearly because of low ambient noise level. The country is generally more hi-fi than the city; night more than day; ancient times more than modern.'[14] In a hi-fi soundscape, sounds overlap and interrupt one another less frequently; sounds are uncrowded, separated from one another by pools of silence. The quietness and clarity of the hi-fi soundscape is conducive to an attentive and detailed listening: 'From the nearest details to the most distant horizon, the ears operated with seismographic delicacy.'[15] Without inhibiting levels of background noise, the listener is able to hear further into the distance, just as the viewer is able to see further into the distance in the countryside. Even the slightest sonic disturbance can communicate vital or interesting information: the implications of sound are well known to the open and trained ears of the hi-fi soundscape. For the characters of the rural landscape – the shepherd, the woodsman and the farmer – the minutest sounds have significance, providing clues to the changes in the environment. For Schafer, these acoustic qualities pertain to the 'original' or 'natural' soundscape of the ancient and pre-modern world. This was a time during which humans lived largely in isolation or in small communities and listened with an 'animal alertness'.[16] Life was generally quiet and tranquillity was the status quo, other than in exceptional circumstances – such as the outbreak of war, or religious celebration. These outbursts – the aberrational noise of war or the sacred noise of religious activity – stood in direct and purposeful contrast to the minimal sounds of everyday life.[17]

The antithesis of the hi-fi soundscape is the lo-fi soundscape. If the former is characterized by silence, stillness and clarity, then the latter is characterized by noise, messiness and confusion. Schafer states that in a lo-fi soundscape 'individual acoustic signals are obscured in an overdense population of sound'. Discrete sounds – 'a footstep in the snow, a church bell across the valley or an animal scurrying in the bush' – are 'masked by broadband noise. Perspective is lost.'[18] In comparison to the distance afforded by the hi-fi soundscape of the pre-modern, rural milieu, the modern city 'abbreviates this facility for distant hearing (and seeing), marking one of the more important changes in the history of perception'.[19] And while the hi-fi soundscape allows both foreground and background, this distinction is eradicated in the lo-fi soundscape: 'On a downtown street corner of the modern city there is no distance; there is only presence. There is cross-talk on all the channels, and in order for the most ordinary sounds to be heard they have to be increasingly amplified.'[20] The loss of perspective as

a result of information overload means that the lo-fi environment is often alienating. Expanding on Schafer's framework, Barry Truax argues that the lack of clarity, distinction and discretion in lo-fi soundscapes leads to the listener feeling 'cut off' from the world. While the hi-fi environment encourages participation, engagement and communication, reinforcing 'a positive relationship between individual and environment', the loss of perspective, eradication of distance and the overwhelming presence of sound in the lo-fi soundscape paradoxically leads to the listener feeling separated and isolated: 'The person's attention is directed inwards, and interaction is discouraged by the effort to "break through" that is required.'[21] The noise of the lo-fi soundscape requires the listeners to fight against the sounds of their environment in order to make sense of the world.

With the historical transformation of the landscape from rural to urban, the 'original' hi-fi soundscape has lost its clarity and sound-signals have lost their significance. Noise has upset the natural order of things, disturbing a holistic equilibrium that allows all sounds to be heard clearly. The soundscape has gone from being rich with information to incomprehensible: 'Today the world suffers from an overpopulation of sounds; there is so much acoustic information that little of it can emerge with clarity. In the ultimate lo-fi soundscape the signal-to-noise ratio is one-to-one and it is no longer possible to know what, if anything, is to be listened to.'[22] For Schafer, this chaotic lo-fi soundscape was introduced during the Industrial Revolution and further amplified by the 'Electric Revolution' that followed. The new sounds of machines and technology had 'unhappy consequences for many of the natural and human sounds which they tended to obscure'.[23] With the emergence of audio playback and amplification technologies, sounds have been dislocated from their temporal and spatial context, becoming repeatable and transportable. Schafer labels this phenomena 'schizophonia', referring to the split between original sound and its electroacoustic manifestation.[24] These technologies have contributed to the establishment of a 'synthetic soundscape in which natural sounds are becoming increasingly unnatural'.[25] Schafer asserts that the domination of the auditory environment by amplified, synthetic and machinic sounds has led to the creation of an incessant and relentless racket that suppresses the audibility and qualitative particularity of unamplified sounds: 'Just as there is no perspective in the lo-fi soundscape (everything is present at once) similarly there is no sense of duration, with the flat line of sound.'[26] These machine sounds no longer obey the 'normal' (i.e. anthropocentric, organic) rhythms of existence, insofar as they are disconnected from a human energetic capacity – because the machine does not stop, nor does the sound: 'We may speak of natural sounds as having biological existences. They are born, they flourish, they die. But the generator or the air-conditioner do not die; they receive transplants and live forever.'[27]

Against the 'dynamic hedonism' of the contemporary, lo-fi soundscape, Schafer seeks to rediscover a more harmonious and 'natural' acoustic environment, in which each sound can be heard clearly without interruption

or interference from a clamorous background. According to Schafer's principle of mediation, an improved, well-balanced soundscape will also lead to an improved, well-balanced society, insofar as the soundscape shapes and is shaped by social, political and cultural relations. The political task of acoustic ecology is to retune the soundscape; it is to promote and, where possible, preserve the clarity and precision of the hi-fi soundscape through a reduction of the obscuring noise of the lo-fi. The task of Schaferian acoustic ecology is to keep the communication channels of the acoustic environment clear, subsequently allowing for the smooth transmission of sonic information between listener and milieu. By cleaning up the polluted soundscape and by reducing the levels of background noise, allowances will be made, once again, for silence.

Silence's virtue

In Schaferian and Schaferian-inspired narratives of acoustic ecology, silence counters the toxicity of noise. It is characterized as having a beneficial and reviving effect; it has the power to rejuvenate the body, mind and soul of the listening subject. It is construed as fundamental to the health and well-being of the individual and, by extension, to the health and well-being of a society. Yet, this prioritization of silence as 'good' is largely reactionary – it is often claimed that the benefits of silence (and its necessity for the well-being of the listening subject) have become most apparent with its destruction. Ursula Franklin, for example, claims that there is a need for silence within a community just as there is a need for other basic, uncontaminated resources: 'Silence possesses striking similarities with those aspects of life and community such as unpolluted water, air or soil, that were once taken as normal and given, but have become special and precious in technologically mediated environments.'[28] Drawing upon the spiritual use of silence within Quaker meetings, she argues that collective silence is 'an enabling condition that opens up the possibility of unplanned and the unprogrammable happenings'.[29] Silence allows the unexpected to emerge and in doing so allows listeners (or worshippers) to get in touch with themselves; it leaves our ears open to something new. However, this 'enabling' silence, which once belonged to the commons and was experienced as a common good, is at odds with the privatized, social values of modern technology: 'Present technological trends drive us towards a decrease in the space – be it in the soundscape, in the landscape and in the mindscape – for the unplanned and the unplannable to happen.'[30] As this makes clear, Franklin, like Schafer, associates technology with noise and the destruction of silence. Just as 'the commons' of the land has been destroyed through enclosure, the common availability of silence has been 'privatized' by the amplified sounds of technology. The monotonous, programmed noise of our contemporary

technologies inhibits this potential for the unplanned, inasmuch as it destroys the potential for silence. For Franklin, technology, 'apart from some isolated, cocooned individual situations', requires conformity. Technological creativity can only take place within a narrow set of parameters, and so 'as the world gets more and more structured by technology, the possibility of the unexpected is reduced. The nooks and niches in which things can happen become more constrained.'[31] Franklin thus proposes that we need to stand up for the 'common good' of silence by fighting to preserve the quietude of natural spaces and by undertaking 'small initiatives' to make silence audible within our everyday lives.

Alongside spiritual meditation and auditory openness, silence is posited as a necessary condition for thought and intellectual health. In his *Manifesto for Silence* (published thirty years after Schafer's *The Tuning of the World*), Stuart Sim argues that thought and silence have a symbiotic relationship: silence is what affords us time and space to think and reflect, and so is a requirement for concentration and clarity of ideas. Silence should occupy the moments between the articulation of and response to a thought-provoking question – it gives the respondents the necessary time and space to formulate their ideas without interruption. Noise, conversely, is what blocks thought or, rather, 'proper' thought. For Sim, thought 'is an essentially silent activity and is difficult to sustain in a noisy society – and certainly is likely to become superficial when competing with other stimuli. This cannot be good for our collective cultural health'.[32] Where silence allows us to gather and focus our thoughts, noise disrupts and distracts us from them, placing us in a state of inattentiveness and limiting our capacity to take in or mentally process information.[33] Yet, noise not only inhibits thought; for Sim, it also signifies thoughtlessness. It shows a lack of care for the needs and desires of others: their need for sleep, their need for reflection and – ultimately – their need for silence. This 'need', Sim argues, is what defines us as human, insofar as machines and non-human entities do not require silence in the same way.[34]

In comparison to the 'thoughtlessness' of noise, silence is taken to be a marker of respect for the voices and desires of others. If noise dominates, inhibiting the transmission of thought and conversation, silence, by contrast, facilitates democratic engagement; it allows for one to be heard and for one to listen. The political implications of this are clear – while noise is viewed as an imperialist force that cuts off the listener from the world, silence promotes egalitarian participation in the world. In Schafer's hi-fi soundscape, voices remain uncrowded and uninterrupted, and there is space between sounds for reflection. Thus, and to return to Franklin's terms, a collective respect for silence is thought to enable everyone to have the opportunity to be heard and also to listen. For Schafer, this notion also applies to sound events; there is a need to regain silence 'in order that fewer sounds can intrude on it with pristine brilliance'.[35] Silence encourages clear and careful listening (what he calls 'clairaudience'). Without sufficient silence, the communicative significance of sound is lost.

While Schafer, Franklin and Sim assert that silence plays a fundamental and beneficial role, they argue that it is silence – rather than noise – that is often felt to be unwanted and undesirable by the modern listener. Schafer claims that the failure to preserve silence is partly due to the negative connotations it has in 'Western' society and the feelings of fear, isolation or terror it may induce for the listener unfamiliar with its presence. In a world of ceaseless sound, where noise has been able to reign supreme, the 'Western listener' has come to be scared of silence.[36] Of particular significance is the association of silence with death: 'Man fears the absence of sound as he fears the absence of life. … Since modern man fears death as none before him, he avoids silence to nourish his fantasy of perpetual life.'[37] The presence of sound reassures the modern listeners that they are – and remain – connected to the world and others that occupy it. Consequently, when the listeners are plunged into silence, they desperately try to find sound. Within the anechoic chamber, famously utilized by John Cage in his pursuit of silence, 'The ears strain to pick up evidence that there is still life in the world.'[38] According to the oft-repeated creation story of Cagean aesthetics, two sounds were heard within the chamber: the high-frequency sound of his nervous system in operation, and the low-frequency sound of his blood in circulation. For Cage, this encounter revealed the continual presence of sound in life: 'Until I die there will be sounds. And they will continue after my death. One need not fear the future of music.'[39] The inexhaustible possibility to always hear something allows the listening subjects to reassure themselves that silence is relative, since the contemplation of an absolute silence strikes the listeners as a terrifying prospect: 'When man regards himself as central in the universe, silence can only be considered as approximate, never absolute.'[40] So long as the listening subjects consider their hearing to be the judge of silence – as definitive of the presence or absence of sound – total silence will be impossible.

As opposed to simply understanding silence as a negative phenomenon – as the absence or abatement of sound – Schafer proposes the recovery of a positive silence, through a revival of the spiritual value of stillness. If there is to be an improvement to the soundscape, then this will only be possible once silence has been (re)discovered as a positive force within our lives. Schafer asserts that in our modern epoch, contemplation has been lost as a habit and a skill, since it is inhibited by noise. If silence is necessary for contemplation, then a 'recovery of contemplation would teach us how to regard silence as a positive and felicitous state in itself, as the great and beautiful backdrop over which our actions are sketched and without which they would be incomprehensible, indeed could not even exist'.[41] Thus, with the move from a negative silence understood as the absence or suppression of sound to a positive silence that facilitates contemplation and thought, another concept of silence emerges – one that is no longer demarcated according to the threshold between noticeable and unnoticeable sound; the sounds we listen to and the sounds we ordinarily ignore. Rather, underneath the clamour of the perceptible soundscape lies an absolute, unbroken and ideal silence.

The ideal channel

At the heart of Schafer's auditory and ideological framework lies a belief in the ultimate hi-fi soundscape, within which sound-signals exist entirely unaffected and unchanged by background noise. Here lies a Platonic, transcendent realm of a pure and ideal sonority, which paradoxically exists as undisturbed and eternal silence. This silent sonority pertains to an 'unstruck' sound that exists apart from a material field of interferences, distortions and perturbations, and which constitutes an inaudible 'Music of the Spheres' – a harmonic structure expressing the fundamental ordering of the world, which is heard only by the Gods and spirits. It is this pure, perfect and undisturbed silence that Schafer understands to be the great universal backdrop to all material, earthly interactions. The ultimate and non-perturbing ground of signal is an eternal purity that the sounds of the material world aspire to approach: 'Just as man strives for perfection, all sound aspires to the condition of silence, to the eternal life of the Music of the Spheres.'[42]

The notion of a pure and perfectly transmitted sound-signal that is entirely undisturbed by noise lies in opposition to the way in which mediation has been characterized in this book. With recourse to information theory and Serres's cybernetic figure of the parasite, I have argued that exposure to noise is an inevitable and necessary component of transmission; a signal or sound wave has to travel through some form of material medium/milieu and this medium/milieu will always affect it in some way. While Schafer also recognizes the necessity and inescapability of the transformation incurred through noise exposure, it is taken to be a negative divergence from the perfection of a transcendent, harmonic order:

> The Music of the Spheres represents eternal perfection. If we do not hear it, it is because we are imperfect. … Distortion results the moment a sound is produced, for the sounding object first has to overcome its own inertia to be set in motion, and in doing this little imperfections creep into the transmitted sound. The same is true of our ears. For the ear to begin vibrating, it too has to overcome its own inertia, and accordingly it too introduces more distortions. All the sounds we hear are imperfect. For a sound to be totally free of onset distortion, it would have to be initiated before our lifetime. If it were also continued after our death so that we knew no interruption in it, then we could comprehend it as being perfect. But a sound initiated before our birth, continued unabated and unchanging throughout our lifetime would be perceived by us as – *silence*.[43]

The purity of sound within an ideal, transcendent silence – a music of unstruck sounds, immutably transmitted – can only be accessed by the perfect audition of the Gods. By contrast, the inherent 'imperfections' of a struck sound – its inevitable infection with noise as it is brought into being – marks the limit of imperfect and finite, earthly beings. Noise is an inevitable

component of sound's material existence: a degree of distortion is simply something that has to be tolerated as sound waves travel within the earthly, material field of clashes, frictions and mutations. Schafer's transcendent silence works to reassert the alignment of noise with negative impurity and silence with positive purity. Just as the lo-fi soundscape marks a deviation from the 'natural' hi-fi soundscape, noise detracts from a perfect, silent and ideal sonority – the purity of a sound that does not need to be struck in order to be heard. It is on this basis, furthermore, that the clarity of signal perception; and the purity and simplicity of tone are prioritized as original and normative, while noisy, complex or confused tones are considered to be inferior. However, there is a way in which the mortal listening subject can move beyond the impurity of noise and towards perfection of the Spheres:

> Can silence be heard? Yes, if we extend our consciousness outward to the universe and to eternity, we could hear silence. … When the Indian yogi attains a sense of liberation from the senses, he hears *anãhata*, the 'unstruck' sound. Then perfection is achieved. The secret hieroglyph of the Universe is revealed. Number becomes audible and flows down filling the receiver with tones and light.[44]

Through achieving a stillness of the mind, the meditative listening subjects can begin to dislocate from their senses and the distractive, affective clamour of the impure, material world, moving their attention away from the everyday, perceptible foreground and towards the transcendent, silent background of perfection and fulfilment that sustains all worldly activities.

Initially, it might seem that Schafer's transcendent silence is the antithesis of the transcendental background noise described in Part 2. While the former can be characterized as the ideal hi-fi environment, the latter can be thought of as the ultimate lo-fi environment, where the noise to signal ratio exists as 1:1. Schafer's silence is described in terms of purity, perfection and stasis; it expresses a permanent, universal and immaterial order that is the foundational basis for all existence. By contrast, background noise is fundamentally 'impure' and resolutely material; it is understood as a ceaseless and ubiquitous flux of vibrations that is continually changing as sound-signals emerge and dissipate. Against Schafer's pure and eternal form, this background noise pertains to a lively, mutable and generative base from which all signals emerge, travel through and dissipate into.

There is, however, a structural similarity between Schaferian silence and (empirically) transcendental background noise. The former occupies a position synonymous to an inherently 'impure' and mutative background noise, insofar as both are understood to provide the ground and conditions for all signals. Furthermore, both remain largely imperceptible to the listening subject. For Schafer, the perfect silence of the universe cannot be heard due to the imperfections of the human subject – we cannot usually hear it because of our own (physical and moral) flaws. The inevitable noise

in the channel inhibits access to this transcendent realm; it stands between the material world of clamorous interactions and the perfectly silent, ideal realm of the Gods. Background noise, too, remains largely imperceptible to the human listener, partly because it exceeds the range of frequencies normally audible to the human ear, but also because it is too present, too immanent, too ubiquitous. Its persistent omnipresence causes it to become silent, dwelling under the threshold of perception, hidden below and between those immediate, foregrounded sensory experiences.

A crucial difference remains, however, between Schafer's silence and background noise. Schafer's ideal silence is fundamentally *unaffective*, inasmuch as it allows the 'unstruck' sound-signal to be 'perfectly' transmitted without modification. By contrast, the material background noise is fundamentally *affective*; it inaudibly and continually shapes the signal, exposing it to a field of perturbing, vibrational forces. From this perspective, the 'impurities' and 'imperfections' that background noise inevitably introduces are taken to be generative, contributing to a sound's spatio-temporal specificity. By substituting the ultimate lo-fi soundscape where nothing is discrete from background noise, for Schafer's ultimate hi-fi soundscape, the ideal, unaffecting channel, the ontological coupling of noise and negativity can begin to be productively disturbed.

Universalizing the particular

Challenging Schafer's characterization of noise is not predicated on a rejection of acoustic ecology's concerns for the destruction of certain aspects of the environment and the negative effects of sound pollution. However, it is not just noise pollution that is at stake – in Schafer's framework, it appears that noise (as interference, perturbation, low fidelity or lack of clarity) and noise pollution (as it pertains to damaging and destructive levels of environmental sound) are conflated, so that virtually all manifestations of noise within the contemporary soundscape are taken to be a problem. There is an important difference between a noted, evaluative focus on the damaging effects of noise in particular contexts (for instance, one can imagine workplace situations in which a lo-fi sound environment might be dangerous), and the characterization of all noise as damaging. Schafer's negative valuation of noise as it is outlined in *The Soundscape*, moreover, is not so much based upon an in-depth empirical analysis of the social, psychological and physiological effects of purportedly rising levels of environmental sound as on an overarching, ideological and moral division between a pure, positive and natural silence and an impure, negative and unnatural noise. The conflation of the natural with quietude and the unnatural with noisiness is in itself deeply questionable: as *La Selva*, makes apparent, 'organic' soundscapes have the potential to be as clamorous as

urban ones, the rainforest can be as lo-fi as the city. López's piece also effectively calls into question the characterization of noise as unnatural – it suggests that noise is as much of the 'natural' (if not more so) as silence.[45] Yet, within the framework of Schaferian acoustic ecology, noise can only ever really be that which is to be prevented, in that it is defined in relation to negative transformations, affections and effects – be it 'imperfect' sound, damaged environments, or 'universal deafness'. Indeed, Schafer's acoustic ecology does not only share the terminology of information theory; it also shares its *a priori* values of stasis, clarity and fidelity. Where Shannon's absolute prioritization of these qualities and subsequent negative valuation of noise stems from and is expressive of the economic imperatives of the phone company (see Part 2), Schafer's stems from and is expressive of his aesthetic moralism and conservative politics of silence. This is a politics that is underlined by 'a distinctly authoritarian preference for the voice of the one over the noise of the many': it advocates for the purported quietude of the singular over and above the cacophony of the collective.[46]

In resting upon an overarching distinction between a positive, pure and natural silence that is therefore good and a negative, unnatural and impure noise that is therefore bad, Schafer's politics of silence clashes with his own attempt at a pragmatic and pedagogical approach to acoustic environments. There is a tension between the underlying and universalizing belief in a transcendent, harmonic order, which is the primary origin or 'truth' of all sound, and Schafer's documentation and analysis of context-specific sounds and their transformation over time. Schafer emphasizes that acoustic ecology's assessment of the soundscape should not take place within an abstract laboratory, but that an assessment of the effects of the acoustic environment upon its inhabitants must take place within the milieu itself, insofar as the affectivity and significance of sonic events can only be understood as they happen within a particular time and space, embedded and occurring within a wider series of relations. Yet, this approach – which recognizes the soundscape as a complex field of interactions – is countered by an ahistorical underpinning that determines not only what sonic environments are loud and quiet; positive and negative; beneficial and harmful, but also what it means to be human and, by extension, what it means to listen.[47] This tension between the universal and the particular means that while *The Soundscape* is steeped in a wealth of historical information from a range of cultural contexts, this is used to construct a general, universalizing narrative in which the soundscape of the world has gone from quiet to noise, from harmony to dissonance, from clarity to confusion, from the human to the machine, and from good to bad. Consequently – and against acoustic ecology's own ambitions – the complexity, heterogeneity and mutability of the soundscape is reduced to a series of simplistic polarities.

In erasing the contextual specificity of sonic events and their affectivity, acoustic ecology's moral definitions of 'good' silence and 'bad' noise also

inhibits further – and potentially undermining – questions regarding agency, power and circumstance: Who and what is the bringer of noise for whom? Where do the differences lie between silence and silencing? Who are silence's gatekeepers and regulators? Who and what is it that silence abates? Is silence elective or oppressive? For whom is silence a 'human right' and for whom is silence a violation of those rights? These questions can be raised in relation to weaponized and disciplinary uses of silence. While there has been much attention paid to the use of noise within torture practices and as an acoustic weapon (see Part 2), silence, too, has been used as an auditory mechanism of control, such as the torturous silence of solitary confinement. Given Franklin's remarks on Quakerism's 'positive' uses of silence, it seems pertinent that the practice of solitary confinement in prisons can be traced back to these Quaker principles: it was initiated as part of a series of prison reforms that were introduced, in part, as a result of the activist work of the Society of Friends, which sought more humane means of discipline by comparison to the practices used at the time. It was understood that prisoners would serve sentences in isolation, not simply for the sake of punishment, but so that they could commune with and seek forgiveness from God.[48] However, this latter premise was often lost in the implementation of solitary confinement. In 1821, Auburn Prison, New York, instated this new system of 'silence and solace' as a humane alternative to the death penalty. It was described by the Governors in the following words:

> The end and design of the law is the prevention of crimes, through fear of punishment, the reformation of offenders being of minor consideration. … Let the most obdurate and guilty felons be immured in solitary cells and dungeons; let them have pure air, wholesome food, comfortable clothing, and medical aid when necessary; cut them off from all intercourse with men; let not the voice of a friend ever cheer them; let them walk their gloomy abodes, and commune with their corrupt hearts and guilty consciences in silence, and brood over the horrors of their solitude, and the enormity of their crimes, without the hope of executive pardon.[49]

Silence served as a means of cutting the prisoners off from the world, forcing them to focus their minds on their alleged crimes and thus removing any hope of forgiveness or release. The use of 'silence and solace' continues today in prisons and detention camps. For instance, solitary confinement has been repurposed to manage 'non-compliant' detainees held at Guantánamo Bay, reportedly contributing to short-term and long-term psychological problems.[50] In such contexts, silence can induce the negative affective responses typically ascribed to noise. For the prisoner incarcerated within the 'hi-fi' cell, silence is experienced – and is intended to be felt – as unpleasant, disturbing, alienating and even terrifying. Silence, then, is part of a repertoire of auditory 'no-touch' torture techniques that have been used in 'the war on terror'.

In his *Manifesto for Silence*, Stuart Sim briefly concedes that in the context of solitary confinement, silence has a sinister potential. For him, however, this constitutes an exceptional and anomalous instance, in which silence's goodness is undermined through its misuse. By contrast, he considers noise to be 'inherently aggressive' and can thus be more effectively weaponized. This appeal to the innate qualities of noise and silence – noise's inherent aggression and silence's benefits to psychological well-being – allows Sim to make the seemingly baseless judgement that the silence of solitary confinement is less severe than weaponized uses of sound and noise:

> When noise can so easily be transformed into a weapon, then it must be deemed to have that potential to [negatively] disturb and disrupt in all its 'civilian' uses too, whether that is the intention or not. With the exception of solitary confinement, silence can never take on that characteristic, and unpleasant though it must be to experience it as a prisoner over any length of time, solitary confinement is a relatively benign treatment compared to sound bombs, sonic bullets and Shock and Awe.[51]

From the Schaferian perspective, such uses of silence run against its 'true' character, capitalizing on the negative but ultimately false connotations it holds within Western society (i.e. isolation and death). However, though Sim's manifesto is decidedly polemical (its explicit purpose being to speak up for the need for silence), it seems unsatisfactory to dismiss such utilizations of silence as exceptional and anomalous 'misuses'. Even in more everyday scenarios, silence may elicit responses of fear, unease and isolation. There are, for example, those who use sound and music to (borrowing from Muzak) 'fill the deadly silences' of a dauntingly empty house.[52] There are even those who prefer to sleep with sound – as testified by the abundance of 'sleep sound' devices, CDs and Smartphone apps marketed as helping the listener fall asleep, and combating insomnia by inducing a state of relaxation and meditative calm.[53] Along with the predictable repertoire of 'natural' soothing sounds – whale song, rainforest sounds, waves crashing, stream sounds – many of these devices allow the listener to select sounds that are altogether 'unnatural', and might typically be thought of as a noisy hindrance to sleep – the sound of fans, highway traffic and air conditioning units, for example. For the tinnitus sufferer, silence can be unbearable in that it maximizes the audibility of the sounds induced by the condition, while background noise and drones can help minimize and mask tinnitus's disturbing presence. While sound and affect are intimately entangled, their relationship is not straightforwardly causal: as was noted in Part 2, there are no guarantees as to sound's affectivity. Rather, sound's affects and effects are context-specific, unfolding in situ. A more satisfactory approach, then, would be to suggest that both silence *and* noise have the *capacity* to negatively affect listening bodies, and this capacity is actualized in certain situations and contexts.

It should be recognized that challenges to Schaferian acoustic ecology's naturalist bias and reductive analytical dualisms have come from those drawing from Schafer's ideas and soundscape practices. The Positive Soundscapes project, for example, has sought to move beyond acoustic ecology's primary focus on negative noise and the inimical effects of urban sound environments by putting its efforts into researching what sounds people enjoy, and emphasizing the importance of positive sound environments in urban planning.[54] The project, led by William Davies, Peter Cusack and Angus Carlyle, was a multidisciplinary investigation involving University of Salford, Manchester Metropolitan University, London College of Communication, Warwick University and Lancaster University, which ran from October 2006 to September 2009. Against Schafer's ultimately proscriptive approach, the project involved working with communities to identify the positive and negative components of their acoustic environment, subsequently developing a terminology for the expression of auditory appreciation for particular sound environments. The project thus develops Schafer's call for a positive approach to the soundscape through an engaged and analytical listening practice, while also looking to undermine his rigid, ideological hierarchies: it builds upon the pedagogical aspect of his work at the expense of his moral claims. Similarly, Peter Cusack's Favorite Sounds project, initiated in London in 1998 as a radio show for Resonance FM, looks to gather information about what people find positive about their everyday sound environment, and discover the particular sounds from the cityscape that people enjoy. Favourite sounds listed for London include Portabello Street market, woodpeckers drumming in a back garden, a duet of fox and dog barks, the rumbling escalators of Kings Cross railway station, and the sound of traffic when standing under a flyover in Hackney Wick; while favourite sounds from Manchester included Metro horns, pied wagtails and skateboarders.[55] The inclusion of urban sounds and soundscapes in Cusack's project helps to expand the aesthetic remit of soundscape recording practices. Rather than presenting human and machinic sounds as separate from or antithetical to the natural, human and non-human, animal and machine are presented alongside one another as pleasurable components of the city's sonic milieu.

Suburban quietude and the clamorous city

Exposure to noise, as well as access to silence is informed, in part, by issues of social, political and economic power. Though noise, as I have defined it, is ubiquitous – an inevitable component of material existence – some bodies, communities and demographics are more affected by noise than others. Silence or quietude, by contrast, is still an option – a luxury item, even – for those who can afford it. Schafer, Franklin and Sim all implicitly or explicitly

associate the rise in noise and the corresponding loss of silence with the rise of capitalism and the prioritization of private over public interests. However, their accounts do not relate their calls for resistance to the damaging effects of noise with an overtly anti-capitalist politics. Although they gesture towards capitalism as the driving force of ever-increasing noise levels, the methods they suggest for tackling this – careful listening practices and the reintroduction of silence and quietude into everyday life – are ultimately ameliorative: they focus on the 'symptom' (i.e. excessive levels of noise pollution) rather than what is alluded to as the 'root cause' (i.e. the socio-economic structures and ideological values of capitalism).

If silence and quietness have become increasingly scarce with growing urbanization, then this has enabled silence to become a lucrative commodity. Earlier in this book, I highlighted how silence has been used as a marketing strategy for the Toyota Yaris hybrid car, troubling any simplistic equation of technology with noise. Silence has been similarly marketed by the home appliance company AEG-Electrolux, as part of their elaborate 'noise awareness' 2008 marketing campaign. The campaign involved banners that measured and depicted the local noise levels (measured in decibels) in a number of European cities. Underneath the decibel meter came the tagline: 'In a noisy world, appliances that aren't.' The quietness of AEG-Electrolux's machines was presented as their 'unique selling point': the company's European brand director Alexander Buhl claimed that the 'key aim of this campaign was to create awareness on the issue of noise in and outside of the people's homes and offer AEG laundry products as a solution to minimize it'.[56] Thus, although silence has sometimes played an important part in collective environmental, anti-capitalist and indigenous struggles – there is, for example, the performative silence of some of the Zapatistas's actions, which alludes to both the silence imposed on the indigenous peoples of the Americas and their strategically 'silent' organization of community and resistance[57] – silence's marketization complicates any simplistic figuration of it as inherently oppositional to and a mode of resistance against corporate interests and activities.[58]

The relationship between exposure to noise, access to silence and socio-economic power can be clearly exemplified with regard to housing and neighbourhood noise. Earlier in this book, it was noted that noise from neighbours was one of the most common causes of environmental noise complaints. Neighbour noise is taken to be a problem insofar as it traverses the boundary that separates the private from the public – it comes from outside and serves to disturb and disrupt the intimate, carefully regulated and closed system of the home. Consequently, it is often described as an intrusion or invasion, a violation of privacy. This 'outside', however, is not simply the exterior to the home's interior. It also pertains to the wider milieu that the 'home' is situated within. Neighbour noise stems from and points to the context or environment in which the home – as both a material location and an ideological concept – is situated. These interfering noises of the wider

milieu can shape the actions and activities of inhabitants; they can take them from one activity and lead them to the next – from being asleep to being awake (and subsequently annoyed), from daydreaming to listening intently, from reading to looking out of the window for the source of the disturbance. These noises may even encourage the occupants to reach for the volume knob on the stereo and engage in a 'noise war', as they attempt to counter-disturb a neighbour in order to express their discontent (the 'parasite' is 'parasited' in return).

The unexpected and unplanned intrusion of noise into the home and the consequent transgression of the auditory boundary that separates private from public space raises the issue of control. Schafer sees noise as undermining the right to protect private property: 'A property-owner is permitted by law to restrict entry to his private garden or bedroom. What rights does he have to resist the sonic intruder? … At the moment a man may own the ground only.'[59] Noise threatens the authority of the homeowners, invading and transforming their sonic environment against their will. It is able to 'break into' the home without any encroachment upon the physical parameters of the property. In this context, personal autonomy and the 'right' to silence often become closely aligned with property ownership. A homeowner has – or should have – the 'right' to control and regulate the sounds made and heard within the privatized, domestic milieu, so long as it does not impeach on the acoustic environments of other property owners.

Of course, not all homes are audibly noisy; and some homes are noisier than others. In the United Kingdom (and in many other places), the desire to escape the intrusions of noise and assert sonic control over one's own home can be seen to inform a hierarchy of dwelling types. As Gerret Keizer provocatively claims, you do not need a philosopher to tell you the value of silence. 'A real estate agent will do.'[60] In terms of noise control, detached houses are considered most desirable in that they facilitate the greatest privacy, while flats are taken to be the least desirable, inasmuch as neighbourly noise comes from three or four directions – through the ceiling, through the floors, and through the walls (potentially on either side of the property). Likewise, a home is likely to decrease in value if an airport opens up within earshot; however, as Keizer notes, it is those who already live in poorer neighbourhoods who are more likely to have an airport open up next to them. And such neighbourhoods are also the least likely source of political resistance to noise-producing developments in that they are less likely to have access to information, influential connections to social and political figures, and the leisure time or recourses to organize against such developments.[61] It is the urban poor who are most exposed to neighbourhood noise – those who cannot afford double-glazing or a detached house, or those who cannot afford to buy their home at all. In short, the people who most frequently encounter sonic disturbances are typically those who already have the least control over where they live (with regard to both their housing and their broader surroundings).

For those wealthy enough, the 'quiet' suburbs have enabled a greater degree of disconnection from the noises of the world. Emerging with the migration of white, middle-class families to the outskirts of cities in the late-nineteenth and early-twentieth centuries and the corresponding infrastructural developments, and predicated upon classed and racialized exclusions, the suburbs provide a means of 'getting away from it all' – from the dirt, noise, machines and crowds of the city – while also remaining in close enough proximity for the purposes of work and entertainment (Figure 2).

FIGURE 2 *Emilio Leopoldo Tafani, 'Ruislip for the quiet English countryside [1916].' © TfL from the London Transport Museum collection. Ruislip is a suburban area of North West London that was developed with the expansion of the Metropolitan railway and the opening of Ruislip railway station in 1904.*

The withdrawal from the uncontrollable and unplanned noise of the world – from the interferences, interruptions and hubbub that characterize the urban milieu – is expressive of a suburban desire to secure against the unexpected.[62] Where the city is framed as a clamorous space of change, conflict, difference and unrest, the quiet suburbs are characterized as places of sameness, predictability and stability. The emergence of this suburban ideal – of domestic privacy, separation, quietude and control – is underlined by a constellation of historical forces, including the Industrial Revolution; the emergence of the bourgeoisie in capitalist economies and the corresponding ideological emphasis on the self, individuality, independence and autonomy; Romantic ideas of nature as a source of human enrichment; and the rise of the nuclear family as a primary economic and moral unit.[63] Indeed, although the bourgeois, suburban ideal of the quiet, controlled and private home is often treated as ahistorical, insofar as it is considered a 'reasonable' or 'normal' expectation – a 'right', even – it is, in fact, a relatively modern domestic norm.

In the suburbs, Schafer's auditory values of clarity, order and fidelity are preserved and policed. Brandon LaBelle makes this apparent in his description of the affluent suburban development of Valencia, California, which began in the 1960s and now has a population of more than fifty thousand people. The area is divided into different 'villages', which cater to different demographics – some are intended for families, while others are designed to cater for the needs of young professionals. According to the city's noise ordinance, sound levels within residential zones must not reach over sixty-five decibels during daytime and fifty-five decibels at night.[64] The most frequent breaches of this legislation are due to parties, with the police department receiving twenty to forty-five calls during an average weekend. Consequently, two police patrol cars have been put on duty within the area during the weekend period, specifically to monitor noise levels and to shut down parties when necessary. In addition, an amendment to the ordinance in 2009 enables police enforcement officers to cite the homeowner in addition to the noise offender.[65] As LaBelle notes, this change suggests that the loud parties shut down are often those being thrown by teenagers while their parents are away; the amendment means that the homeowner is served the fine, presumably alerting parents to the activities of their children. The 'confrontation' of the loud party and its parasitic disturbance of the hi-fi suburban soundscape reveal those who are excluded by the quiet order of the suburbs – the teenagers left to occupy a 'left-over zone where boredom is rife'.[66] While the adult majority might feel suburbia's quiet atmosphere to be positive in that it constitutes a mark of respect for one's neighbour and allows inhabitants to remain undisturbed by other occupants, this serenity is maintained through the suppression and policing of particular activities that deviate from the acoustic norms of suburbia and thus threaten to disturb the peace.

Though the quiet suburbs have historically been affiliated with the middle-classes and the noisy city with the urban poor, these associations

have been complicated by the emergent preference for post-industrial city living among the wealthy. Where the city was once 'clamorous', 'dangerous' and 'disruptive', it is now reframed as 'vibrant', 'lively', 'happening' and 'creative'. The migration of the middle-classes from the suburbs to the city has corresponded with attempts to 'regenerate' urban areas, as well as the displacement of poor, urban communities. This shift has its own auditory politics of noise and silence, with the continued desire for sonic control over one's own home existing in tension with the noisy soundscape of the urban milieu.

In a number of UK cities, the development of high-end residential properties next to small music venues has revealed the contradictory sonic politics of 'urban renewal'. Music venues help to instil certain urban areas with a sense of 'happeningness'. According to gentrification 'mastermind' and business consultant Richard Florida, live music adds to the cultural 'vibrancy' and 'authenticity' of an area. In doing so, it helps draw the 'creative class' to a neighbourhood. The creative class – a concept that has been a source of inspiration for planners, policymakers and local government – refers to a socio-economic group that Florida sees as the key driving force in the economic regeneration of post-industrial cities: they are integral to, catered for and exploited by processes of gentrification. Composed of 'innovators', 'thinkers' and 'creatives' from a wide range of occupational roles, including science and engineering, education, healthcare, computing, arts, design and media, the creative class, as understood by Florida, is attracted to an area by the variety of experiences on offer: hanging out at art show launches, browsing vintage boutiques, reading in coffee shops, attending indie film screenings and attending live music shows.[67]

Florida's planning recommendations for urban 'regeneration' are echoed by the property developer partnership Carillion-Igloo. The developers have been responsible for building residential properties in Newcastle upon Tyne's Ouseburn Valley – a former industrial area of the city that has in more recent years been home to a number of creative businesses, arts spaces, bars and music venues. Carillion-Igloo have claimed that they will 'encourage' live music events to continue to take place as the properties become occupied, since 'one attraction for people living here is live music'.[68]

So, on the one hand, music venues help to attract both property developers and residents to particular urban areas. On the other, music venues are by no means conducive to peaceful living conditions – they are likely to function as a source of noise within the home. Indeed, it is no accident that music venues often inhabit parts of the city that are set apart from residential accommodation. In January 2014, it was reported that Manchester's Night and Day café had received a statutory nuisance abatement notice following a noise complaint from a local resident, placing its future in jeopardy. Located in the city's Northern Quarter, the venue has been integral to the local music scene, having hosted shows for more than two decades. The complaint allegedly came from a resident who had lived in the area for

less than a year and came in spite of efforts to soundproof the venue. To many, the complaint seemed completely unreasonable: nearly seventy-five thousand people signed a petition in support of the venue that called for the abatement notice to be dropped. The author of the petition questioned why anyone who did not want to be disturbed by noise would choose to move next door to a music venue. The majority of the comments by signatories echoed this sentiment: one commenter states that 'if you make the decision to reside in the city centre, expect to experience noise. If you like the quiet, why move city centre and not a suburban area??? Utterly ridiculous'.[69] However, the Labour Councillor Kevin Peel, commenting on the case, suggested that 'the right of venues to operate as they wish has to be balanced with the right of residents – wherever they live – to peace and quiet in their own home'. He also notes that 'as more people move into the city centre there will inevitably be tensions with new and existing pubs, bars, clubs, music venues and other premises. Most residents expect and accept a certain level of disruption, but all licensed premises have a responsibility to be good neighbours.'[70]

As these remarks make clear, the 'right' to quiet in one's own home exists in direct conflict with the activities of the 'creative' city. The desire for a quiet home is understandable and yet requires the restriction of the cultural activities of others and the city as a multipurpose space. The noise generated by music venues is experienced as negative and disruptive within the home; but also appeals to those wishing to live in an area with an exciting, creative 'vibe'. Many of the Night and Day's petition commentators mention 'choice'. Yet, it also needs to be recognized that this 'choice' – the choice to live in well-soundproofed accommodation or within a quiet neighbourhood – is ultimately restricted to those who have the socio-economic freedom to make such decisions. In this context, then, the 'good' and 'bad' of silence and noise once again become complex and ambivalent.

The noise of belonging

For those living in close proximity to others in low-quality and poorly soundproofed accommodation, another tension emerges between the rhetoric of neighbourly consideration and the ideal of domestic privacy. Every sound-producing activity that takes place within one's own home – quietly watching television, conversing with a friend, or even walking across a room – can carry through to that of another. Thus, while suburban ideology typically characterizes noise from neighbours as an exceptional and transgressive breach of the peace, for many of those living in smaller and poorly soundproofed housing in densely populated localities, these disturbances are an inevitable and inescapable part of domestic life. This should not lead to naive generalizations – the 'callous and condescending assumption' that those living in poorer neighbourhoods in housing susceptible to noise are 'happy' with the situation: 'It's what "those" people do'; 'it's "their" culture';

'their ears are different.'[71] Yet at the same time, it is important to consider what happens, or what might happen, when the 'unwanted' interruptions of neighbourly noise become a familiar part of everyday life.

Soundscape artist Jacqueline Waldock's research into domestic auditory environments in Liverpool goes some way in addressing this question. Indeed, she has found that within certain communities, disturbances and disruptions from neighbours are not always experienced and characterized negatively. Waldock's work considers how urban and domestic sound environments contribute to a sense of place and community, particularly within inner-city areas of Liverpool that have been prone to social change. Such auditory sites have been ordinarily excluded from acoustic ecology's praxis due to its underlying 'beauty bias'. Waldock has worked with urban communities in producing sound diaries and portraits, for which residents have provided their own commentary and analysis. Her approach, moreover, seeks to avoid proscriptive assumptions of what sounds should be heard as significant and how they should be understood, focusing, instead, on what sounds are selected, valued and considered meaningful by participants from local communities.[72]

Crucially, Waldock's work engages with a demographic that typically remains unheard within contemporary participative soundscaping practices such as online soundmapping, where contributors upload their own recordings of sounds and soundscapes to an interactive online platform (as is the case with Cusack's Favourite Sounds project). Although they radically depart from its underlying technophobia, many of these projects share the participatory ideals of Schaferian acoustic ecology, aiming to engage amateur sound recordists and make sonic research available to the public. However, as Waldock notes, participation in such projects is often gendered – the vast majority of contributors for participatory soundscape research projects such as *UK Soundmap* and University of Salford's *Sounds Around You* being men between the ages of twenty and fifty.[73] If and how this disparity of gender influences the recording data gathered from such projects remains unknown, insofar as soundmaps remain male-dominated, and recordings by women contributors will likely be influenced by the types and styles of recordings that are already precedent. Economic factors also influence participation in these projects, since contribution is predicated upon access to some form of recording technology and the internet. As with the issue of gendered participation, Waldock argues that this economic delineation of participation may subtly influence the types of sounds that are recorded, or the types of sounds considered worthy of recording. Indeed, these participatory soundscaping projects rarely contain recordings that are from the 'private' and personal domestic setting; instead, submitted recordings typically feature the sounds of public or privately owned public spaces, such as parks, streets or transportation terminals. Waldock suggests that this notable emphasis on the public as opposed to the private is amplified by the 'impersonal' quality of the vast majority of the recordings, with recordists taking great care to eradicate or limit the audible presence of themselves.[74]

Waldock's work, which engages primarily with female participants from areas of urban deprivation, thus potentially uncovers alternative perspectives on sound and sound environments that typically remain hidden.

This has been the case with Waldock's sound project based around the Welsh Streets in Toxteth, which has revealed how certain sounds can become normalized within domestic settings, significantly altering a listener's relationship with these sounds *contra* dominant generalizations regarding 'good' and 'bad' sounds within a home's sonic environment. The Welsh Streets is an area of around four hundred and fifty terraced houses and is considered to be an area of urban deprivation. In 2003, the area was condemned under the Housing Market Renewal (HMR) initiative – a regeneration scheme involving what were deemed to be areas of low housing demand in the Midlands and the North of England, with the intention of renewing failing housing markets.[75] The Welsh Streets were consequently placed under a Compulsory Purchase Order – a legal power given to local authorities in England and Wales to buy private land that is not for sale by the owner. Usually this power is used to buy houses that are to be cleared in order to make way for new roads, railway lines and other infrastructural developments deemed to be in the public interest. However, the street where Waldock's participants lived had been served with a Compulsory Purchase Order because the council considered the houses to be 'not conducive to modern living'.[76] The houses of the Welsh Streets were to be demolished, with residents being offered the opportunity to purchase new homes built as part of the HMR scheme.

Many residents have chosen or have been forced to sell their homes, although some remain and are fighting the demolition proposals. During Waldock's project, some participating members of the community left their homes. Participant Mrs T had lived in the Welsh Streets all of her life until she was relocated to 'better' housing. During the project, she had sold her house to the council under the Compulsory Purchase Order and moved to one of the newly built properties.

One of the primary 'issues' the council identified with the Welsh Streets homes was the thickness of the walls, which the council believed to be too thin. The new build properties for Welsh Streets residents were required to have thicker, better-insulated walls, which were deemed to constitute an improvement in living standards. However, Waldock's participant Mrs T provides an alternative perspective. When Waldock asked Mrs T if she liked her new house, Mrs T responded by telling her how nice it was to have a new garden and new kitchen. Then she talked about how things had changed, including her inability to see or hear other people anymore:

> I always used to hear the neighbours through the walls. I could hear them, and they could hear me. It made me feel safe knowing that someone would hear me if I fell or they would check on me if they couldn't hear me moving or I would check on them if I heard a thump or a scream.[77]

For Mrs T, the noises travelling through the wall were not a source of irritation. They did not mark an invasion of the domestic sphere by an unwanted other. Rather – *contra* the suburban ideology of separation and control – being heard and hearing others provided a sense of comfort and reassurance. If necessary, such disturbances (or lack thereof) could alert a neighbour's attention to a potential problem. Similarly, participant N, when asked about a recording she had made of her neighbour making sounds through the walls, commented stating: 'It's the sound of community and sharing.' Thus, as Waldock concludes, the participant's relationship with the neighbourly noise 'differs greatly from the assumed norm of annoyance at neighbours who invade the private domestic space of others'.[78]

By exploring certain classed and gendered perspectives that are often overlooked by soundscape studies, Waldock's project points to the problematic nature of generalizations regarding 'positive' and 'negative' acoustic environments and, by extension, the potential dangers of acoustic ecology's aesthetic moralism. In this case, the domestic ideals of the quietness and sonic control become questionable. For Waldock's participants, the noises that seep into the home from the wider milieu stitch inhabitants into their community: they help to create a sense of belonging. Where the council considered the new properties to have an 'improved' acoustic environment, insofar as they corresponded to the ideal of domestic privacy, Mrs T's remarks suggest that she felt more isolated in her new home. In this regard, the responses garnered by Waldock make apparent some of the political implications of an aesthetic moralism that accepts notions of domestic quietude and control as unquestionable norms.

Such affective associations counter the characterization of noisy environments as inherently alienating and isolating. However, as noted before, the perspectives offered by Waldock's participants should not be used to construct a crude generalization that claims that all of those living in inner-city areas 'like' the noises of their neighbours. Nor are these perspectives suggestive that the participants 'like' all the noises of their neighbours, irrespective of context or timing. For example, one can imagine that loud music late at night would still be experienced as annoying or stressful, even if the clattering of a next-door neighbour during the day is felt to be comforting. Nevertheless, a consideration is needed of how these 'positive' affective attachments to neighbourly noise can be accounted for, without recourse to the relativist end point that one person's noise is another's sound.

From a Schaferian perspective, the acceptance of noise relies on a habituation process, through which listeners get used to interruptions and interferences. Those who do not respond negatively to noise, or do not notice it at all, are ultimately failing to notice the damage it is causing, because of their learnt failure to 'listen properly'. Barry Truax, for example, sees habituation arising out of helplessness, apathy and denial: 'At first they [listeners] notice an intruding sound, probably find it annoying but too

much trouble to do anything about, and before long they grow accustomed to it and accept its presence. Essentially they *deny* its intrusiveness.'[79] This habituation to noise requires desensitization: listeners come to tolerate noise by learning to blank it out. In other words, they adapt to the parasitic presence by failing to respond to it, so that the noise is no longer a source of annoyance. However, habituation does not sufficiently explain the positive values ascribed to neighbourly disturbances by Mrs T and N. In this instance, the noises of neighbours are not merely ignored or tolerated, nor have the participants become desensitized to the interruptions. Rather, they help create sensations of comfort and belonging – they affirm connections with a wider community. Though the case of the Welsh Streets residents should not be used to create uncritical generalizations regarding class, gender and experiences of noise, it would seem equally condescending to dismiss the affective attachments of Waldock's participants as a kind of sonic 'Stockholm syndrome', through which inhabitants irrationally come to hear annoying and unwanted noise as positive and desirable. This would seem to be the only explanation that can be offered by Schaferian acoustic ecology – its aesthetic moralism means that such affective attachments to noise are, at best, viewed as an anomalous deviation from a seemingly ahistorical norm. Subsequently, the overarching dualism between a noise that is bad and a silence that is good remains intact.

The ethics of noise

In order to allow more fully for these complex experiences of neighbourly noise, there is a need to depart from the rigid, dualist structure of aesthetic moralism, which inscribes noise and silence with an inherent, pre-determined value. Instead, an ethical model can be formulated that allows for noise and silence's capacity to be both 'good' and 'bad', 'wanted' and 'unwanted', 'beneficial' and 'harmful'. For this, I return to the affected and affecting Spinozist body, proposing an ethics of noise that remains applicable to the technological, informational and artistic contexts explored in the previous section, as well as to its social manifestations. Rather than pertaining to an overarching division between good and bad, the affective definition of noise, I argue, recognizes noise's 'goodness' or 'badness' as secondary and contingent. In other words, 'positive' and 'negative', 'goodness' and 'badness' are understood as descriptions of the relational effects of noise as opposed to innate values.

Both Schafer and Spinoza might be described as ecological thinkers. However, although central to both their theses, Schafer and Spinoza utilize radically different concepts of Nature. For Schafer, Nature pertains to an organic or 'natural' holistic equilibrium, characterized in relation to quietude, or silence. The modern, noisy 'inorganic' realm of machines

and technology, and the clamour of human activity have perturbed this equilibrium, transforming it for the worse. Nature is opposed by a synthetic culture and by ('Western') modernity.

Spinoza's concept of Nature, however, is fundamentally, noisily unnatural, drawing no such division between organic and inorganic entities. Nature is an infinite, all-encompassing and ever-changing field of bodies, relations and interactions that is implicated in and encompasses all entities – 'natural' and 'cultural', 'organic' and 'artificial', 'human' and 'machine'. From a Spinozist perspective, a clay statue belongs to the realm of Nature as much as a cactus, the city as much as the forest, the loudspeaker as much as the voice. If Schafer's nature is one of pure, silent stasis, then Spinoza's is one of impure noise – it is a Nature to which interruption, transformation, modification and change are integral. Spinoza's nature does not exist 'as is'; it is continually composed and recomposed. However, there is no external composer – a God-like figure, located outside and above the composed. Nature, as *causa sui* substance, is self-composing.

In decentring the organic, the 'natural' and the human, Spinoza's view sharply contrasts with that of Schafer. For instance, Schafer postulates that the human body is the closest to perfection, since it functions almost silently – 'God was a first-rate acoustical engineer. … The perfect machine would be a silent machine: all energy used efficiently. The human anatomy, therefore, is the best machine we know.'[80] Here, the good of silence is the marker of the good of the human body-as-machine – it expresses the degree of its perfection. However, from a Spinozist perspective, it cannot be said that the human body is the near-perfect body, for it is not yet known what a body (be it the human body or any other body – 'natural' or 'unnatural') can do, what affects it might be capable of and what relations it might form with other bodies. For Spinoza, perfection does not arise from replication but through a maximizing of affective power and compatible relational encounters.

Underlining the difference between Schaferian and Spinozist concepts of nature – and crucial for the move from the moral to the ethical – is the distinction between Schafer's silent Platonic transcendentalism and Spinoza's clamorous philosophy of immanence. As noted previously, Schafer understands the 'struck' sound of material reality to be an imperfect copy of a perfect 'unstruck' sound that exists in silence and can only be heard by the Gods. This transcendentalist principle informs the notion of perfect silence as the ultimate good, given that it pertains to a foundational order that is the basis for all that exists. It is also the basis for Schafer's aesthetic moralism. In Spinoza's philosophy, however, there is no such foundational, moral order. As immanent, infinite and impartial substance, Spinoza's God/Nature has no agenda or plan, nor does it intervene or act, since it has no intellect or will. Consequently, Spinoza does not recognize universal moral values of Good and Evil, as defined by the judgement of God. The removal of the laws and judgement of God, however, does not result in a moral

relativism. Rather, Spinoza favours an experiential and materialist ethics over a proscriptive and restrictive morality.[81]

Moral laws are proscriptive insofar as they take the form of 'you must do' or 'you must not do': they comply with a given, pre-determined understanding of what an entity *is* – its possibilities and its limitations. So, from this moralistic perspective, noise is always already bad: it is damaging, destructive or harmful. Yet, if morality stems from the pre-existing knowledge of the body, then it cannot tell us anything new about what the body can do. As Deleuze argues, 'Law, whether moral or social, does not provide us with any knowledge; it makes nothing known.'[82] In dictating what a body is and thus what it must and must not do, moral law inhibits new knowledge. New affective encounters produce new knowledge, and so in restricting a body's encounters with the already known, moral law inhibits further discoveries of a body's affective potential. A Spinozist ethics, by comparison, asks what a body might be able to do, what relations it can form, how it can act and be acted upon. As Deleuze states, '*We do not even know of what a body is capable. …* That is *We do not even know of what affections we are capable, nor the extent of our power.* How could we know this in advance?'[83] A Spinozist ethics thus entails a process of experimentation and discovery: it alludes to an explorative approach to bodies and their affective and relational potential. With this, the moral system based around the oppositional values of 'Good'/'Evil' is replaced by the ethical modes of 'good' and 'bad'.

For Spinoza, good and bad ultimately describe the effect of one body on another. All affective encounters between bodies thus have an ethical dimension: an affective encounter is also an ethical encounter. Each affection (*affectio*) that arises from an encounter between an affecting and affected body is accompanied by a modification in affect (*affectus*), pertaining to the continuing line of variation that marks an increase or decrease in a body's affective capacity. What is called 'good' is an encounter that enhances or preserves the power of the body to act (thus having a positive effect). 'Good' therefore refers to an agreeable and compatible relation between bodies. What is called 'bad' is a destructive or damaging encounter that diminishes the power of the body to act (thus having a negative effect). For Spinoza, all phenomena that are described in terms of evil, illness or even death are bad encounters that result in a relational decomposition, as is the case with poisoning or intoxication. Such a decomposition weakens the body's affective power: its capacity to act and be acted on. Death is simply the decomposition of a body's constitutive relation. What is good is experienced by consciousness as joy and what is bad is experienced by consciousness as sadness – good encounters are joyous encounters and bad encounters are sad encounters. Both good and bad encounters can involve a change in relations; the former characterized principally by maintenance or composition and the latter by decomposition. For Spinoza, a good life involves discovering how to maximize those joyous encounters that correspond to an increase in a

body's affective capacity, to maximize the potential of the body to 'do' – that is, to affect and be affected.

A Spinozist ethics thus posits good and bad as relational and partial. The former describes that which agrees with a body, increasing its power to affect and be affected, while the latter pertains to that which disagrees with a body, decreasing its power to affect and be affected. Consequently, no entity is inherently good or evil; rather the affective relation between entities is understood to be good or bad from the perspective of the affected body and in relation to an increase or diminishment in power.

This distinction between good and bad entities and good and bad affective relations can be clearly demonstrated with reference to food. Take, for example, an apple. On the one hand, the apple-body may have a positive relation with the feeding body (be it an animal-body, a human body or other). As the apple-body is consumed, compounding it with the eating body, it provides energy and nourishment. Consequently, it increases the feeding body's power, inasmuch as the apple-body and the feeding body's powers combine. Alternatively, upon consuming it, the feeding body may have a negative affective encounter with the apple-body. As it consumes the apple-body, the feeding body may have an allergic reaction. In such instances, the apple-body functions as a poison, causing the relations of the feeding body to deteriorate. In doing so, it disrupts the functioning of the body, weakening the capacity to act and be acted upon. However, while the apple might function as either nourishing food or dangerous poison, there is nothing *inherently* good or bad about the apple, irrespective of the benefit or harm it may cause. Rather, whether or not the apple is 'good' or 'bad' (that is, beneficial or harmful, compatible or damaging) is determined by its relations with other bodies as an encounter unfolds, whether it results in an increase or decrease in power.[84]

For Spinoza, what is bad *for us* as human beings should not be confused with an innate badness or imperfection:

> If all things have followed from the necessity of God's most perfect nature, why are there so many imperfections in Nature? Why are things corrupt to the point where they stink? So ugly that they produce nausea? Why is there confusion, evil and sin? … Those who argue in this way are easily answered. For the perfection of things is to be judged solely from their nature and power; things are not more or less perfect because they please or offend men's senses, or because they are of use to, or incompatible with human nature.[85]

Here, the sharp contrast between Spinoza's ethics and Schafer's anthropocentrism becomes apparent once again. An entity or process is not to be judged in relation to a prioritized human sensibility, its impact on the human senses or its compatibility with human relations – whether it delights or repulses, enhances or destroys has little significance with regard to its

ontological status. Rather, a body should be judged only according to its composition and affective capacity, the connections and expressions it is, or may be, capable of. Consequently, even if noise were always destructive or damaging to human listeners, its status as 'bad' would still be relational and specific rather than constitutive and general.

Spinoza's good and bad are, as Deleuze notes, 'doubly relative': first, in the sense that they are expressed in relation to one another, and second, in the sense that both good and bad emerge in relation to an existing mode.[86] However, the relativity of Spinoza's ethics should not be confused with a moral relativism. Where moral relativism typically pertains to a judgement made by the individual (Cartesian) subject, Spinoza's 'good' and 'bad' describe the nature of a bodily relation. The description of something as 'good' or 'bad', or any degree between, is partially objective or, rather, non-subjective, insofar as they are the effects of an increase or diminishment of a body's power. Moral relativism also typically pertains to an anthropocentric perspective, while a Spinozist ethics pertains to an ecological viewpoint that involves both human and non-human entities, and the affective relations between those entities.

If an affective encounter is also an ethical encounter, then noise, as an affective force-relation between entities, or as an entity and its milieu, has an ethical component. In other words, an affective approach to noise is also an ethical approach to noise – the latter is implicated in the former. This ethical dimension is perhaps more obvious with reference to noise's negative manifestations. As was observed in Part 2, when used as a sonic weapon, noise can be used to deteriorate the relations of crowds, collectivities and populations, inhibiting them from acting. From the perspective of the targeted body, this would constitute a negative encounter: the relation between the affected crowd-body and the affecting military-body entails a weakening of the former. This negative affectivity and corresponding 'badness' of a relation can also be demonstrated with reference to more everyday encounters with noise. When the persistent sound of a car alarm disturbs or inhibits a body's sleep, this can be understood as a negative encounter (from the view of the sleeping body). By inhibiting much needed rest, noise reduces the body's power to act. The sleep-deprived body may struggle to go about its day-to-day activities – it may become more erratic, or suffer feelings of unhappiness or stress.

Silence also has the capacity to be bad. When silence serves to relax, calm or rejuvenate by facilitating rest or contemplation, then this can be understood as a good encounter, insofar as it increases the listening body's (be it 'individual' or 'collective') power to act and be acted upon in the world. Conversely, the silence of solitary confinement pertains to the creation of a negative relation between captive-body and its milieu (i.e. the prison, the cell): the latter works to diminish a captive-body's power to act, resist or respond, resulting in feelings of sadness, helplessness and detachment. Likewise, the authoritative silence of the suburbs is maintained through the

diminishment of the affective powers of certain bodies: a limitation and suppression of their power to act.

Just as silence can be ethically 'bad', there are instances where noise can be understood as ethically 'good'. Such is the case for Waldock's Welsh Streets participants, for whom neighbourly and neighbourhood noise results in feelings of connectivity, belonging and comfort and is made meaningful as such. In this instance, noise can be understood to reaffirm the relations of the composite community-body. Conversely, the relative silence brought about by the residents' new accommodation perhaps resulted in a diminishment of the community-body and its functioning: it inhibited the formation of audio-affective relations between neighbours, leaving tenants feeling comparatively cut off from one another and the world beyond the home.

Given that I have sought to move beyond dualistic understandings of noise, it would seem paradoxical to then implement a dualist ethics. According to a Spinozist perspective, encounters are either good or bad depending on whether they preserve, increase or decrease an affected body's power. These ethical descriptions, however, are best understood as limit points on a scale of differences, rather than mutually exclusive and oppositional values. In actuality, it can be much more difficult to discern the ethical character of an encounter or an event, in that it tends to involve a combination of compatibility and incompatibility – it may bring about, simultaneously, the composition, decomposition and recomposition of relations. As Serres's cybernetic figure of the parasite exemplifies, noise can be, simultaneously, a hindrance to and necessary for informational relations. Noise may serve to diminish a signal's power and composite relations so that it is no longer properly discernible, however, a degree of noise is also necessary to the transmission process – it is part of what enables the process to work in the first place. In such instances, what is empowering or disempowering, what is generative and what is destructive might be ambiguous. Moreover, while the ethical character of a relation is determined in relation to the affected body, affective encounters are often multidirectional: the affecting body is often, simultaneously, the affected body. The relationship between 'good' and 'bad', affecting and affected is thus frequently complex and dynamic, continually unfolding as connections are formed and reformed.

It might also be that the bodily relation that is a 'bad' ethico-affective encounter can come to be neutralized through understanding, or even transformed into 'good' encounters. In Part 1, I mentioned the noise of the Hum. The Hum, as a disruption with an unknown source, may generate fear and consequently, keep listeners awake. It might be, however, that in discovering the source of the disruption, that listeners may have a different affective response - the listener might become indifferent to the disruption of the Hum or even begin to find it a source of comfort as they become habituated to it. Indeed, for Spinoza, the formation of 'adequate ideas' are central to the discovery of what a body can do, and the potential transformation of 'bad'

encounters into 'good' encounters. Where 'inadequate ideas' refer to an idea of effects without causes, 'adequate ideas' pertain to recognition of cause - why has this happened? Thus, a body does not maximize its affective power by simply avoiding damaging and negative relations; rather, maximizing the body's affective power requires the development of an understanding of what a body can (and cannot) do. Through understanding the nature of its affective relations, a body learns to to do differently: to avoid or adapt. If a body is able to understand other bodies and its affective relations with them, then this opens the possibility of a new way of relating; a new way of the body being-in-relation.

Following a Spinozist ethics, a space emerges for noise's positively productive capacity that does not require its 'good' manifestations to be reduced to the anomalous or the exceptional. Like the apple, there is nothing *inherently* evil, torturous, violent or fascistic about noise, irrespective of the rhetorical force it is afforded or the means that it may be put to. Noise may annoy and infuriate; or it may damage a body by inhibiting much needed sleep and causing stress, yet it may also aid rest by blocking out tinnitus, reassert community bonds, instil listeners with feelings of belonging or generate new sounds, images, information and orders. Noise is like Derrida's *Pharmakon* – is it poison or is it cure? Both, perhaps, depending on how, where and when it is taken.[87] To be sure, Attali notes that while noise has often been thought of as a weapon of death, as a source of pain, violence and destruction (which is to say, a means of inducing relational decomposition), it has also long been considered to possess a curative potential: 'Noise has always been perceived as a source of exaltation, a kind of therapeutic drug capable of curing tarantula bites, or according to Boissier de Sauvages in his *Nosologica metholodica* "fourteen forms of melancholy."'[88]

Although this proposed Spinozist ethics of noise and silence veers close to a moral relativism, the notion that noise can have both positive and negative effects – that it can be both good and bad, beneficial and harmful – differs significantly from the notion that noise can be anything to anyone. The latter assumes that noise is that which a listening subject judges to be bad, and what is found to be bad differs from person to person. Noise is thus equated with unwantedness. What I am arguing is that the changes that noise induces can be good *as well as* bad. From this perspective, noise's unwantedness is secondary, relational and contextual rather than constitutive. While a moral judgement precedes an encounter or event, Spinoza's ethical categorization comes after, emerging with the unfolding of affective relations. While Schaferian aesthetic moralism sees noise's 'badness' as an inherent property of noise itself, the Spinozist, ethico-affective approach developed here recognizes 'goodness' and 'badness' as pertaining to the effects of a relational and material encounter. If noise is what noise does, then what noise does determines whether it is 'good', 'bad' or somewhere between.

Conclusion: From aesthetic moralism to an ethics of noise

In this section I have aimed to disrupt the conservative politics of silence and its underlying aesthetic moralism. For the conservative politics of silence, the ideal sonic future is located in the past. This future-past is one of order, clarity and 'natural' quietude and is decidedly antithetical to the clamorous, 'unnatural' disorder of the contemporary soundscape. This auditory politics and its corresponding aesthetic moralism is predicated on a narrative in the world's soundscape that has gone from quiet to loud, harmonic to dissonant, ordered to disordered, clear to cacophonous. The noise of modernity has infected the hi-fi soundscape, disrupting and destroying the natural order of things. This noise is toxic to nature's reviving and rejuvenating quietude, a pollutant that accompanies social decline. It is defined in relation to its negative affective capacity – its potential to cause harm, damage and destruction.

By replacing the conservative politics of silence's notion of a pure and static Nature, from which its aesthetic moralism ultimately derives, with that of Spinoza, I have proposed an alternative ethics of noise. A Spinozist concept of Nature is fundamentally impure in that it assumes no hierarchy between the natural and unnatural; or, by extension, between sounds arising from organic and synthetic origins. Such distinctions are rendered inconsequential in that both are expressions of an immanent and monist nature. Noise is as much of Nature as is quietude.

The conservative politics of silence is proscriptive in its understanding of noise. In Spinozist terms, it is always already detrimental to the relations of a body, be it the individual listener, or the collective body of the social. Silence, by comparison, is framed as fundamental to the well-being of the listening body-as-subject and society as a whole. Where noise disempowers, silence empowers. A Spinozist ethics, however, treats noise's 'badness' – as well as silence's 'goodness' – as a contingent and relational effect rather than a constitutive feature. These terms describe an outcome or result of bodily encounter, with 'body' being taken in its broadest, Spinozist sense. Consequently, this ethics makes it possible to think of noise not only as a damaging and detrimental force but also as, among other things, the harbinger of creative outcomes. And this positively productive capacity has been readily explored within the arts.

Notes

1 Barry Truax, *Acoustic Communication* (Norwood, NJ: Ablex Publishing Corporation, 1984), 58.

2 Francisco López, 'Environmental sound matter', *La Selva: Sound Environments from the Neotropical Rainforest* (V2: V228, 1998).

3 Ibid.

4 Ibid.

5 R. Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World* (Vermont: Destiny Books, 1994), 4.

6 Ibid., 15.

7 Ibid., 4.

8 Ibid.

9 Ibid., 237.

10 Ibid., 254.

11 Ibid., 237.

12 Zsuzsi I. Kovacs, Carri J. LeRoy, Dylan G. Fischer, Sandra Lubarsky and William Burke, 'How do aesthetics affect our ecology?' *Journal of Ecological Anthropology* 10 (2006): 61–5. In order to reveal the problems with ecology's beauty bias, Zsuzsi Kovacs et al. give the example of wildfires. The 'ugliness' and negative connotations of burnt forest landscapes were a driving factor in the suppression of forest fires. However, it is now recognized that the suppression of forest fires can be an ecological disaster. Despite their usual association with destruction and damage, wildfires are a positive and necessary component of many forest ecosystems.

13 Schafer, *The Soundscape*, 81–2.

14 Ibid., 43.

15 Ibid., 44.

16 Ibid.

17 Ibid., 51.

18 Ibid., 43.

19 Ibid.

20 Ibid.

21 Truax, *Acoustic Communication*, 20.

22 Schafer, *The Soundscape*, 71.

23 Ibid., 71.

24 Ibid., 90. Schafer notes that he intended schizophonia to be a 'nervous word'. However, Schafer's proposed practice of soundscaping might itself be referred to as schizophonic, insofar as it relies on a separating out of the sonic from its multisensory environment. For more on this, see Tim Ingold, 'Against soundscape', in *Autumn Leaves: Sound and the Environment in Artistic Practice*, ed. Angus Carlyle (Paris: Double Entendre, 2007), 10–13.

25 Ibid., 91.

26 Ibid., 78

27 Ibid.

28 Ursula Franklin, 'Silence and the notion of the commons', *Soundscape: The Journal of Acoustic Ecology* 1, no. 2 (2000): 14–17, 14.

29 Ibid., 15.

30 Ibid.

31 Ibid., 17.

32 Stuart Sim, *Manifesto for Silence: Confronting the Politics and Culture of Noise* (Edinburgh: University of Edinburgh Press, 2007), 39.

33 For Sim, the necessity of silence for thought and contemplation, and the detrimental impact of noise on the activities of the mind can be exemplified by the changing soundscape of libraries and the debates that have ensued. In 2005, the British Library in London began to allow the admission of what Labour MP Tristram Hunt referred to as 'the Undergraduate masses' into its reading rooms. Hunt argues that this change in policy has led to a 'catastrophic collapse in its working environment' to the detriment of scholarly activity. The inclusion of the 'masses' has been accompanied by growing complaints regarding noise. As Hunt argues, 'The studied calm of the reading room has given way to a hum of mobile phone ringtones, chit-chat and pubescent histronics.' Sim notes that the fate of the British Library room is symptomatic of a broader trend, in which the quiet of libraries is negatively affected by new technologies. Again, as with Schafer, this betrays a nostalgia for an (imagined) quieter time that has been lost to a disobediently noisy present that is full with the disturbing and distracting sounds of new technologies. See Tristram Hunt, 'Scholarly squeeze', *The Guardian*, 29 May 2006, http://www.guardian.co.uk/commentisfree/2006/may/29/comment.highereducation (accessed February 2013); Sim, *Manifesto for Silence*, 51.

34 Sim, *Manifesto for Silence*, 168.

35 Schafer, *The Soundscape*, 259.

36 Schafer specifically references the 'Western Man' in his fear of silence, as well as referring to 'Western art' and 'Western lexicography'. It remains unclear, however, who and what is included and excluded by Schafer's notion of 'the West' and 'Western culture' – what and where the geopolitical limitations of the West/non-West are. Given his references to what he refers to as 'Eastern' accounts of 'positive' silence (e.g. ancient Hindu texts, Indian Yogi), I would suggest that Schafer's binary of 'good silence/bad noise' also corresponds to the (also highly problematic) dichotomy of 'East/West'.

37 Ibid., 256.

38 Ibid.

39 John Cage, 'Experimental music [1957]', in *Silence: Lectures and Writings* (London: Marion Boyars Publishers, 2009), 7–12, 8. According to Seth Kim-Cohen, 'most knowledgeable audio people' (he does not give examples) doubt that the sounds Cage heard were of his blood circulation and nervous system, suggesting, instead, that Cage heard either tinnitus or the sounds of air molecules bumping into the eardrums. See Seth Kim-Cohen, *In the Blink of an Ear: Toward a Non-Cochlear Sonic Art* (New York: Continuum, 2009), 161.

40 Schafer, *The Soundscape,* 256.

41 Ibid., 258.

42 Ibid., 262.

43 Ibid., 261–2.

44 Ibid., 262.

45 López himself has criticized the project of Schaferian acoustic ecology, stating that the 'tuning' of the world that Schafer seeks is essentially a 'silencing', 'as if "noisy" were an evil condition in itself and also an exclusive feature of the post-industrial world'. See Francisco López, *Schizophonia vs L'objet Sonore: Soundscapes and Artistic Freedom* (1997), http://www.franciscolopez.net/schizo.html (accessed January 2016).

46 Jonathan Sterne, *The Audible Past: Cultural Origins of Sound Reproduction* (Durham: Duke University Press, 2003), 343.

47 In Schafer's account, human hearing and listening are treated for the most part as an unchanging given. Jonathan Sterne, however, rejects the notion that the way in which we listen has remained the same throughout history. Rather, he views modes of listening as cultural practices that develop in relation to social, economic and technological changes (Ibid.).

48 Orlando F. Lewis, *The Development of American Prisons and Prison Development Customs 1776 to 1845* (Whitefish and Montana: Kessinger Publishing LLC, 2005), 14–28.

49 Ibid., 81.

50 Center for Constitutional Rights, *Solitary Confinement in Guantanamo Bay* (2012), http://ccrjustice.org/learn-more/faqs/solitary-confinement-guantanamo-bay (accessed March 2013).

51 Sim, *Manifesto for Silence*, 60.

52 See Anahid Kassabian, 'Ubiquitous listening and networked subjectivity', *ECHO* 3, no. 2 (2001), http://www.echo.ucla.edu/Volume3-issue2/kassabian/index.html (accessed October 2012).

53 For more on this, see Anahid Kassabian, 'Music for sleeping', in *Sound, Music, Affect: Theorizing Sonic Experience*, ed. Marie Thompson and Ian Biddle (New York: Bloomsbury, 2013).

54 W. Davies, M. D. Adams, N. S. Bruce, R. Cain, A Carlyle, P. Cusack, K. I. Hume, P. Jennings and C. J. Plack, 'The positive soundscapes project', *19th International Congress on Acoustics*, 2–7 September 2007, http://usir.salford.ac.uk/2460/1/Davies_ICA_2007_soundscapes_paper_v3.pdf (accessed February 2012).

55 http://favouritesounds.org/ (accessed February 2012).

56 Allgemeine Elektricitäts-Gesellschaft, 'AEG-Electrolux – campaigning against noise with giant noise posters', *AEG Noise Awareness Blog* (2008), http://www.noiseawareness.blogspot.co.uk/2008/03/aeg-electrolux-campaigning-against.html (accessed April 2012).

57 See María Josefina Saldaña-Portillo, 'Reading a silence: the "Indian" in the era of the Zapatismo', in *Unbecoming Modern: Colonialism, Modernity, Colonial Modernities*, ed. Saurabh Dube and Ishita Banerjee-Dube (Jor Bagh and New Delhi: Esha Béteille, 2006), 32–58.

58 Sim states: 'It is not in our best interests for noise to become our destiny, and we should actively be resisting those forces which are striving to make it so, turning urban life into a constant trial for those with any sensitivity at all to

their environment. Silence takes on a subversive quality as a result and opting for it a refusal to be driven purely by the profit motive, or to live a life of perpetual sensual bombardment aimed at eradicating our individuality in the name of passive consumption.' Sim, *Manifesto for Silence*, 170.

59 Schafer, *The Soundscape*, 214.

60 Garret Keizer, *The Unwanted Sound of Everything We Want: A Book About Noise* (New York: PublicAffairs, 2010), 54.

61 Ibid., 56.

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63 Becky Nicolaides and Andrew Wiese, 'The transnational origins of the elite suburb', in *The Suburb Reader*, ed. Becky Nicolaides and Andrew Wiese (New York and London: Routledge), 13–15.

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67 Richard Florida, *The Rise of the Creative Class and How it is Transforming Work, Leisure, Community and Everyday life* (New York: Basic Books, 2002).

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70 Niamh Spence, 'Night and day: the other side', *Manchester Confidential* Tuesday 21 January 1014, http://www.manchesterconfidential.co.uk/news/night-and-day-the-other-side (accessed January 2016).

71 Keizer, *The Unwanted Sound of Everything We Want*, 101.

72 See Jacqueline Waldock, 'Dissertation overview: "The urban domestic soundscape and the community: a new perspective"', *World Forum for Acoustic Ecology News Quarterly* 10, no. 1 (2013), http://wfae.proscenia.net/library/newsarchive/2013/01_Jan_Mar/pages/5.htm (accessed May 2013).

73 See http://sounds.bl.uk/Sound-Maps/UK-Soundmap (accessed February 2013); http://www.soundaroundyou.com/ (accessed February 2013).

74 Jacqueline Waldock, 'Soundmapping: critiques and reflections on this new publicly engaging medium', *Journal of Sonic Studies* 1, no. 1 (2011), http://journal.sonicstudies.org/vol01/nr01/a08 (accessed May 2012).

75 Wendy Wilson, *Housing Market Renewal Pathfinders* (2013), http://researchbriefings.parliament.uk/ResearchBriefing/Summary/SN05953 (accessed January 2016).

76 Waldock, 'Soundmapping'.

77 Ibid.

78 Ibid.

79 Truax, *Acoustic Communication*, 90.

80 Schafer, *The Soundscape*, 207.

81 There are clear resonances here with a Nietzschean position that looks to go 'beyond Good and Evil'. Indeed, it has already been noted that Deleuze appropriates Spinoza via Nietzsche. *Spinoza: Practical Philosophy* begins with Nietzsche, with Deleuze claiming that 'Nietzsche understood, having lived it himself, what constitutes the mystery of a philosopher's life'. Gilles Deleuze, *Spinoza: Practical Philosophy* (San Francisco: City Light Books, 1988), 3. As this demonstrates, Deleuze understands Spinoza and Nietzsche to have a special connection. Yet, Nietzsche, too, was aware of this. In a letter to Franz Oyerbeck, he writes: 'I am utterly amazed, utterly enchanted! I have a *precursor*, and what a precursor! I hardly knew Spinoza: that I should have turned to him just *now*, was inspired by "instinct." Not only is his overall tendency like mine – namely to make all knowledge the *most powerful affect* – but in five main points of his doctrine I recognize myself; this most unusual and loneliest thinker is closest to me precisely in these matters: he denies the freedom of the will, teleology, the moral world-order, the unegoistic, and evil. Even though the divergences are admittedly tremendous, they are due more to the difference in time, culture, and science.' Friedrich Nietzsche and Walter Kaufmann (eds), *The Portable Nietzsche* (New York: Viking, 1954).

82 Deleuze, *Spinoza: Practical Philosophy*, 24.

83 Gilles Deleuze, *Expressionism in Philosophy: Spinoza* (New York: Zone Books, 1992), 226.

84 Deleuze, drawing upon Spinoza's example, describes how the apple acts as a poison for Adam in the biblical origin story. While Adam understands God's command of 'Thou Shalt not eat of the fruit' as a prohibition, these words refer to a body that will poison him if he eats it. Adam, ignorant of causes, believes God to be morally forbidding him from eating the fruit. However, God only reveals the natural consequence of consuming the fruit. See Deleuze, *Spinoza: Practical Philosophy*, 22.

85 Benedict de Spinoza, *Ethics*, trans. Edwin Curley (London: Penguin Books, 1996), 31.

86 Deleuze, *Spinoza: Practical Philosophy*, 71.

87 Jacques Derrida, 'Plato's pharmacy', in *Dissemination*, trans. Barbara Johnson (London and New York: Continuum, 2004), 67–186.

88 Jacques Attali, *Noise: A Political Economy of Music*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 2003).

PART FOUR

Beyond failure: Noise music, exposure and the poetics of transgression

It's no good objecting that noise is simply loud and disagreeable to the ear. It seems to me pointless to enumerate all the graceful and delicate noises that afford pleasant acoustic sensations.

LUIGI RUSSOLO, 'The art of noises: a futurist manifesto', 135.

Introduction: 'Be noise or music'

On 2 April 2011, I was part of an impromptu performance in Newcastle upon Tyne. Seven of us, armed with laptops, home-made synths, modified pedals, saxophones, oboes and other unidentifiable sound-making devices took over a nearly empty room to 'let off some steam' at the end of a long night of experimental performances and screenings. The short, improvised set was loud, playful and chaotic, filling the room with a cacophony of beeps, hums, honks and screeches. As we started to play, some people came in to see what the racket was, while a few made their way towards the exit. As one person left the room, he handed us a strange, rather poetic, little note:

> Be noise or music
> Either/or
> Noise is not interesting
> This makes me want to LEAVE

For this audience member, our performance failed. We had not sufficiently committed ourselves to one side or another: our racket was too musical to be noise, and too noisy to be music. As a consequence, our failings were doubled: we failed to make either music or noise. Yet, this strange encounter also resonated with many 'radical' imaginaries of noise music: we could have taken pride in our failure, telling ourselves that our sound was too 'out there', too unusual, too wilfully unsatisfactory for the seemingly disgruntled listener. It might even be connected in our imaginations with a long lineage of semi-mythologized noisy performances that have irritated, annoyed and disappointed audiences.

In this section, I retell a particular story of noise music.[1] This story is one of contradiction, line-crossing and transgression. It is a story that amplifies noise's sensuous potential, its capacity to unlock new sonic sensations. Yet, it is also a story that ultimately relies on the 'either/or': the ontological relationship between noise and music is understood as dynamic, historically contingent, but nonetheless mutually exclusive. Consequently, theirs is a relationship formulated in accordance with yet another series of polarities: noise is negativity to music's positivity, chaos to music's order, the exteriority to music's interiority, the not-yet-heard to music's well-established and well-worn acoustic sensations. Noise music as an aesthetic-discursive paradox is thus characterized by failure.

Despite being full with noise, I suggest that this narrative enacts a number of silencings. Aesthetic and artistic interest in noise has been concomitant with grandiose rhetoric about its nature and potential. While in practice, noise music is as diverse as noise itself, it has been frequently conceptualized in relation to a poetics of transgression, according to which the line between noise and music corresponds with a line dividing the taboo-protected norm (music) and its transgression (noise). Consequently, noise is imagined to be ear-splitting, excessive, extreme, overwhelming, sublime, transgressive and revolutionary. It leaves minds blown and bodies shocked. With reference to the Tokyo *onkyô* movement, I argue that the association of noise with notions of transgression can be reductive, in that it tends to limit noise and noise music to its most extreme manifestations, drowning out its quieter and subtler forms.

While Part 2 perturbed the dualism of noise and signal, and Part 3 perturbed the dualism of noise and silence, this section uses the ethico-affective definition of noise developed over the course of this book to perturb the dualism of noise and music, reconfiguring noise music's poetics of transgression in the process. From this relational and materialist perspective, noise is understood not as antithetical to music, but as a crucial and inextinguishable component of musical materiality. If noise can be separated from a constitutive unwantedness, moreover, then noise music does not need to be framed as a making 'good' of noise's 'bad'. Consequently, I move away from the poetics of transgression and its rhetoric of failure and contradiction, while maintaining noise's capacity to generate new sonic affects and sensations.

Drawing upon the composer Henry Cowell's essay 'the Joys of Noise' and with reference to a conceptually and sonically varied set of musical examples (Hype Williams, Reynols, Diamanda Galás and Merzbow), I argue that noise music can be understood as an act of 'exposure'. Rather than bringing noise into music, noise music is thought of as amplifying, extending and foregrounding the noise that is always already within the techno-musical system. I suggest that this alternative conceptualization of noise music allows for a broader range of practices, in that it no longer limits noise music to its harshest, most extreme manifestations. Following Cowell, I suggest that noise music, through exposure, can reveal 'hidden delights' of sonority, texture and rhythm. This is exemplified by the use of glitch in the music of Nicolas Collins and within contemporary electronic dance music, where the exposed noise of the material medium serves as a force of rhythmic mutation.

The art of noise (and the noise of art)

Noise has been one of the dominant themes of twentieth- and twenty-first-century aesthetics. Despite their purported opposition, noise, in all its conceptual and material guises, has been utilized in music, sound art and art more broadly. Artistic explorations of noise have involved numerous strategies, including the musical use of sounds typically deemed non-musical, ugly or undesirable; the pursuit of ever more abrasive, dissonant, and 'noisy' sonorities and timbres; the (conceptual and empirical) employment of notions of damage, destruction, shock, violence and abjection; the development of unconventional and 'extended' techniques for conventional musical instruments, to generate complex and distorted timbres; the creative 'misuse' of 'malfunctioning' technologies; and the embracement of anomalous, erroneous or extraneous sounds of the recording media. These strategies have resulted in a variety of sonic outcomes and effects – from quiet and persistent hums, minute crackles and subtle pops and glitches to overwhelming walls of squalling feedback, deafening white noise, extremes of frequency and pounding bass.

In the digital (or 'post-digital') era, the varying and often overlapping notions of noise have remained influential for sonic art practices. Kim Cascone's now canonical essay 'The aesthetics of failure: "post-digital" tendencies in contemporary computer music' describes the use of 'digital detritus' in electronica towards the end of the twentieth century; the noisy effects generated by the malfunctioning or 'failure' of digital technologies to contain anomalies – glitches, clipping, distortion, quantization noise and so on.[2] The breakdown of digital operations has produced new techniques, enabling producers to explore the creative potentials of systemic error. For Cascone, the exploitation of these anomalous or erroneous noises and the

processes that generate them by artists such as Royji Ikeda, Oval, Mika Vainio and Carsten Nicolai works to remind the listener that the perfection of the digital and our control over technology is an illusion: they reveal that digital tools are 'only as perfect, precise, and efficient as the humans who build them'.[3]

Various types and ideas of noise have been a key component of a number of musical genres and practices, including industrial music, power electronics, harsh noise wall, free jazz, free improvisation, noise rock, no wave, lo-fi, circuit bending (the creative customization of circuits, ordinarily of inexpensive household electronics such as children's toys and radios), hacking (the manipulation of electronic systems using code) and glitch. These practices, genres and movements are often placed within the quasi-idiomatic category of 'noise music'. Noise music can be understood as a genre in and of itself – it is sometimes referred to using the proper noun 'Noise' and is often taken to be synonymous with harsh noise or the Japanese noise 'scene'. Paul Hegarty, for example, argues that 'in many ways it only makes sense to talk of noise music since the advent of the various types of noise produced in Japanese music, and in terms of quantity this is really to do with the 1990s onwards. … There is, if you like, more noise in Japanese noise music, whether in terms of volume, distortion, non-musicality, non-musical elements, music against music and meaning.'[4] Yet, it is also very difficult to talk of a clearly defined Noise 'scene', insofar as noise music largely consists of a network of fragmented and localized 'micro-scenes' that are ideologically and aesthetically varied. Noise music, as I use it here, refers to a number of geographically, historically and stylistically disparate practices that share common terrain in utilizing noise (as interference, disruption, loudness, background sound) concepts of noise (for example, unwanted, abject, shocking, overwhelming, extraneous) and noisy sounds (complex sounds, irregular sounds, non-musical sounds, coloured noise) as a primary resource. Noise music does not pertain to one generic lineage but refers to a diverse and idiosyncratic spectrum of practices.

Noise as a concept, methodology, force and artefact has also been put to use in other non-auditory artistic mediums. G. X. Jupitter-Larsen of the Haters, for example, has written a series of 'noise novels' that combine 'the erotic, the exotic and the entropic', and make use of random bursts of letters, invented words and onomatopoeic phrasings.[5] Other examples of non-auditory noise art include Randomflux's collection *The Book of Noise: Visual Interpretations of Noise* (2008), which showcases visual manifestations and representations of noise; artist Rosa Menkman's video art that makes use of the glitch and other digital errors; and Ed Ruscha's striking painting *Noise* (1963), which presents the word as an aesthetic object. Here, however, I remain focused on noise's use in relation to sound-based media.

Cascone's 'aesthetics of failure' reflects the prominent role of failure in discourses of noise music. However, failure as an artistic strategy and rhetorical

device has not been available to all, insofar as the relationship between noise, error and innovation is frequently gendered as well as racialized (see Part 1).[6] Kathleen Hanna and Johanna Fateman of the queer-feminist electroclash group Le Tigre have remarked on how the erroneous sounds of male artists are often 'fetishized as glitch' and 'as something beautiful', whereas the errors of women are often heard as simply markers of failure, rather than expressions of innovation, creativity or artistic intent.[7] In short, whether or not 'failure' becomes 'successful' often corresponds to the perceived gender of the artist failing. With this in mind, it is perhaps not surprising that while there are many female, nonbinary and genderqueer practitioners utilizing noise and error in their work, noise music histories have often centred on a patrilineal 'dotted line' of composers, artists and sound-makers.[8]

The 'origin myth' of noise music centres on Italian Futurism and its pursuit of an aesthetic revolution through noise. With the publication of the poet Filippo Tommaso Marinetti's nationalistic and proto-fascistic founding manifesto in 1909, Futurism announced that the consecrated, bourgeois ideals of art and beauty were to be overthrown and replaced with a radical aesthetic that celebrated the contemporary urban landscape of modernity. For Marinetti, the 'contemplative stillness, ecstasy and sleep' of literature was to be broken by an exaltation of the violent and chaotic: 'There is no beauty that does not consist of struggle. No work that lacks an aggressive character can be considered a masterpiece.'[9] The deathly institutions that sought to preserve the memories and artefacts of the past – the library and the museum – were to be destroyed in an attempt to scission the unknown of the present from the restrictive weight of that which has come before. Repetitive imitations of the already known and obedience to the pre-existing rules of art were to cease, while bold and energetic explorations of the new were to be encouraged. Against transcendental aspirations, art was to be reunited with life, drawing inspiration from its dynamic fluxes and flows. Futurism sought to capture the beauty of speed and movement, technology, science, industrialism, warfare and aggression. It aestheticized the triumph of man [sic.] and machine over nature; celebrated war as a 'cleansing' force; and chastised the 'feminine' and the weak: 'We intend to glorify war – the only hygiene of the world – militarism, patriotism, the destructive gesture of anarchists, beautiful ideas worth dying for, and contempt for woman.'[10]

These themes are present in Marinetti's sound poem *Zang Tumb Tumb*, in which the onomatopoeic prose and kaleidoscopic typesetting evokes the clamorous, disruptive soundscape of the Balkan Wars:

> O my people of senses see hear smell drink everything everything everything **taratatatatata** machine guns cry writhe under 1,000 bites blows **traak-traak** thrashes lashes **pik-pok-poom-toomb** juggling clowns' leaps in mid-air 200 m. high its gunfire Down below bog's guffaws laughs buffalo carts goads horses stamping caissions splish splash **zong-shaak-shaak** rearing pirouettes **pata-traak** spattering manes whinnying eeeeeeee

> hubbhub jingling 3 Bulgarian battalions on the march **krook-kraaak** (SLOWLY DOUBLE TIME) shumi Maritsa o Karvavena officers' cries clash copper plates pom here (QUICK) pok there **boom-pom-pom-pom-pom** here there there farther all around up high watch out good-god on the head **shaaak.**[11]

Marinetti's poems infect the flow of language with the eruptive and destructive noises of military conflict. The sonic environment of the battlefield spills over into even the more straightforward passages, inhibiting any sense of a stable, linear narrative or metre. Further interruptions are introduced in the visual layout of *Zang Tumb Tumb*: continual shifts in typeface, the poem's fragmentary arrangement, and the interjection of musical and mathematical signs, alongside the onomatopoeic outbursts emulate the fractured, turbulent atmosphere of war.

Marinetti's poetic emulations of militaristic noises were a source of inspiration for painter and musician Luigi Russolo. In 1913, he published *The Art of Noises: A Futurist Manifesto*, in which he proposed a Futurist music fitting for the modern ear. In alignment with Marinetti's founding manifesto, Russolo understood conventional musical sounds to have become outmoded, while noise – as that which lies outside of the rules and conventions of music – was a reservoir of new artistic potentials. Consequently, musical sounds and traditional instrumentation were to be eschewed in favour of an 'art of noises' that drew inspiration from the immanent and ubiquitous noise-sounds of the world.

Russolo begins his manifesto with a history of noise. This largely mirrors that of R. Murray Schafer outlined in the previous section. For Russolo, noise – or, more accurately, a new, more prominent noise – arose in the nineteenth century with the birth of the machine. In previous centuries, life was generally quiet, while loud, unmuted sounds were exceptional occurrences. The evolution of the machine produced a great palette of exciting new noise-sounds, to the point that clean, 'pure' sounds were rendered feeble and monotonous in comparison. By the beginning of the twentieth century, 'noise is triumphant and reigns supreme over the sensibility of men'.[12] While Schafer hears this 'triumph' as catastrophic, Russolo hears the cacophonous noisescape of modernity as a source of new acoustical pleasures for the listener. Noise, rather than being heard as unwanted or extraneous, has the capacity to produce new sonic sensations. Established musical conventions – the repetition of traditional timbres, structures and gestures – no longer provide any real depth of experience, since they look to invoke the often felt and often known. Russolo asserts that musical sound is outmoded because it no longer significantly affects the listener, striking the ear as stale and unmoving:

> Let us go together, as Futurists, into one of these hospitals for anemic sounds. Listen to it: the first bar wafts to your ear the boredom of the

> already-heard and gives you a foretaste of the boredom to follow in the next. Let us savor, from one bar to the next, two or three species of pure boredom, forever waiting for the extraordinary sensation that never comes. Meanwhile, one is struck by that repugnant mixture which is created by emotional monotony and the cretinous religious excitement of the listeners, Bhuddhistically intoxicated by the thousandth repetition of their spurious and snobbish ecstasy.[13]

While the Futurists once loved the works of the 'great masters' – 'Beethoven and Wagner have stirred our hearts and nerves for many years' – their music can no longer compete with the affective intensity of the noise of the modern era: 'We derive far more pleasure from ideally combining the noises of trams, internal combustion engines, carriages, and noisy crowds than from rehearing, for example, the "Eroica" or the "Pastorale".'[14] While music remains stuck repeating familiar and predictable affective cycles, noise unlocks something new for the listener. Russolo thus urges the Futurist composer to disrupt music's repetition of clichéd affectations by 'breaking out' of the restricted realm of already-heard musical sound, and embracing the 'infinite variety' of noise-sounds.

For the most part, Russolo employs an acoustic or 'object-oriented' definition of noise, with noise referring to rhythmically and harmonically complex and irregular sounds. Yet, underlying this is a more philosophical postulation of noise. Russolo characterizes noise as being unknown, in the sense that it cannot be said what noise might do, the sensations it may generate. Yet, in its partiality, noise is also familiar, recalling the conditions of existence. To exist within the immanent, material world is to emit noise, and so noise, when heard, can evoke life itself:

> Every manifestation of life is accompanied by noise. Noise is therefore familiar to our ears and has the power of immediately reminding us of life itself. But sound is alien to life, is always musical and a thing unto itself, an occasional and not an essential element, and it has become for our ears what a too familiar face is to our eyes. Noise, instead, comes to us in a confused and irregular way from the irregular confusion of life; it never reveals itself entirely to us and keeps innumerable surprises in reserve.[15]

Noise's familiarity, its capacity to remind the listener of life itself, relates to its indiscernibility, complexity and unpredictability. The never-fully-knowing of noise – what effects and responses it may produce, what orders it may generate – mirrors the never-fully-knowing of life. By exceeding the already known, noise has the potential to generate what Russolo hears as 'innumerable surprises'; in never fully revealing itself to us, noise has hidden depths – we do not yet know what sounds and affectations it may unlock, what surprises it may hold for the listener.

In keeping with Marinetti's founding principles, Russolo's proposed Futurist noise music is to draw inspiration from the noises of war, the machine and industry. Yet, Russolo warns that while 'it is characteristic of noise to remind us brutally of life', the art of noises is not to restrict itself to the 'imitative reproduction' of the exciting but already-heard noise-sounds of modernity, nor is it to seek the orchestral simulation of the clamour and clash of the city and the battlefield using traditional instrumentation: '[The art of noises] will achieve its greatest emotional power in acoustic pleasure in itself, which the artists inspiration will evoke from combined noises.'[16] Consequently, in order to put his art of noises into practice Russolo and painter Ugo Piatti designed a series of *intonarumori* ('noise-tuners') to generate and modify noise-sounds. The premise behind the *intonarumori* was to enable noise to be shaped according to the demands and desires of the composer. These new devices were to form the basis of a Futurist orchestra, replacing the tired musical instruments that could only awaken the ears of the past. With them, the composer could begin to explore the sensuous potentials and pleasures of noise. Each of the twenty-seven *intonarumori* was named in relation to the noise-sound effect generated – howlers, thunder, buzzers, bursters, cracklers and so on – and allowed the performer to control parameters such as dynamic and pitch: 'We want to give pitches to these extraordinarily diverse sounds, regulating them harmonically and rhythmically.'[17] Thus, in spite of Russolo's insistence that it would involve a 'breaking out' of the musical sphere, the art of noises was still to conform to some musical parameters. In order for noise to be brought into art, the former had to be controlled and regulated.

Russolo's art of noises remained significantly more radical in theory than in practice: while his manifesto called for the pursuit of an infinite range of noise-sounds, and the generation of the new and the unheard, Russolo's *intonarumori* were criticized for not moving far beyond the emulation of the common environmental sounds of the modern age – the reproduction of the sounds of machines, sirens, automobiles and so on. The composer Edgard Varèse rejected the Futurists for limiting their noise music to an imitation of the banal and quotidian: 'Why is it, Italian Futurists, that you slavishly reproduce only what is superficial and most boring in the trepidation of our daily lives?'[18] Irrespective of the efforts of Russolo and other Futurists to produce new noise-making instruments so as to extend the compositional palette available, for Varèse, the Futurist art of noises failed to create a new means of expression: it was not sufficiently future-facing. Rather than bringing forth the new, it, instead limited itself to the simulation of the already-known sounds of industrialism.

Despite the apparent failure of Russolo's *intonarumori* to match up to his rhetoric, Russolo's manifesto establishes a number of influential, interrelated tenets about noise and its use as an artistic resource. First, insofar as it serves as a weapon against bourgeois artistic ideals, noise is equated with an aesthetic 'radicalism'. Second, noise is attached to the 'new'. Noise belongs

to the avant-garde: it is antithetical to the insipid musicality of dominant culture. Third, noise is presented as a generative force that can revitalize and reinvigorate artistic expression. It is this latter point that I want to hold onto herein: noise is a force that has the capacity to generate new sonic sensations and 'acoustical pleasures'.

While the Futurists are often treated as the principal founding figures of artistic explorations of noise, there are other earlier examples of the use of noise or 'noisy' features in music. Russolo himself notes the evolution of what he calls 'musical noise' – that is, the growing use of dissonance and harmonic complexity in the late nineteenth and early twentieth centuries – that historically precedes the emergence of 'noise-sound'. Paul Hegarty draws a similar distinction between two historical and conceptual trajectories. The Western art music canon has at times used dissonant or unfamiliar features, which are referred to as 'noisy' (what Russolo would call musical noise) – for instance, the quotation of folk songs in Stravinsky and Bartók, the dissonance of Beethoven's *Grosse Fugue*, or the dismantling of tonality by the Second Viennese School. However, there remains a strategic difference between the inclusion of noisy elements into pre-existing forms and structures as a means of reinvigorating or renewing Western art music and the use of noise for the purposes of a holistic transformation or dismantlement of the structures and conventions of the Western art music tradition. Both sides of this division are seen as in some way using noise to 'advance' music; however, Hegarty contests that the noisy, dissonant elements of Western art music are only noise in terms of their historical newness, while the experimentations with noise by figures such as Russolo, Erik Satie and Kurt Schwitters sought to create 'a world where the arrangement of musical notes is secondary'.[19] While the former seeks to incorporate noise-sounds *in* music using standard or traditional instruments, the latter approaches noise-sounds as an alternative *to* music, and seeks to utilize extra-musical or non-musical sonorities.

This understanding of noise in terms of historical newness also points to a third conceptual distinction that can be made: music *as* noise, pertaining to musical works with dissonant and unfamiliar features that have been negatively received by audiences as unwanted and disturbing noise. There are a number of infamous incidents in Western art music history to which this might refer: Stravinsky's *Rite of Spring* notoriously induced a riot at its premiere in 1913; Bartók's *The Miraculous Mandolin* caused scandal at its Cologne premiere in 1926 and was consequently banned; while Beethoven's *Grosse Fugue* was received as incomprehensible and repellent. In addition to the disruption that occurred in the 1921 concert, the premiere of Russolo, Piatti and the *intonarumori* in Milan, in April 1914 is said to have descended into a riot with the Futurists fighting the audience in the stalls. These often mythologized events lend weight to the rhetorical association of noise with an aesthetic and political radicalism through which noise is ascribed the power to shock, disturb and 'challenge' listeners.

Crossing the line

Since received wisdom dictates that they are opposites, noise and music have been frequently conceptualized in relation to a divisional line that separates musical sounds from extra-musical noise. The pervasiveness of this line is partly due to the influence that the work of physicist Hermann von Helmholtz has had in the field of acoustics and in the formation of dominant sonic epistemologies.[20] Of course, the line between musical sounds and noise is not always neat and sharp: Helmholtz himself admitted that while there are qualitative differences between the two, there are points at which the distinction between musical tones and extra-musical noise is blurred – for example, when complex non-pitched percussive sounds are used in music.

Many of the early- to mid-twentieth-century avant-garde have joined the Futurists in seeking to traverse this line between music and extra-musical noise in order to 'break out' of the musical status quo, and expanded the palette of sonic materials available to artists. The exploration, critique and traversal of the line between music and its others – noise, sound, extra-musicality – are thus integral to a canonical lineage of avant-gardist and experimental music practices. Experimenting with this line provided the avant-garde with 'a heraldic moment of transgression and its artistic raw material, a border that had to be crossed to bring back unexploited resources, restock the coffers of musical materiality and rejuvenate Western art music'.[21]

This line of noise/music has also been interrogated by much of contemporary noise theory, which has examined the structural, discursive and ontological relationships between these two categories, as well as the historical evolution of those relationships. These accounts often follow the quasi-Hegelian trajectory famously articulated by the French economist Jacques Attali, in which noise is pulled into music over time, transforming music in the process. Consequently, the idea of 'crossing the line' has been central to descriptions of noise as an artistic resource, as well as to imaginations of the avant-garde. Noise has been brought into music; and the boundaries that separate the musical and the extra-musical have been muddied. The world of noise has been incorporated, while the world of music has been expanded.

However, this divisional line that separates music from its other is neither transhistorical nor transcultural: it is mutable and contingent. The divisional line that separates music from noise, and musical from the extra-musical, is not determined 'in a hard and fast materiality' but has been constituted, negotiated and renegotiated through 'the power of musical practice and discourse'.[22] Indeed, though Helmholtz's line might appear 'objective' in that it is drawn in relation to sonic properties, it is nonetheless informed by historically and culturally determined ideas of what constitutes musical, extra-musical and non-musical sound. For example, according to Helmholtz's paradigm, clarity and regularity of pitch are the key distinguishing features

of musical tones. Yet, while pitch is a primary organizational attribute of a number of musical styles and practices (including that of the Western European art music tradition), it is not a primary organizational attribute of *all* music. In much contemporary digital music, for instance, pitch is not given primacy over other sonic attributes such as rhythm and timbre; indeed, pitch might be treated as secondary to rhythm and timbre.

Both artists and theorists, then, have embraced the divisional line that separates music from noise. And while it is acknowledged that the categorization of sonic materials as either musical or extra-musical noise is historically contingent, the popular depiction of experimental music and the avant-garde as 'crossing the line' still rests upon a constitutive division between music and noise – between an ordered, structured and conventional interior; and its noisy, chaotic, unstructured exterior. These structural conceptualizations often repeat the Futurist rhetoric of noise as a radical or even revolutionary force that has the capacity to threaten, disable or overthrow established socio-musical orders.

In Attali's idiosyncratic and influential book *Noise: The Political Economy of Music*, noise's radicalism is extended to a clamorous, noise-oriented avant-garde, which heralds broader socio-economic and political changes. Attali posits noise as a violent freedom that lies external to, but is nevertheless a threat to, social order. In an inversion of the base-superstructure methodology of 'vulgar' Marxism, music stands as a prophetic expression of socio-economic orders. Established musical codes are taken to reflect contemporary socio-economic organization, while shifts in musical values, functions and modes of production are understood to somehow anticipate future socio-economic orders. Noise, understood as uncoded disorder, threatens and disrupts established musical orders. However, noise's violent destruction of the old also prefigures the constitution of the new – a new musical and socio-economic order emerges from the scrambling of established codes. Thus, 'despite the death it contains, noise carries order within itself; it carries new information'.[23]

This process of socio-musical evolution is documented in relation to four primary chronological stages of production: (1) Music becomes ritual 'Sacrifice', when power wants listeners to 'forget' the violence of the social. (2) When it wants listeners to 'believe', music becomes 'Representation' and is (re)enacted by professionals. (3) When power wants listeners to be silenced – as in the era of broadcasted sound – music becomes 'Repetition'. These three stages roughly correspond to oral transmission and recitation of music, the representation and circulation of music through scores and the reproduction and global distribution of music under late-industrial capitalism. Attali understands the fourth musical-social order labelled 'Composition' to be in a fledgling state. (*Noise* was first published in 1977.) This musical regime might more accurately be labelled as 'improvisation'. In this mode, individuals – against the 'grey world' of repetition – create and perform music for themselves.[24]

In this fourth stage, the consumer becomes the producer, and the listener becomes the composer-performer, bringing about the death of the virtuosic specialist. Attali sees this fourth stage as emerging with the questioning of repetition's codes and values – concerns that Attali understands to underline Russolo's noise experiments. Of more significance is John Cage's *4'33"*, which Attali describes as a 'blasphemous' act of disruption.[25] In opening up the concert hall to the noises of the world, Cage enacts a criticism of the code and the network of music in the era of repetition. In remaining silent as the performer, he gives the right to speak, to make noise, to those who do not want it – that is, the 'silenced' audience. Attali understands Cage as announcing the disappearance of the centralized and commercial site of music: the concert hall becomes redundant as music is shown to be ubiquitous, and thus is something that can be produced and listened to by anyone who wants to in any way they wish. However, although Cage's silence reveals 'a rupture in the process of musical creation', it is 'not a new mode of musical production, but the liquidation of the old'.[26] In other words, Attali sees Cage's *4'33"* as a criticism of the old, rather than a successful establishment of an alternative musical-social order. Beyond this Cagian rupture, Attali speculates about the emergence of a radically different space, 'within which a different kind of music and different social relations can arise. A music produced by each individual for himself, for pleasure outside of meaning, usage and exchange'.[27] Rather than trying to recreate pre-existing musical codes, music-making individuals invent new codes and communication becomes an act of creation rather than exchange. In this alternative, socio-musical order, participation and engagement, rather than the creation of an object, are taken as primary. Music remains in flux and open-ended, with new orders being continually formed and re-formed.

Attali depicts noise as a force that scrambles socio-musical codes, driving the movement from one order of relations to the next. The notion of noise as generative of new orders of music and socio-economic relations resonates with Michel Serres's figure of the disruptive, transformative parasite. These similarities are not entirely surprising given the shared cultural context from which both these texts emerged. Serres's *The Parasite* was first published in 1982 – five years after Attali's *Noise*. The intellectual work of both Attali and Serres, moreover, is influenced by cybernetics. Indeed, Attali, Serres and cyberneticist Henri Atlan were all members of the *Groupe des dix*: a group of ten French intellectuals active in the 1970s, who debated the political implications and applications of information theory, cybernetics and artificial intelligence.

However, while in Serres there are three, in Attali there are two: unlike Serres's parasitic third term, Attali's noise perturbs musical orders from an external position. Despite recognizing noise and music as having a dynamic relationship, Attali's account ultimately remains dualist: it rests upon a series of polarities that separate inside and outside, music and noise, order and chaos. Noise is violent, uncoded disorder that lies external to social

order. It has the power to disrupt precisely because it comes from outside an established structure and thus its presence cannot be accounted for within that structure. However, once it is accumulated into the socio-musical order, it loses its status as noise: 'Noise is a weapon and music, primordially, is the formation, domestication, and ritualization of that weapon.'[28] In other words, noise necessarily loses its noisiness as it is channelized into socio-musical orders over time, disarmed of its disruptive, transformative potential. The closest music gets to an 'untamed' noise is within the clamorous experiments and 'unmusical' music of a broadly defined avant-garde, which herald the arrival of new social and musical orders: the emergence of a new evolutionary cycle. Nonetheless, noise, if it is to exist in or *as* music, has to be sacrificed. As it is brought in from the outside, noise becomes a shadow of itself. The polarity between music and noise is thus maintained: the new music is the once-was-noise.

The poetics of transgression

Depictions of noise practitioners as 'crossing the line' and including what is usually (or should be) excluded have contributed to a transgressive poetics of noise, which has both enforced and amplified noise's status as a dangerous and excessive 'outside'. From this perspective, noise is all about 'a transgression of conceptual, creative and even ethical spheres'.[29] Indeed, noise's relationship to taboo and transgression is apparent in Attali's account, where noise, as the threat of violent freedom, belongs to the realm of taboo. For Georges Bataille, the primary function of taboo is to exclude violence and protect social order. When the taboo is obeyed, it fades from perceptibility: 'If we submit to it, we are no longer conscious of it.'[30] It is only with the act of transgression that the taboo truly comes to the fore: 'In the act of violating it [the taboo] we feel the anguish of mind without which the taboo could not exist: that is the experience of sin.'[31] Noise music, in looking to 'break out' of established and accepted musical orders, is an act of transgression. Indeed, inasmuch as the divisional line that separates musical sound from extra-musical noise has been central to the early- to mid-twentieth-century avant-garde, the line formulated by the taboo has been aesthetically and conceptually pertinent for a number of more contemporary manifestations of noise music. Music is thought to belong to the realm of the taboo-protected norm, while noise (and, by extension, noise music) enacts its transgression.

Transgression is certified through sensation – as Bataille's remarks suggest, the breaking of the taboo is felt. When framed as transgressive, noise and noise music are imagined to dramatically affect the listener. For instance, Christopher Partridge asserts that high-volume, immersive and dissonant noise music, in its Othering of a normative relationship to music, can be

unnerving and disorienting for the listener.[32] By bringing in that which is ordinarily excluded in the name of order and stability, noise music is thought to have the capacity to induce extreme physiological and psychological states. It is depicted as invoking intensities associated with horror, abjection or discomfort, or alternatively, awe and ecstasy. It has the power to leave minds blown and bodies shocked, to confront and overwhelm.

The association of sonic transgressions with social transgressions emphasizes the challenging and shocking status of noise. This has particularly been the case within noise subgenres such as industrial music (a genre that emerged in the mid-1970s and is associated with artists such as Throbbing Gristle and Cabaret Voltaire and the label Industrial Records), power electronics (an abrasive and 'extreme' style of noise music associated with Whitehouse and Consumer Electronics) and harsh noise (a generic term that often refers to artists who are perceived to take noise music to its limits, such as Masonna, Merzbow, Hijokaidan, Incapacitants and Hanatarash). Disruptive soundscapes, rumbling bass, buzzing electronics, squalling feedback and extremes of frequency and/or volume are coupled with violent, gory, fascistic, occult and sexual imagery. Various artistic and political rationales are offered and refused for crossing this sonic and social line. In instances where explanations are offered, they tend towards ambiguity and obfuscation, with depictions of transgressions presented without comment and moral judgement. In this regard, noise-as-transgression is often associated with an aesthetic *amoralism*. The use of such materials can be understood to render the audience complicit – they are simultaneously provoked to question and invested in acts of extremity, taboo-breaking and 'evil'.[33] Yet, the political dimension of noise as sonic and social transgression is frequently dubious, inasmuch as the boundary between the purportedly 'neutral' presentation of materials associated with far-right activity, misogyny, racism and so on and a tacit endorsement of these ideologies is both blurry and easily crossed, irrespective of authorial 'intent'.

This coupling of sonic and social transgressions is perhaps most commonly associated with the industrial group, Throbbing Gristle. The band formed in 1975 in Hull, England, evolving out of the performance art collective COUM Transmissions. The latter's extreme aesthetics and practices famously earned them the title 'the wreckers of civilization', courtesy of outraged conservative MP Nicholas Fairbairn. Throbbing Gristle continued the exploration of taboos and their transgression. According to Genesis P-Orridge, the group were interested in the points 'where sound became noise, and where noise became music and where entertainment became pain, and where pain became entertainment. All the contradictions of culture'.[34]

Throbbing Gristle's style has been described, with characteristic hyperbole, as 'sonic terrorism'.[35] Their confrontational live performances aimed for perceptual overload, combining high-volume fuzzy drones, repetitive rhythms, pulsing synthesizers, distorted and shouted vocals, with

extreme lighting, ritualistic performances and provocative imagery. In their work, transgressive acts are offered as objects for aesthetic contemplation. Interested in the limits of the human condition, psychopathology, control, techno-rationalism and the occult, Throbbing Gristle's dystopian aesthetic drew upon the 'darkest' elements of the social: genocide, serial killers and sexual abuse and coercion. The artwork for the single 'Subhuman', for example, consists of a mound of human skulls. 'Very friendly' depicts the murder of Edward Evans by Myra Hindley and Ian Brady with obsessive detail, undercut by buzzing synths and overdriven guitar-playing. while the band's lightning bolt insignia that was used on early recordings and merchandise bears a striking likeness to the party flag of Mosely's British Union of Fascists (though, as Drew Daniel observes, there are also similarities with the lightning bolt costumes of the German pub-glam act, Chicory Tip).[36]

The ethico-political motivations of Throbbing Gristle are complex and contradictory. Throbbing Gristle themselves have rejected any political descriptor: 'It is very important that TG be allowed to point out that they have absolutely no political stance of any kind.'[37] Throbbing Gristle's anti-music was underlined by an 'anti-politics', which rejected the normative political distinctions of the time.[38] However, central to the group's aesthetic was the notion that information is power. If states and institutions control human beings through controlling information, then the production and dissemination of information through alternative networks – such as their publication *Industrial News* – was a potentially resistive strategy. Where their anti-institutional and anti-censorship stance might be viewed as markers of left-leaning tendencies, their distaste for forms of communalism and the emphasis placed on the individual as a self-reliant political actor is more akin to libertarianism. Despite being antagonistic to conservatism (as Fairburn's remarks testify), in this regard, Throbbing Gristle's political sentiments were not entirely dissimilar to those of the Thatcher regime in the late 1970s.[39]

Throbbing Gristle's first mission 'terminated' in 1981. However, the association of noise (and noisy music) with the abject, transgressive and excessive has continued in various different manifestations. Power electronics outfit Whitehouse, for instance, aim to create the most 'extreme' music possible, combining waspish synth noise and ranting, distorted vocals with themes of deviance – depictions of sexual violence (including child sexual abuse and rape), torture and homages to serial killers. With titles such as 'Incest 2', 'Ass destroyer' and 'Lightning struck my dick', Whitehouse seem to almost parody the machoism of noise-as-transgression; there is something cartoonish about their excessive shock tactics.

While their imagery and thematics have been sometimes treated as signifiers of a far-right political agenda, it would appear more accurate to suggest that Whitehouse's use of transgression as an aesthetic strategy is informed by a commitment to liberalism.[40] For Whitehouse, depictions

of sexual violence, misogyny, fascist symbolism and rhetoric[41] operate as open signifiers and are open to multiple interpretations – it is down to the individual how he or she perceives, experiences and understands these materials in the context of their work. Conversely, to tell the audience what the use of these aesthetics is 'about' would be to inhibit the freedom of the individual to interpret it for himself or herself. This rationale repeats the liberal prioritization of the individual subject and individual rights, liberties and freedom of expression over and above questions of structural inequality, collective identity and sociopolitical privilege and power. When questioned about Whitehouse's music, lyricism and accusations of racism and fascism, William Bennett states: 'I want to give people the freedom to experience [our music] in whatever way they want, whether they like it or don't like it.'[42] In another interview, Bennett's bandmate, Philip Best claims that 'there is no set prescribed reaction' to his work and 'people can get whatever they want from it', though as an artist it is not his job 'to hold people's hands' in the face of 'uncomfortable' subject matters: 'If they [the audience] behave like bloody idiots I've got no responsibility for that.'[43] A full consideration of the politics of Whitehouse is beyond the scope of this book. However, apropos of the poetics of transgression, their ideological underpinnings and concomitant ethico-political values (i.e. individual rights, individual responsibility, freedom of expression) mean that the extent to which Whitehouse transgress the taboo-protected norm can be questioned. In aestheticizing liberalism, Whitehouse affirm the status quo – that is, liberalism as the dominant ideology around which society is structured. In other words, Whitehouse's aesthetic abrasiveness can be considered expressive of, rather than threatening to, normative social values.

There are plenty of other artists who aesthetically and/or rhetorically frame noise in relation to transgression. While sonically and conceptually disparate, the association of noise and transgression can be found in the work of the now defunct Tokyo punk-noise collective, the Gerogerigegege (masturbation was a primary theme of their live performances and recordings); the bloody performances of Justice Yeldham (Lucas Abela), who performs using contact microphones attached to sheets of glass, which he rubs his face against, breaks over himself and sometimes consumes; and Pharmakon's intensive sonic exorcisms.[44] Even the quickest glance through the 'noise' section of the music database Discogs illustrates the continued prevalence of a dark, transgressive aesthetic as defined by industrial and power electronics – there is an abundance of gloomy, black and white album covers making reference to death, violence, BDSM, fetish, psychosis, fascism, torture and sexual violence.

As a conceptual framework, the poetics of transgression relies on two interconnected assumptions: that noise is the (material and discursive) antithesis of music; and that noise is definitively unwanted, bad or negative – it is that which is to be excluded by the taboo-protected norm. Hence, artistic uses of noise can be thought of as acts of musical blasphemy. On one

hand, they curse and disavow aesthetic norms. Yet, the transgressive act of blasphemy relies on going against what one holds dearest. For atheists to curse God is meaningless, a powerless act, for the name of God has no sacred or divine signification for them. Blasphemy's transgressive power – the fear and anguish that arises from it – lies in the significance that is instilled in the name of God. Attempts at transgression are governed by failure, inasmuch as transgression relies on the taboo remaining in place. In other words, the transgressive act remains tied to the prohibition it seeks to break free from, since it derives its value from the tension that arises between the taboo-protected norm and its transgression.

Thus, despite descriptions such as 'anti-music' (as Throbbing Gristle labelled themselves) and 'pure noise' (the stated aim of Japanese harsh noise group, Incapacitants), noise-as-transgression remains in some ways bound to the socio-musical norms and conventions it seeks to oppose. By extension, noise music – understood from this perspective as a combination of mutually exclusive terms – can never truly exist; it is a paradox that cannot succeed. If noise is constituted by its opposition to the musical – undesirable to desirable, chaos to order, taboo to norm – or, alternatively, by a listener who judges noise to be unwanted, then when it becomes art, or music, it is always destined to fail. As Hegarty, echoing Attali, argues:

> Failure' is what defines noise in its encounter with music, for noise must fail to be noise if it is accepted, and of course it fails if not heard as well. This failure is where noise resides, the fate it selects for itself, or has selected for it. Noise must be only as if it were music, not as a new musicality.[45]

In other words, if noise music 'succeeds' as noise, maintaining its taboo status, then it fails as music. Likewise, if it 'succeeds' as music, then it must, in part, fail as noise – noise that comes to be music loses its taboo status and becomes the norm. Thus, when framed in terms of transgression, the noise within noise music can only ever be a simulation of noise 'proper' – a shadowy representation of its former, transgressive self.

Transgression has undoubtedly been aesthetically and conceptually influential for a number of noise genres and artists, and so for this reason alone, it cannot simply be dismissed in its entirety. Indeed, it is important to note that though the transgressive aesthetic and rhetoric of industrial music and power electronics remain prevalent, other noise artists have used transgression in different contexts and for different reasons. Despite dealing with some similar themes (e.g. death, genocide, madness) the queer, feminized transgressiveness of the vocalist Diamanda Galás, which will be discussed later, is contextually, aesthetically and politically distinct from the transgressiveness of Whitehouse: the former primarily positions herself in alignment with the oppressed, while the latter often 'speak' from the perspective of the oppressor. Nonetheless, the notion of noise-as-transgression

is in danger of becoming a cliché that reduces noise's productive, affective potential (i.e. what noise does) to its imagined capacity to shock, dominate, overwhelm or offend. With this, noise and transgression risk being fetishized as always already radical. Yet, transgression does nothing on its own. Rather, central to it are questions of power: What is being transgressed, for what purpose and by whom?

The question of 'who' can be extended to the affected listener of 'transgressive' noise music. The poetics of transgression often evokes an imagined listener who is acted upon by noise and experiences it as unfamiliar, shocking, challenging and confrontational. Such a listener is invoked in relation to Whitehouse, with characteristic hyperbole:

> Whitehouse is clearly not the band for everyone. People who have been sheltered and comfortable all throughout life will certainly have the most difficulty sitting through even a few minutes of their music. … While it's understandable that people choose to eschew Whitehouse like the plague, they're not going away yet, and they are still the same jolting voice from a pitch-black reality that they were over a decade ago.[46]

On the one hand, the imagined 'sheltered' listeners will struggle with the extremity of Whitehouse; they are most likely to experience the anguish of transgression and the group's aesthetic amoralism at its greatest intensity. Yet, on the other, as Simon Reynolds highlights, it is problematic to assume that anyone who would experience noise as transgressive is there to encounter it in the first place. Reynolds argues that the noise artists aiming for 'ye olde "shock effect," their pure noise laden with content of tediously "transgressive" nature', fail to recognize that no one who is likely to be shocked or to feel the anguish of the broken taboo is within earshot: 'There's no real disruption or challenge in these scenes, because they're screeching to the converted.'[47] Hence, noise music as transgression fails not so much in the sense that it seeks to take up a paradoxical existence but rather in the sense that it fails to sufficiently affect the listening subjects present as 'shocking' – if noise is to be transgressive, then it needs to be experienced as such by a listener/viewer. Yet, just as musical emotions had become tired and predictable for the Futurists at the beginning of the twentieth century, by the twenty-first century, the 'shocking', taboo-breaking tactics of industrial music, power electronics and other transgressive noise practices are also rather tired and predictable, in that they are, somewhat paradoxically, taken as a generic signifier. Indeed, transgressive content has a tendency to age quickly, insofar as it becomes assimilated and accepted. As Reynolds notes, Throbbing Gristle's grotesque 'Slug Bait', which details a psychopath cutting open a pregnant woman's stomach and biting off the baby's head, may have been shocking when it was released in 1977 (at least inasmuch as there was very little like it in rock music at the time). However, in our contemporary musical era, 'After the schlock-horror tactics of death metal

and third-wave industrial (Throbbing Gristle's grandchildren), "Slug Bait" seems almost tame.'[48] This is by no means to suggest that art has reached an 'end of history' moment, where nothing is experienced as shocking anymore; nor has there been a simple linear historical progression where noise music has become more and more 'extreme' in its use of transgressive aesthetics. Nonetheless, the supposedly transgressive content of these practices have come to operate as a norm: the association of noise music with a 'dark' aesthetic is now expected and anticipated, rather than a source of shock, disturbance or emotional anguish.

In this regard, it seems significant that some artists associated with noise-as-transgression have in one way or another moved towards a subtler, more obviously musical aesthetic. Throbbing Gristle, for example, attempted to evade the predictability of extremity with the quasi-kitch and subversive *20 Jazz Funk Greats* (1979). In contrast to the bleak, austere artwork of previous releases, the cover of the album seems unusually cheery and innocent, with the group standing by Beachy Head on the south coast of England (a notorious suicide spot). While their previous releases were revered as 'anti-music', *20 Jazz Funk Greats* set about unpicking conventional musical forms. The album places the breathy, discoesque 'Hot on the heels of love', the upbeat synth instrumental 'Walkabout' and the stomping, semi-melodic 'Convincing people' alongside more obviously industrial tracks: the trudging, repetitive 'What a day', with its eerie 'Mockney' chanting; the dreary, ambient 'Beachy head'; and 'still walking', an agitated track full of shrill noises and muffled voices. It would seem that Throbbing Gristle were aware that transgression risked becoming normalized: an expected and anticipated function of their work and the industrial genre that was emerging at the time. With the exception of 'Persuasion' – a track that details various persuasive and coercive relationships and features recordings of suggestive, childlike voices – there is little in the way of overtly 'transgressive' content on *20 Jazz Funk Greats*. With this, Throbbing Gristle veered away from the extreme just as it became expected of them: the COUM transmission promise to 'guarantee disappointment' demanded an alternative, anomalous strategy. As Drew Daniel states, Throbbing Gristle needed 'a new way to fail' in that 'to dish out ever more distorted soundscapes with every higher body-counts would have been their expected path, and was in fact the routes taken by the four-track-wielding hordes who fleshed out and watered down industrial as a style'.[49] *20 Jazz Funk Greats*, then, reflects an attempt to evade the generic trappings that the group had built for themselves.

Quiet noise: From Merzbow to *onkyô*

In addition to being associated with a particular visual aesthetic, the poetics of transgression also lends itself to a particular set of sonic characteristics

that are common in, but are by no means definitive of, noise music. When viewed as transgressive, noise is often taken to be synonymous with loud, harsh and excessive sound. The prevalence of this poetics means that noise music is often conceptualized in relation to its most sonically extreme manifestations. Many accounts of noise music have centred on the prolific output of Merzbow (Masami Akita). Merzbow has come to be viewed as the patriarch of contemporary noise music: he is 'the ultimate example, the reference point, for Japanese noise music, and for consumption of and writing on noise'.[50] Merzbow takes his name from Dadaist Kurt Schwitters and his concept of *Merz* – a nonsense term that Schwitters used to refer to his practice of making collages and constructions out of found objects, junk and rubbish. Schwitters's *Merzbau* referred to his studio and family home, which gradually became a *Merz* construction in and of itself, filled with grotto-like spaces, columns and sculptures built out of found materials. Merzbow mirrors Schwitters's junk art in its gathering of sonic detritus – found sounds, anomalous sonic artefacts, distortion, feedback, the hums and buzzes of broken electronics.

Merzbow's work is excessive both in terms of quantity and in terms of sonic quality: active since the late 1970s, their oeuvre contains over three hundred recordings. While Merzbow's output is varied – compare, for example, the throbbing *Pulse Demon* (1995); the rockish *Aqua Necromancer* (1998) and *Merzbeat* (2002); and the meandering *Music for Bondage Performance* (1991) – their signature style is the creation of extremely loud, dense and long-lasting walls of cacophonous sound. With Merzbow, sound veers towards the threshold of unlistenability. When performed, Merzbow, or Merzbow-style harsh noise is felt as well as heard: it bombards the listening body, perturbing the internal organs, the skin and even the eyes. It transforms the sensory registers of the listening body by turning the stomach into an ear. This extreme, 'full noise' aesthetic lends itself to the polemical descriptors that characterize noise's poetics of transgression. Dixon Christie, for instance, precedes his interview with Akita with a warning to the uninitiated:

> There is nothing in your comprehension that could prepare the virgin mind for this aural slaughter. Nothing kills like MERZBOW. The music is perverse and shocking … something about the droning loops and distorted feedback that never ends. That what any cult would call noise creates the superfan; your soul begs for reason but gets none. There are trace elements of trance, in that the unrelenting doom prevails and causes pains to the depth of your being. Nothing is sacred anymore.[51]

Merzbow and the 'full noise' aesthetic have undoubtedly been important and influential, inasmuch as they are thought to take the noise of noise music to its logical conclusion. However, the equation of noise music with its harshest manifestations tends to drown out subtler practices that do

not easily correspond to aesthetic and conceptual values of transgression, extremity and excess. Indeed, there is a sense from within the (fragmented and heterogeneous) Japanese experimental music scene itself that the pursuit of noise in terms of extreme loudness and density has reached a limit, with the emergence of quieter modes of expression. Michel Henritzi describes this as the 'third phase' of the Japanese noise scene. Following on from a first phase, characterized by a lo-fi approach, and a second phase characterized by experiments with processes of saturation and overdrive, this third phase marks a turn towards the 'the infinitesimal and the inaudible'.[52]

Central to this 'quiet' turn in the Japanese noise scene is *onkyô* (or *onkyôkei*). The term *onkyô* remains largely untranslatable, a kind of noise in cross-cultural communications.[53] Broadly speaking, the word simply means 'sound', although its second character *kyô* also refers to reverberation or echo. Emerging in the early 2000s in connection with a small, core group of improvisers, including Otomo Yoshihide, Nakamura Toshimaru and Sachiko M (Matsubara Sachiko), the *onkyô* genre can be heard as a move from a maximalist to a minimalist aesthetic of noise. In stark contrast to the 'wall of noise' approach of other internationally recognized Japanese noise artists such as Merzbow, Masonna or Incapacitants, *onkyô* pushes the art of noise into near silence.

The *onkyô* style is characterized as free improvisation using microsounds, subtle sonic gestures and large stretches of silence and stillness. There is an intense focus on the sounds themselves, their attributes, durations and evolution. *Onkyô* prioritizes sonority over structure, slowly letting singular sound events emerge from and decay into the background noise. Performances are quiet and persistent, and ordinarily draw no distinction between intentional and unintentional sounds – between the sounds created by performers and would-be interruptions coming from inside and outside the space. Instead of seeking to play against or in spite of it, or acting to exclude or minimize its inevitable presence, *onkyô*'s performers improvise *with* the noise of the milieu. As Nakamura Toshimaru states:

> When I play with other musicians, I don't play with them, I play with the space including this musician – not directly human to human. If you're a musician, okay, let's play together. But I don't play with you – I play with all of the elements around you, around us. So I don't really confront you as one individual – you are part of many other elements in the space around you.[54]

Improvisers and their instruments are not viewed as the only creative force in an *onkyô* performance. Rather, *onkyô* involves a holistic approach to the performance space, where the everyday and banal noises of the environment are afforded an affective agency in generating and shaping improvisations.

Instead of invoking its imagined loudness or abrasiveness, *onkyô* works with noise as an inevitable presence within live performance.

This environmental approach is coupled with an experimental approach to electronics and recording technologies. Nakamura, for example, improvises using a 'no-input' mixer – a mixer that is connected so that the signal input comes in the system rather than from an external source (i.e. by connecting the 'output' channel to the 'input' channel) and consequently generates an output consisting of feedback loops and system noise that can be modified by the mixer's controls. A similar strategy is employed by Sachiko M, who performs using an 'empty' sampler (Figure 3). Such an approach, which involves playing with both the noises of the environment and the noise of the technological system, resonates with Michel Serres's wordplay around the middle/medium/mediation/milieu. In *onkyô*, the parasitic noises of both the technological medium and the environmental milieu are brought to the fore, influencing the improvisatory process and its outcomes.

The emergence of *onkyô* is also connected to a specific site of origin: Tokyo's Off Site, a small venue (or 'live-house'), in which initial *onkyô* performances took place. Indeed, while the aesthetics of *onkyô* have complex and multiple roots, *onkyô* improvisers have suggested that the style has been shaped, in part, by the architectural properties of Off Site. The venue is a source of physical limitation: it is a small, basic white-walled room, approximately six by twelve metres with a capacity of about fifteen people. The proximity of the venue to residential dwellings and its thin walls allow the noises of the world to leak into the street-level space. Yet, the 'quiet noise' approach of *onkyô* also helps prevent noise, or, rather, complaints about noise – if the performances were louder, the sound would potentially disturb the venue's neighbours: Nakamura has described how 'one of the neighbours came round with a noise inspector from the city government. It's very problematic, so we are forced to play quiet.'[55] These limitations of volume are not considered inhibitive, according to Nakamura: 'I am playing with the room … it's a whole universe, just the scale is different. So when you play quiet, you still have the same amount of freedom. Total limitless freedom is just an illusion. Even if you can play very loud you have limits, for example the room itself or the capacity of the PA system.'[56] In other words, the milieu, whether large or small, and the material means always provide a frame of potentiality. *Onkyô*'s quietness, however, has at times been met with the kind of outrage that is more likely associated with the purveyors of noise-as-transgression. During the 2002 'Japan-o-Rama' tour, an audience in England responded to the extended silences and minimal sounds of Sachiko M and her sampler without samples by shouting and throwing objects at the stage. Similarly, during an Italian tour the same year, *onkyô* musicians were surrounded by an angry crowd who blocked the passage of the car, beating their fists on the roof. David Novak suggests that such reactions were due to a dissatisfaction concerning the 'newness' of *onkyô* when it was taken beyond Off Site: some European and North American audiences felt that *onkyô* was too

FIGURE 3 *Sachiko M at Raum Bologna, 2005. Used with permission from XING.*

similar to pre-existing, minimalist subgenres of improvisation, irrespective of its generic title.[57]

Onkyô might be understood as taking noise music from one extreme to another: from the overwhelmingly loud to the almost silent. Likewise, as with noise music's harsh manifestations, *onkyô* places certain demands of endurance and attentiveness upon its listener: the quietness of *onkyô* forces a degree of focus 'that is rigorous for both audience and musician, but which also unites them in an intimate and ecstatic kind of shared experience'.[58] Yet, while *onkyô* might be framed in terms of extremity and endurance, there is nonetheless something of a disjuncture between such quiet utilizations of noise and the hyperbolic proclamations of noise music discourse: it does not sit comfortably alongside notions of transgression and excess – it does not satisfy the promise of noise to leave minds blown and bodies shocked. Sachiko M herself has expressed that she has no wish to establish a 'sound suffering' relationship with her audience, as is characteristic of noise-as-transgression.[59] Nor does *onkyô* comfortably fit within Attali's dialectical model of absorption, insofar as *onkyô*'s noise need not be 'domesticated'. Rather than bringing the noise of outside into music (sacrificing noise in the process), *onkyô* can be heard to demonstrate the permeability of distinctions between noise and music, inside and outside. In other words, it is not so much a crossing of the line, but a blurring of the line such that the categories on either side are destabilized, undermining their apparent opposition. *Onkyô* does not bring noise into music: rather, it *foregrounds* the noise of the musical medium/milieu.

What would be left of the narratives that depict noise musicians as 'crossing the line', as 'breaking out' of the musical status quo into new sonic terrain, or of Attali's paradigm in which noise dies in order to live as music, if it was

discovered that noise always already existed *within* music, as the practices of *Onkyô* suggest? Indeed, by cutting noise's ties to both a constitutive negativity and a listening subject, the ethico-affective approach to noise proposed in this book can be used to disrupt and transform the structural opposition upon which the poetics of transgression and noise music's other line-crossing narratives rely. From this relational, materialist perspective, noise's presence within music can no longer be assumed to be paradoxical. As a result, the noise of noise music is not restricted to a simulation of sounds judged to be noisy; nor does noise need to be 'sacrificed' – it can 'live' within music. The proposed ethico-affective approach can thus be used to help formulate an alternative understanding of noise's use within musical and sonic art practices that move away from the language of transgression, failure and contradiction, while also maintaining the notion of noise as a generative, affective force that can create new sonic sensations.

Hidden delights

Though much of its presence is often overshadowed or inaudible, in its material reality, music is full of noise. As a recorded artefact, the 'signal' of music is always affected by the noise of the medium. The material means of music (e.g. audio equipment, performing bodies, instruments, performance spaces) leave their trace on musical sounds. In live performance, musicians are tasked with playing with noise – not just against or in spite of it. Noise is not the antithesis, but a key component, of music.

Of course, to assert that music – all music – is full of noise is to not say anything particularly new. In his essay 'The Joys of Noise', first published in 1929, the American composer Henry Cowell refutes noise and music's dichotomous relationship. Cowell argues that the 'time-honoured axiom' dictating that noise and music are opposites – with music taken to be good and noise to be bad – misses the potential of noise as a musical resource: 'It remains a much-used but almost unknown element, little developed from its most primitive usages, perhaps owing to its ill-repute.'[60] However, according to Cowell, a turn to noise would not require an abandonment of the musical – there need not be a traversal of the imagined border that distinguishes music from its other. Rather, he argues that the discursive binary separating noise from music is inaccurate, given that in its material reality, 'the "disease" of noise permeates all music'.[61] For Cowell, the 'noise disease' is an epidemic – it has a near ubiquitous but largely undiscussed presence within music: 'Although existing in all music, the noise-element has been to music as sex is to humanity, essential to its existence, but impolite to mention, something to be cloaked by ignorance and silence.'[62]

Just as R. Murray Schafer observes that all 'struck' sounds are to some degree rendered 'impure' in transmission (see Part 3), Cowell argues that

all sounds – including musical sounds – have in some way been affected, or rather, infected by noise:

> Most shocking of all is the discovery that there is a noise-element in the very tone itself of all our musical instruments. Consider the sound of a violin. Part of the vibrations producing the sound are periodic, as can be shown by a harmonic analyser. But others are not – they do not constantly re-form in the same pattern and consequently must be considered noise. In varying proportions all other instruments yield similar combinations. A truly pure tone can only be made in an acoustical laboratory, and it is doubtful whether, by the time the tone has reached our ear, it has not been corrupted by resonances picked up on the way.[63]

Two, seemingly connected types of noise are present here: an acoustical definition of noise referring to non-periodic vibrations (what may be referred to as 'noisy' sounds) and a more parasitic notion of noise referring to corruption in transmission. For Cowell, all musical sounds are to some extent noisy, insofar as some degree of corruption (and thus transformation) is inevitable in transmission. In other words, Cowell reminds us that the material milieu/medium through which the sound-signal is transmitted is always affective; it always modifies (i.e. 'corrupts') the sound-signal to some degree. The edges of even the 'purest'-sounding tones are fuzzy. Unlike Attali's sacrificed once-was-noise, moreover, Cowell's noise can be thought of as living: it flows throughout sounds of music, modulating and distorting sonorities. Noise is thus taken to be an active component of musical modes of expression.

In addition to infecting all musical sounds, Cowell argues that noise has had a presence within most 'musical' forms, in the guise of percussive moments of disruption, climax and change: 'Noise-making instruments are used with telling effect in our greatest symphonies, and were it not for the punctuation of cymbal and bass drum, the climaxes in our operas would be like jellyfish.'[64] Likewise, the noise-element of musical sound is integral to dynamic variation; as musical sound builds towards a dynamic climax, its noise-element is brought to the fore, obscuring its tonal dimension. In these instances, and echoing Russolo, Cowell hears the noise of music as responsible for crucial modulations in the listener's affective and emotional state: 'Under the best circumstances, the emotions are aroused by musical noise and lulled by musical tone.'[65] Given the ubiquity of the 'noise disease', the inevitability of infection and its capacity for generating moments of musical excitement, Cowell concludes that 'the only hopeful course is to consider that the "noise-germ," like the bacteria of cheese, is a "good" microbe, which may provide previously hidden delights to the listener, instead of producing musical oblivion'.[66] Noise does not simply destroy music but, in revealing new sonic sensations, it has the potential to increase its affective power – its capacity to act upon the listener.

It can be inferred from Cowell's more affirmative perspective that noise music does not have to pertain to a making good of noise's bad through the medium of music: it is not simply a case of using the negative positively. If noise has a presence, albeit one that is normally repressed or ignored, in all music – be it recorded or live, acoustic or electronic – because music is necessarily transmitted by/through a material medium/milieu – be it through the quietly noise-filled space of a concert hall, or a subtly noisy hi-fi system – then noise music can be heard to expose, foreground and amplify the inevitable, underlying noise-element of music (and sonic modes of expression more generally). By drawing out the noise-element that is always already within the techno-musical system, noise music emphasizes the inherently mediated and material dimension of sound and music: it makes audible the noisy presence of the material milieu/medium that typically evades perception. This imperceptibility may be due to habits of listening, as is exemplified by Cage's *4'33"*, which, in drawing attention to the largely ignored background noise that inhabits 'silent' concert hall, exposes the parasitic third that lies between musical performance and audience. It may be due to perceptual thresholds – a notion that resonates with Christina Kubisch's *Electrical Walks* project, which uses specially designed headphones to render audible ordinarily inaudible electromagnetic fields and interference within urban environments. It may be due to production conventions, as is highlighted by The New Blockader's CD release *Gesamtnichtswerk: a* 20th *Antiversary Antiology* (2003), on which tape hiss (i.e. the noise of another analogue medium) remains audible throughout.[67] Or this imperceptibility might be due to error correction processes, as is exemplified by Yasunao Tone's experiments with 'wounded' CDs (see Part 2).

Noise music, understood in terms of exposure, dissolves the dualism that separates noise from music. It discards a divisional line in favour of a continuum that connects music to noise; the implicated with the explicated; the background with the foreground; and the parasitic milieu with the discrete signal. Instead of seeking to move beyond musical norms by attempting to cross the line between the musical and the extra-musical; or by posing as an anti-music that is always destined to fail, noise music as exposure refuses the 'time-honoured axiom' that holds apart music from noise. Instead, it remains embedded in the realm of musical practice, drawing out, extending and affirming the noise that is to be found within it – be it the ordinarily imperceptible background noise of the milieu, or the sonic effects resulting from the interferences and interruptions of the material medium. While noise music as transgression turns its ear to a transcendent and chaotic outside, as exposure it seeks a transformation of music from within. In revealing the noise that is always there but often goes unnoticed, these practices might be understood as a critique of the (seemingly) noiseless 'perfection' of media. Yet, exposure is not simply an act of revelation but rather is a fundamentally creative act. Exposure involves experimentation with noise's affective capacities – what it is that noise might do, what transformations

it might induce. From this perspective, and following Russolo, Attali and Cowell, noise music can be heard as an exploration of noise's potential to generate new sonic effects, rhythms and textures.

Exposing noise: Hype Williams, Reynols, Diamanda Galás and Merzbow

Writing about the elusive and anachronistically noisy production outfit Hype Williams is notoriously difficult. The group both refuse and subvert music culture's fixation on the identity and persona of the artist, making it impossible to discern fact from fiction – what is 'honest' biographical information and what is myth-making. It is even unclear who Hype Williams's members are: the most visible and possibly only collaborators are Dean Blunt and Inga Copeland (allegedly pseudonyms), who have both now left the group. Hype Williams's music might appear upon first listening to be worlds apart from what is typically thought of as 'noise music'. Their often minimal, hazy sound collages, consisting of grainy samples, minimal beats and muffled vocals are not only overtly musical (in a way that the likes of Merzbow and Whitehouse are not), they are also frequently 'poppy' – they reference Pokémon (*Dior* EP, 'Rescue Dawn'), cover Sade's 'The Sweetest Taboo' ('The Throning') and borrow from Britney Spears (the video from 'Rescue Dawn II' features slowed down shots from the video of Spears's 'Every time').

Hype Williams's intense live performances are more obviously comparable to the aesthetics of noise music's 'archetypes'. When playing live, Hype Williams aimed for sensory overload, combining strobe lighting, dry ice and extremely loud sub-bass that would shake the room and its audience members. That said, this overloading was more akin to the bass-heavy fog of the dance hall, than to the 'sonic terror' of industrial and power electronics. Their set at Tusk Festival 2011 (a performance that almost did not go ahead due to an unwelcome 'disruption' – their sound-check caused a power-out at the venue) was subsumed by an auditory and visual fuzziness, giving the performance a somewhat menacing, dream-like quality (Figure 4). The physical presence of Blunt and Copeland was almost entirely concealed by smoke and strobes. Melancholic vocals and minimal dub-like beats were brought into relief by the dense, bass-heavy block of sound from which they emerged and occasionally returned to. Through this, Hype Williams seemingly emulated the emergence of sound from noise. And yet, while it sometimes subsided, the noise never left, even as the 'signal' of beats and vocals came through.

The recorded output of Hype Williams is more subtly and differently noisy by comparison to the sensory onslaught of their live sets. On record, their tracks remain bass-heavy and shrouded in fuzziness, though in a gentler

FIGURE 4 *Hype Williams at 2011's Tusk Festival, the Star and Shadow Cinema, Newcastle-upon Tyne. Photo and permissions by Mike Winship.*

manner than in their performances. Ben Beaumont-Thomas described their recordings rather succinctly as sounding 'like a lover's rock cassette dredged from a canal'.[68] In Hype Williams, the signature noise of multiple mediums can be heard: the hazy, lo-fi effect of their recordings is mostly generated by analogue and digital media noise. Tracks are undercut by hiss, while tape warbles create distinctive pitch bends. Dean Blunt has claimed (quite possibly disingenuously) that this is because he only knows how to use tapes: 'Why would you want yourself to sound shit on purpose?'[69] Many of their samples sound as if they have been ripped from YouTube videos: the audio artefacts and effects that arise with lossy digital compression (e.g. audibly limited bandwidth, distortion, grainy, swirling sound, buzzing and chirping) feature frequently. Just as it is impossible to tell what is fact and fiction about Hype Williams, the saturation of their music with noise makes it difficult to discern what sounds are coming from where – what is 'live' and what is sampled.

Hype Williams exaggerate rather than minimize the noise of the production process. However, despite the prevalence of noise in their music, it is not entirely accurate to describe Hype Williams's production style as nostalgically 'lo-fi'. Their lack of fidelity is partial and deceptive – although their tracks are wrapped in (digital and analogue) noise and riddled with warbles, crackles, hiss and fuzz, the clarity and richness of some elements creates a strange juxtaposition in production quality. Take the track '2' from *Black is Beautiful* (2012, released under the names Dean Blunt and Inga Copeland), a cover of Donnie and Joe Emerson's 1970s ballad 'Baby', sung by Copeland. The track is accompanied by hiss; the vocals appear thin and distant, the sound of the accompanying drums and keyboard is muddied – the edges of the sounds are softened as if they were being played from an old tape. However, when the bass joins in on the first chorus, around forty-five seconds into the track, its fullness breaks any illusion that the song was being played from a cassette or a poor quality MP3.

Though stylistically very different, a similar conflict between 'lo-fi' and 'hi-fi' elements is created on 'Your Girl Smells Chung When She Wears Dior' from the album *One Nation* (2011). Taking its name from a line by the grime MC Wiley, this hypnotic slow jam contains plenty of Hype Williams's signature noise effects – the synths fluctuate in pitch with what sounds like tape warble – and the pitched-down vocals – taken from the hook of Cassie's 'Addiction' – sound grainy and distorted. By comparison, the lolloping drums of 'Your Girl Smells Chung …' sound oddly present in the mix, while the rich underlining bass frequencies stand out against the tinny synths and vocals. Hype Williams's production style both generates and disrupts a sonic fantasy: their music sounds as if it could be played from 'lo-fi' medium, and yet repeatedly reveals this to be an illusion – it is simultaneously too noisy and not noisy enough to be true.

Argentinean band Reynols take the anachronistic inclusion of tape hiss to its limit with their 2000 CD release *Blank Tapes*. Formed in 1993 by Alan Courtis, Roberto Conlazo and Miguel Tomasin, Reynols's output has been a combination of experimental art-rock with a relatively conventional band set-up (drums, guitar, vocals) and conceptual sound-works. Their first release humorously exposes the necessity of the noisy material medium, albeit in a much quieter manner than *Blank Tapes*. *Gordura Vegetal Hidrogenada* (self-released, 1995) is described as a CD of Reynols's 'dematerialized' music; and consists of an empty CD case. Other works by Reynols include their *10,000 Chickens' Symphony* (2000), which was recorded at a battery farm, and collaborations with Canadian improvisation group Nihilist Spasm Band and American composer Pauline Oliveros.

As the title suggests, *Blank Tapes* uses digital and analogue processings of a selection of blank cassette tapes dating from between 1978 and 1999 – some very expensive, some very low-quality – as its only source material. Roberto Conlazo has stated that the inexpensive tapes sounded better than the expensive tapes because of the range of noises they generated.[70] Far from being a recording of near silence, the album is extremely varied. Despite its minimal source material, the album constantly shifts and mutates throughout its duration. It begins with around three and a half minutes of quiet tape hiss before morphing through a monochromatic rainbow of soundscapes. Over the course of the fifty-minute recording, hisses, screeches and pulsing rhythms emerge and fade from the ever-transforming sea of fuzz, while the overall character of the treated tape noise varies from quiet ambience to outright aggressive. Track 4, for example, evokes the movement of the ocean, with tape noise quietly and gradually fading in and out. This draws a sharp contrast with the following track (5), which is more akin to the howling bedlam of Merzbow, with its piercing frequencies and relentless wall of distorted sound. There is little dynamic variation in sound or texture; there is no fade in or fade out, with the track cutting off as suddenly as it begins.

By foregrounding the background noise of the cassette and by making audible the magnetic fluctuations that precede and underline the recorded

content, *Blank Tapes* gives voice to the material medium itself: the medium, quite literally, is the message. However, it is by no means a straightforward documentation nor a re-presentation of the media noise of different cassettes. There is, as with all artistic acts of exposure, a creative, compositional dimension. The tape noise constitutes the base material, which is then modulated using basic filters and frequency controls. Across six tracks, the tape noise moves between various degrees of abstraction. In its opening minutes, the faint hiss is recognizable and familiar as tape noise (albeit noticeably divorced from its original medium, given that *Blank Tapes* is a CD release). However, over the duration of the recording, the sound slips in and out of recognizability – nine minutes into track 2, for example, sounds more like a plague of cicadas than a blank cassette. Indeed, the group stated that the premise behind the project 'was to use all the possibilities, a lot of different frequencies'.[71] *Blank Tapes*, then, works to transform the parasitic third term – the underlying noise of the musical medium/milieu – into the primary sonic content. The noise without a signal becomes noise *as* signal, as it is abstracted and transformed in the recording process.[72]

A very different act of exposure can be heard in the monstrous, shape-shifting vocalizations of the composer-performer Diamanda Galás, who draws out the typically inaudible and/or ignored noise that arises during the production process. In this instance, however, it is the embodied technology of the voice that is highlighted as the source of parasitic noise. Born in the United States to Greek Orthodox parents, Galás's politically charged music makes audible her identification with a complex cultural-historical background. Her work centres on experiences that are so often cloaked in silence – of persecution, loss of dignity, suffering and injustice – summoning the voices of the exiled, diasporic and executed. Her 2003 album, *Defixiones: Will and Testament,* for example, is based around the Ottoman genocides and draws extensively from the work of Armenian, Assyrian and Greek artists executed by the Ottoman empire. Much of Galás's early work addresses the topic of HIV/AIDS. Her *Masque of the Red Death* Trilogy (1986–8) coincides with Galás's AIDS activism, addressing political and religious responses to the epidemic; while album *Plague Mass* is a eulogy for all victims of AIDS, including her brother, the playwright Philip-Dimitri Galás. However, despite sharing a number of aesthetic concerns with transgression-inspired noise acts (e.g. abjection, genocide, mental illness, death), Galás's oeuvre does not comfortably align to the generic features of the industrial and/or harsh noise-inspired lineages of noise music. Nor are these themes presented 'neutrally' or 'without comment'. Galás's political position is by no means hidden – her empathy and identification with the oppressed, exiled and persecuted is made clear both through her performances and in artist interviews.

Galás brings together a diverse mixture of influences, aesthetics, concepts and musical styles. Commenting upon her practice, Galás states: 'I don't respect the boundaries of any art form; I certainly don't respect music's boundaries.'[73] Though she distorts idioms almost beyond recognition, Galás's work is not

simply antithetical to music: her diverse repertoire weaves between a number of genres, traditions and practices, stitching together blues, opera, Greek lament, *bel canto* singing, ballads, spirituals and avant-garde composition. Indeed, while they are never truly separable from one another (insofar as she frequently slips between them), Galás's voice contains within it a number of different voices that can be foregrounded – compare, for example, the blues/jazz voice of *The Singer* (1992) and *Guilty! Guilty! Guilty!* (2008) with the more rock-oriented voice of *The Sporting Life* (1994) – a collaboration with former Led Zeppelin bassist John Paul Jones. Of primary interest here, however, is the extreme and highly virtuosic voice, itself multiplicitous, that Galás is perhaps best known for.

The noisiness of Galás's extreme vocal performances is immediate and obvious. She often makes use of abrasive, dissonant or harsh sonorities, evoking notions of incomprehensibility, ugliness and excess. She also uses her vocals to construct disruptive and unsettled soundscapes, where multilayered voices interrupt and interfere with one another, and structural progression remains indiscernible. These techniques are used to create performances that are intended to be disruptive, disturbing and, at times, threatening to the listener. Indeed, Galás's performances are highly affecting; they are underlined by an aesthetic commitment to notions of abjection, horror, madness, suffering and despair – those affective and emotional experiences that serve to rupture the sense of a unified self. Galás herself has remarked that her music is not *about* something – a representation of description of horror or fear – but that it *is* that something: it is the 'thing itself … the sound of the plague, the sound of the emotions involved'.[74] Galás, then, treats the voice primarily as a sonic force – a means of affective contagion – rather than as a carrier of language.

Such a voice can be heard on Galás's unnerving recording debut, *The Litanies of Satan* (1982), where her use of extreme vocal techniques – screams, shrieks, grunts, growls, multiphonics and exaggerated vibrato – assisted by electronic processing, twist her words and blur their comprehensibility.[75] On the titular opening track, which is a radical reworking of Charles Baudelaire's poetry, Galás uses tape and electronics to multiply her voice. Resolutely unstable, vocal lines flow and morph into each another, sometimes dominating, sometimes supporting and often interfering with one another. Throughout the track, seemingly innumerable overlaid voices fade in and out to create a disorienting soundscape. The effect is one of crosstalk in the channel, with growling, gibbering vocal lines gaining some clarity, only to fade into the background of confused, layered voices. This sonic effect is particularly evident approximately fifteen minutes twenty seconds in, where the prominent vocal line becomes highly distorted, and becomes mostly indiscernible against the overcrowded backdrop. A similar technique is also used in the opening seconds of the track, when a mass of gibbering, swirling and distorted voices fades in. After thirty seconds, a screaming voice comes into focus but the noisy background continues to

distort its clarity; it remains audibly attached to the confused. After fifty seconds, the screaming voice and the interfering background of layered vocals are both suddenly disrupted by a drum blast, which prompts Galás to begin a furious monologue, the clarity of which sharply contrasts with the confusion and obscurity of the preceding section. The clarity of Galás's monologue, however, is lost once again as other vocal lines and electronic sounds emerge from the background, and as her voice is distorted and mutated by electronic processing and effects. At one point, Galás uses EQ and tone control to lower her register, producing a muffled, alien voice. With her voice fading in and out of perceptibility and comprehensibility, combined with the sudden interferences and monstrous sonority, Galás's vocal performance is disorienting; it is unclear where the listener is to be taken next.

By comparison to her more obvious use of noisy elements – the abrasive noise-sounds and the disruptive and disturbing soundscapes – Galás's work also makes use of a more subtly perturbing mechanism in her extreme vocal performances that corresponds with the notion of noise music-as-exposure. The second track of *The Litanies of Satan,* 'Wild Woman With Steak-Knives (the Homicidal Love Song for Solo Scream)', as well as tracks such as 'Cunt' (*Schrei X,* 1996), brings to the fore the noise of the body-in-action that is typically excluded from vocal recordings but nevertheless lies behind the production of the voice. In both these *a cappella* works, Galás voice audibly cracks, strains and squeaks, while the gargling sounds of the larynx, tongue, lips and saliva are amplified. These noises point to a residual materiality that necessarily infects speech and song, insofar as these parasitic interferences are derived from the corporeal apparatus of the voice – they work as a reminder of the singing voice's necessary mediation and material means. Yet, there is nothing *natural* about Galás's noise-infected voice. Her vocalizations are not a return to an imagined, pre-symbolic and pre-social state – an evocation of the 'untrained' or 'uncontrolled' voice. Although her vocalizations are riddled with what would be conventionally understood as 'flaws', there is nothing accidental or erroneous about these noises – they are not extraneous to, but an integral part of, Galás's vocal performances. These corporeal interferences, combined with the use of sound processing and effects, work to radically distort Galás's voice, modulating its timbre. As Freya Jarman notes, Galás's use of vocal 'flaws' – those sounds that are usually to be omitted – contributes to a monstrous vocality that is 'at once intensely bodily – when we hear orgasmic squeaks, squashed throaty groans, and breathy whispers – and intensely alien, as those sounds are so beyond what is normally expected from the voice'.[76] Galás maximizes the noise-element of the voice by amplifying the effects of the corporeal medium, in order to push beyond the conventions and expectations of vocal expression.

The sonic characteristics of Hype Williams's fuzzy pop, Reynols's *Blank Tapes* and Diamanda Galás's extreme vocal works are very different. Yet, despite their aesthetic and conceptual heterogeneity, all can be heard

to expose the underlying, affective yet ordinarily suppressed noise of the techno-musical medium. Hype Williams bring into relief the digital and analogue noise that is immanent to their sampling techniques – their noise alludes to the multiple media formats involved in their production process. In the case of Reynols, the noise exposed is that of the meaningless but affective material base that underlies recorded content. Galás's noise takes on a parasitic formulation: the noisy 'third term' is exposed via the effects of the medium – the way it has audibly modified the vocal-signal, introducing cracks, gargles and squeaks. In making audible the noise that is typically rendered inaudible either through the overbearing presence of recorded content, or through the normative modes of production, Hype Williams, Reynols and Galás work to reveal the 'hidden delights' of noise. These three artists both converge with and diverge from what is typically associated with noise music (i.e. the loud, harsh, 'full noise' approach). Yet, the notion of exposure can also be applied to noise music's archetype: Merzbow.

Stylistically speaking, Merzbow's work appears to be the antithesis of music, lending itself to notions of extremity, overload and excess. Yet, even his harshest 'full noise' works can be thought of as exposing and foregrounding the immanent noise of music. Akita himself has described his artistic practice in terms of drawing out a noisy materiality that underlies sound production:

> My first motivation was the anti-use of electronic equipment – broken tape recorder, broken guitar, broken amp etc. I thought I could get a secret voice from equipment when I lost control. *That sound is unconsciousness, libido of equipment*. … Feedback sound of equipment is basic idea of Merzbow. *I was extreme Materialist*. Feedback makes automatically storm of noise and it's very erotic as Orgon energy. Magnetic exploitation of electronics. So, I found *the Pleasure of Noise*.[77]

This 'secret voice' of audio equipment that is revealed through its unconventional usage (i.e. 'anti-use', 'misuse', 'abuse') and is amplified by Merzbow is the immanent and affective noise of the techno-musical system. The noisy excess of Merzbow thus lies not outside but within the realms of the musical. The feedback processes that Akita describes pertain to this unconscious of audio equipment being treated as its signal. Merzbow transforms the noise of music's material means – of instruments, audio equipment, recording media – into music's source material. Yet, insofar as noise infects and affects all music, irrespective of its style, the signal that is Merzbow's noisy music (i.e. its content) is inextricable from the necessary noise of the techno-musical system (i.e. its medium) – the means of music's production, performance, playback and audibility. However, in Merzbow, the intentionally noisy musical materials and the underlying noise that is a necessary consequence of musical mediation are largely indiscernible from one another: it can be difficult to tell what is intentional and what is

unintentional, what is content and medium, figure and ground. Consequently, in Merzbow's music, the boundary between the musical signal and its necessary noise is audibly dissolved.

Noise music's music

If noise music is understood to amplify and expand the inevitable operations of noise within music, then a problematic ontological question remains: What, precisely, is being recognized as music? It has already been noted that some artists within the quasi-idiomatic field of noise music have sometimes rejected the term; indeed, the rejection of music as a conceptual category has been a recurring thematic throughout the histories of avant-gardist experimentation more generally. In addition to Russolo's distinction between music (a descriptor laden with conventions, traditions and historical value) and his proposed art of noises (which was conceived as a break from the former), Cage famously argued for the replacement of the term with a more appropriate descriptor for twentieth-century experimental practice: 'lf this word, music, is sacred and reserved for eighteenth- and nineteenth-century instruments, we can substitute a more meaningful term: organization of sound.'[78]

What is accepted under the rubric of music has changed significantly since Cage and Russolo's time of writing. This is true not just of a vanguardist elite but also of more mainstream perspectives. I am writing at a time when artists can be simultaneously influenced by Xenakis and techno; when the works of the Futurists are displayed in the institutions they so despised; when the boundaries of the musical have been readily tried, tested and debated; when Cage's experiments are now frequently a curricular staple in music education; and when 'mainstream' music regularly and imaginatively makes use of 'extra-musical' sonorities, weird tonalities, Cyborgian vocals and fuzzy timbres. It would seem that music has moved beyond the traditional, constitutive parameters of harmony, melody and rhythm; or, rather, what is included within these parameters has changed drastically. Yet, there remains a need to identify where, exactly, music can be found among noise music's crackling, feedback and distortion.[79]

The ontological status of music has been a long-standing source of aesthetic and sociological debate – the details of which cannot be sufficiently covered here. Without wanting to shy away from the question, nor to deny that music has multiple definitions corresponding to multiple geopolitical, historical and cultural contexts, for the purposes of this book it can be answered sufficiently (albeit not particularly imaginatively) by turning to Cage's alternative descriptor: 'organization of sound'. For Cage, 'organization of sound' is not a definition of music. Rather, it refers to a field of sonic arts practice that is distinct from music. Varèse employs a similar

phrasing to Cage; however, for Varèse, this descriptor ultimately functions as a definition of his own musical activity:

> Although this new music is being gradually accepted, there are still people who, while admitting that it is 'interesting' say, 'but is it music?'. … Until quite recently I used to hear it so often in regard to my own works that, as far back as the twenties, I decided to call my music 'organized sound'. … Indeed, to stubbornly conditioned ears, anything new in music has always been called noise. … A composer, like all artists, is an organizer of disparate elements.[80]

Following Varèse, music can be thought of as organized sound. From this perspective, music's compositional dimension is key. Composition, however, does not necessarily pertain to its notated formats, nor is it synonymous with the individual creative 'genius' – the figure that has dominated the histories of Western European art music. Free improvisation, for example, should still be understood as a compositional practice – the immediate and/or responsive ordering of sounds. Thus, composition may involve indeterminacy or spontaneity, or technologies that produce random or unpredictable sounds. The 'organizer' of sound might pertain to different roles: it might be a composer, as Varèse suggests, but it might also be a producer, performer or even a listener. It is likely to be a combination of these actors. Likewise, non-human bodies, forces and media can contribute to the 'organization' of sound, as is the case with *onkyô*.[81]

I have also postulated that music involves mediation, insofar as the propagation of audible sound waves requires a medium. Indeed, music implies relationality – be it the relations between sounds and vibrations, the heard and the unheard; the relations between producers, performers, listeners and consumers; or the relations between bodies, instruments, media technologies and acoustic environments. While it may have many other features, qualities and functions, music, if it is to be audible, can be defined as *organized and mediated sound*.[82]

According to this definition of music, the screeching feedback of Merzbow, the minimal crackling of Sachiko M's performances, and Galás's alien vocalities can all be understood as music, in that they pertain to the organized and mediated sound. Indeed, no assumption is made regarding the acoustical nature of the sounds that are organized, nor the means of their production – it could consist of sine tones, percussion or drones; or it could be produced by guitars, junk percussion, a home-made synth or a modified toy. Incapacitants's 'pure noise' and Throbbing Gristle's 'anti-music', then, are stylistically rather than ontologically oppositional – they stand against commonly held assumptions of what music is imagined to sound like, rather than marking a genuine escape from the musical field.

If music is organized, mediated sound; and noise pertains to an affective, transformative and relational force that is a necessary condition of

mediation, then noise can contribute to the 'organization' of sound. Noise, in its productive disruption of a particular set of relations, generates new orders. Such is the case when noise becomes a force of rhythmic mutation.

Rhythm and noise: Nicolas Collins, Pole and the Soft Pink Truth

As compact discs became the dominant musical medium in the 1990s, the sound of the high-pitched, rapid 'tick' or 'glitch' caused by a CD 'skipping' also became a familiar phenomenon, shattering the Sony promise of 'Perfect Sound Forever'. However, while it might be most recognizable as such, a glitch is not simply a sonic artefact. The term itself invokes movement. In German, the verb 'glitschen' means to glide, slide or slip, while in mechanics, glitch refers to a sudden irregularity or malfunction. It recalls a slippage of gears or wheels as well as a nick in a smooth surface. Etymologically speaking, then, there is a duality embedded in the word – of skidding and catching.[83] However, while a scratched vinyl record (as the analogue equivalent of the CD glitch) may move in this way, the glitching CD does not itself skip or stutter –the noise does not arise from an irregular movement. Rather, as has been seen in Part 2, the glitch is the result of data corruption and information errors; it points to a rupture at the level of code. The corruption of the disc data is ordinarily due to damage or imperfections on the disc's surface – for example, dust, scratches and fingerprints – that interfere with the laser reading the disc. Like the scratched record, however, the glitch warps time, functioning as a temporal wrinkle. It disrupts the flow of sonic information, creating strange, rhythmic articulations. Thus, as Rob Young argues, the sonic artefact of the glitch is secondary to a process of disruption that works to mutate time:

> On its own, a glitch does not amount to much. It accumulates power by insertion, by its irruption in a flow of events. It is the random factor, the spark that ignites the primordial soup, the flash that illuminates the status of music as phantasmagoric time, not a utilitarian time keeper.[84]

In other words, the glitch's potential relates to what it disrupts. It is not just a sound but a transformative force-relation to relations. It is a type of noise.

The glitch's capacity to generate new rhythms in its disruption of sonic information – its ability to mutate the flow of temporal events – has made it an appealing artistic resource. Alongside Yasunao Tone, one of the earliest practitioners to experiment with the texture-rhythmic potentials of glitching, stuttering CDs was the US composer Nicolas Collins. Like Tone, Collins wanted to bring out the noise of the seemingly flawless system: 'I looked at the CD player as a challenge. … I took it upon myself to try

to corrupt this "perfect" medium.'[85] However, while Tone's compositional experiments involved damaging the disc so as to overload the error correction system, Collins's approach was to modify the CD player. Collins argues that while he was influenced by Tone's experiments – 'I loved the sound – the odd juxtaposition of ultra-hi-fi recordings with the harsh digital errors'[86] – hacking the playback system rather than the information carrier allowed him to control the CD player and its noisy outcomes more directly. In particular, it enabled him to emulate turntable techniques such as cuing and scratching. Indeed, although there has been a focus on white, Euro-American 'high-art' lineage in glitch discourses, Collins states that he was principally inspired by the practices of hip-hop DJs and turntablism. He had initially tried to imitate turntable techniques in his composition *Devil's Music* (1985), which used inexpensive sampling pedals to loop, mix and retrigger samples from radio broadcasts: 'essentially DJing with radio'.[87] However, with the emergence of portable CD players in the late 1980s, Collins began to experiment with the circuitry of the Sony Discman in order to produce similar effects.

Collins was particularly interested in what was going on when the CD player was paused. He identified that during 'unmusical' operations (i.e. when the CD was paused, or loading) the audio output was muted by the system. In other words, the laser continued to read information on the disc when the disc was paused, yet this information was 'hidden' by a particular playback function. Collins removed the 'mute' pin within the CD player's circuitry, allowing these silenced sounds to be heard. The system read all information as audio, including the noise usually countered by error correction: 'Starting and stopping the disc was accompanied by a brief, loud squawk; pressing "next track" (>>|), especially in "shuffle" mode, evoked a needle being dragged violently across an LP … "pause," by contrast, isolated short fragments of material from the CD in lilting loops.'[88] Unlike the metronomic skipping of a vinyl record, the paused CD created a swinging, irregular rhythm that Collins felt had a distinctly musical feel. Switching between pause and playback functions allowed Collins to progress slowly through the disc's sonic material in a series of 'off-kilter', stuttering loops.

With these effects, the modified CD player could be used to ultimately 'remix' any disc, imposing a new, indeterminate form of rhythmic organization. For Collins, this process was particularly effective in relation to Baroque or Early music:

> The pause loop froze the flow of the counterpoint into modal chords reminiscent of certain styles of 1960s jazz; the glitches that the error correction occasionally threw onto the loops' seams contrasted beautifully with the lush sound of the period instruments, adding floating rhythmic accents that I dubbed 'digital claves'. The overall feeling reminded me vaguely of Terry Riley's *In C*, updated for the digital era.[89]

This repertory formed the basis for Collins's 1991 composition, *Broken Light*.[90] The piece combines his modified CD player 'remixing' a disc of Baroque concerti grossi by Corelli, Torelli and Locatelli with a live string quartet. The quartet members used footswitches to control the CD player – they could 'scratch' across the disc to generate the 'needle-drag' effect identified by Collins, call up specific tracks or nudge the paused disc forward through a series of looped phrases. The latter forms the rhythmic and harmonic basis of the piece for the quartet to improvise around (according to specific guidelines designated by the score), meaning that the CD thus functions as an interactive and indeterminate backing track. Although the performers know the tonal content (i.e. the key) of each of the tracks, it is not certain what section of the track will play as the performer skips forward. The live quartet and CD player form a feedback loop: the performers control (to some degree) the CD player, and respond to its indeterminate output. For the listener, however, there are times that the recorded and 'live' sounds become indiscernible from one another; it is unclear what sounds are produced by the quartet and what sounds are the recorded strings, mutated by Collins's CD player.

In Collins's work, the skipping, glitching disc and the ordinarily suppressed noise of the CD playback system become a means of rhythmically 'remixing' recordings. In the five years following Collins's *Broken Light,* 'glitch' came to function as a generic label, as it and other microsounds of digital 'malfunction' were taken up by a number of artists. Most of these experiments with glitch initially occurred outside of academic musical spaces, existing on the periphery of electronic dance music, including its generic forms of techno, drum'n'bass, house and IDM ('Intelligent Dance Music'). The German group Oval were among the earliest to take up the microsounds of the malfunctioning CD, combining luscious 'clean' textures with the rhythmic ticks of a skipping disc.[91] Oval generated their glitches by drawing on the disc's surface with a non-permanent marker pen. However, unlike Tone and Collins, the sounds of the (temporarily) damaged disc were then sampled, looped and sequenced. In other words, Oval's glitches were not 'live' perturbations but 'caught' and ordered. By the turn of the twenty-first century, the glitch had infiltrated a wide range of musical styles and had found its way into the mainstream, with tracks like Madonna's Americana-pop hit 'Don't tell me' (2000). Glitch aesthetics are now a staple of pop music – its presence is both audible and visual. The music videos for Kanye West's 'Welcome to Heartbreak' and Beyoncé's 'Video Phone' (2009), for example, utilize the visual flicker of the glitch. Likewise, the post-production 'stutter effect' that is used on pop vocals, for example, Drake and Nicki Minaj's 'Proud of You' (2011) and Lady Gaga's 'Poker Face' (2009) emulates the glitch's impact upon music's rhythmic flow.

Steve Goodman has mapped the 'viral' nature of the glitch's infection that has spread throughout digital music cultures. Picking up on Rob Young's description of the influence of glitch as a kind of 'effluenza' virus (which, in

turn, resonates with both Cowell's notion of the noise 'disease' and microbe, and Serres's parasite), Goodman tracks the glitch as it came to infect the dance halls of electronic music from 'acoustic anomaly' to 'ubiquitous strain'.[92] However, there has been a tendency for theorists to dismiss glitch's infestation of dance music as lacking in interest and potential. The glitch of the dance hall is heard as a derivative, a watered-down imitation, of its authentic 'high art' origins. William Ashline, for example, argues:

> It was only a matter of time before an electronica solely servile to the dance floor would become conceptually and aesthetically boring, where the need to rediscover its origins and histories in the forms of musique concrète, minimalism, experimentalism, in short, in the avant garde, would become manifest.[93]

To this, Ashline adds that the glitch was quickly 'reterritorialized' in popular electronica. In language almost parodying the excessive masculinity of the normative avant-gardist lineage he references, he asserts that 'there was a effective detumescence [sic.] of the hyper-intensity that accompanied its [glitch's] discovery'.[94] These remarks exemplify a clear desire to connect the glitch to a select, avant-gardist history of artistic practice (e.g. Cage, *musique concrète*, Terry Riley, Steve Reich), while also dismissing the glitch's manifestation in more popular forms as lacking in artistic interest. Yet, as Collins's remarks on his own practice suggest, there is good reason to connect the glitch to popular music histories, lineages and practices, including the scratch DJ of hip-hop, which Collins notes was a key influence for his experimentations with the skipping CD. In short, though it has been the basis of much experimentation within the field, the glitch has never truly 'belonged' to the institutions of high art.

The glitch's infestation of more popular forms has also been dismissed on the basis that, once it is recorded, the glitch purportedly loses its mutative potential. Instead, it becomes an interchangeable sonic effect. In other words, once recorded, the glitch no longer functions as noise and, subsequently, fails to generate anything new. Greg Hainge, for example, argues that Oval's recorded glitches 'no longer deploys the resistant qualities of noise … far from problematising the categorical distinction between noise and music, the glitch here passes over fully to the side of music'.[95] With this, the glitch becomes overdetermined; rather than pertaining to a productive process of systemic failure and breakdown, it becomes one sound among others.

Such criticisms prioritize the live musical event over the recorded. While the live, 'authentic' glitch is full of transformative potential, the recorded, derivative glitch is considered empty. However, what is missed in such accounts is that the recorded glitch is not just treated as a sonic artefact: Oval, Madonna and even the stuttering voices of pop also emulate the glitch's temporal effect – its mutation of rhythmic flow. Indeed, as Goodman argues, criticisms of the recorded glitch typically overlook its transformative

impact upon 'rhythm and its cultures': 'Recorded and resequenced, glitch, instead of resulting in a mere recuperation, instead functioned as a probe, prospecting rhythmic mutation in future host bodies.'[96] The recorded glitch was not merely utilized as a sonic flavour but became a parasitic agent of rhythmic transformation: the glitch's 'hidden delights' came to act as a force of affective mobilization, snagging and snaring dancing bodies in new ways.[97]

The glitch's asymmetric and irregular swing and stutter have been used to knock off-balance the regular 4/4 beat of 'host' dance music genres. This destabilizing of rhythm can be heard in the minimal 'crackle dub' of Pole (German electronic music producer Stefan Betke). On his first three albums *1*, *2*, *3* (1998–2000), delicate polyrhythms consisting of the crackles, pops and clicks of a damaged Waldorf 4-Pole filter take the place of drum loops. These 'noise-rhythms' are set against dub basslines and waves of static. On recordings, some of the filter's snaps, crackles and pops appear random, while others are looped and repeated, forming asymmetric patterns. Though the rhythmic irregularity of the glitch is preserved, the effect in Pole's music is very different from both Tone's combination of 'clean' sounds with harsh burst error noise and Collins's stuttering strings. Patterns continually evolve, while the tension between dub basslines and the molecular texture-rhythms creates a subtle push and pull. In 'Karussell' (from *3*), for example, a syncopated 4/4 bass motif emerges from polyrhythmic popping and seemingly random synth stabs, only to be skewed by a multitude of clicks, crackles and swooshing static. The track juxtaposes rhythmic instability and stability: the listener of 'Karussell' is torn between hanging onto the repetitive, melodic bassline, and being swept away with the irregular, chaotic noise-rhythms.[98]

Noise is used to create a similar destabilizing sensation in the cover of 'I Owe It to the Girls' by the Soft Pink Truth, the solo project of Drew Daniel (one member of the experimental electronica duo Matmos). Where Pole harnesses noise's capacity for rhythmic mutation in order to disorientate the syncopated grooves of dub, Daniel's targets the four to the floor of house music. Featuring on *Do You Want New Wave of Do You Want the Soft Pink Truth?*, an album consisting of punk and hardcore covers, Daniel, in collaboration with Blevin Blectum, transforms the proto-grrrl angst and gutter-screams of Teddy and the Frat Girls' 'I Owe It to the Girls' into a dark, queer-cyborgian party track. The song's opening is minimal: it introduces itself with throbbing kick drum, alien vocals and an offbeat snare. As the track approaches the first refrain, however, a busy electronic crackling emerges. This crackling is at odds with the regimented 4/4 of the rest of the track: it fails to fall in line, remaining unpredictably polyrhythmic throughout and pushing against the dominant house groove. Even in the more chaotic 'breakdown' section that features bubbling synths, sampled vocals and turntable scratching sounds, the crackling sound becomes less obvious but nonetheless drives against the 4/4 beat.

The counter-rhythmic crackle of the Soft Pink Truth's 'I Owe It to the Girls' marks a subversive fidelity to the original. Teddy and the Frat Girls' version of the song is full of noise: the plodding bass is muddy, the vocals and drums are distorted; the recording is characteristically lo-fi and undercut with hiss. As the song is moved into the realm of electronic dance music, the generic, analogue fuzz of garage punk is translated into polyrhythmic, digital glitching. While in the original, noise is primarily generative of textural and timbral effects, in the Soft Pink Truth's cover, noise serves to generate texture-rhythmic sensations by disrupting house's signature rhythms.

Conclusion: Evading the generic

In this book, I have primarily characterized the use of noise within music as experimental and explorative. By foregrounding and extending the inevitable, transformative but often inaudible noise of the techno-musical system, noise music, as it has been described here, can serve to generate new sonic sensations. However, if noise is to continue fulfilling this function, then this relies – perhaps problematically – on an avoidance of the generic. This is not to restate Russolo's polemical claim that noise music should avoid all that has come before and boldly attempt to instate radically new forms of artistic expression. Nor is it to say that noise music should not utilize generic musical forms. Rather, artistic approaches to noise should try to avoid becoming generic, as happens when they are reduced to a single mode of exploration. If noise music is to generate new 'acoustical sensations' through noise, then it should embrace the 'infinite variety' of noise's manifestations and potential relations – remaining open to what it might be that noise can do.

Despite characterizations of noise music as 'anti-genre', I have argued that noise music is often taken to be synonymous with the 'full noise' approach of figures such as Merzbow and genres such as harsh noise, partly due to the paradigmatic dominance of dualist conceptualizations of noise and a poetics of transgression. While such performances can result in highly sensuous and enjoyable sonic events, this approach has, to some extent, come to be what is expected of noise music, if not in practice, then in theory. The problem is not so much that the 'full noise' approach moves too far away from music, nor that it results in noise instead of music. I have asserted that the recordings and performances of artists such as Merzbow and Incapacitants remain within the realm of the musical, insofar as music pertains to organized and mediated sound. Rather, it is to note that the 'full noise' approach has been oft-repeated and is often predictable in its audio-affective structure (e.g. extremely dense textures, with a dynamic progression of quiet-build to loud-fade to quiet; or loud-extremely loud-loud; or just extremely loud throughout). Conversely, it might be argued that the repetition of the harsh

noise style is the point. The 'excessive' approach to sound is mirrored by an excessive number of recordings and releases, so as to ensure that there is always too much to hear.[99] Yet, the question inevitably remains: How does one go beyond full volume, beyond sonic overload?

I have proposed a definition of noise that allows for a broad range of its manifestations – audible and inaudible – without reducing it to particular sonic characteristics (e.g. loudness, complexity) and without reaching the relativist end point where noise is anything to anyone. In keeping with this, noise music should not be reduced to the 'full noise' approach, particularly if noise is to be understood as a means of generating new sensations, of revealing 'hidden delights'. It may be that noise's capacity to generate new sonic sensations is more effective when a subtler approach is utilized, which allows noise's affective impact to come to the fore; such as when noise is used to perturb and warp generic styles and attributes. Nicolas Collins brings the transformative noise of the medium into relation with recognizable musical styles, in order to 'remix' the familiar into something new. Pole, meanwhile, uses the micro-noises of a damaged filter to create delicate polyrhythms that skew a sense of rhythmic regularity, while Soft Pink Truth uses digital noise to knock off the four to the floor of house. It is these types of experimentation, exploration and expression that risk being drowned out with the conflation of noise music with harsh noise. These examples, along with the noisy experimental pop of Hype Williams, might also be overlooked because they remain obviously musical: they cannot be accurately described as music attempting (and inevitably failing) to be noise. Consequently, they do not easily align with a poetics of transgression.

Approaching noise in terms of exposure helps to prevent the reduction of noise music to that which is deemed loud, shocking or abrasive. Of course, understanding noise music in terms of exposure is *an* approach, not *the* approach: I by no means intend to propose a universally applicable paradigm (if such a thing was possible). Indeed, if noise music is heterogeneous, then the discourse that surrounds it should be, too. Nonetheless, in no longer viewing noise as ontologically or even aesthetically opposed to music, thinking of noise music as exposure helps to allow for a wide range of artistic uses of noise. Noise music is – and should remain – as diverse as noise itself.

Notes

1 As discussed in the introduction to this book, I approach noise music as a methodological approach (i.e. broadly speaking, the use of noise in or as music) rather than a generic category. As shall become clear in this chapter, the latter tends to be equated with noise music's harsher, more 'extreme' manifestations.

2 Kim Cascone, 'The aesthetics of failure: "post-digital" tendencies in contemporary computer music', *Computer Music Journal* 24, no. 4 (2000), 12–18.

3 Ibid., 13.

4 Paul Hegarty, *Noise/Music: A History* (London: Continuum, 2007), 113.

5 See ebooks.jupitter-larsen.com/ (accessed November 2015).

6 For an example of the racialization of the failure-innovation relationship, see the discussion about free jazz's dismissal as 'just noise' in Part 1. See also George Lewis, *A Power Stronger than Itself: The AACM and American Experimental Music* (Chicago: University of Chicago Press, 2008).

7 Tara Rodgers, *Pink Noises: Women on Electronic Music and Sound* (Durham: Duke University Press, 2010), 249.

8 For more on this, see Marie Thompson, 'Feminised noise and the "dotted line" of sonic experimentalism', *Contemporary Music Review* 35, no. 1 (2016): 85–101.

9 Filippo Tommaso Marinetti, 'The founding and manifesto of Futurism [1909]', in *Futurism: An Anthology*, ed. Lawrence S. Rainey, Christine Poggi and Laura Wittman (New Haven: Yale University Press, 2009), 49–53, 51.

10 Ibid., 51.

11 Filippo Tommaso Marinetti and Luce Marinetti, *F.T. Marinetti: Selected Poems and Related Prose* (New Haven: Yale University Press, 2002), 75.

12 Luigi Russolo, 'The art of noises: futurist manifesto', in *Futurism: An Anthology*, ed. Lawrence S. Rainey, Christine Poggi and Laura Wittman (New Haven: Yale University Press, 2009), 133–8, 133.

13 Ibid., 135.

14 Ibid., 137.

15 Ibid.

16 Ibid.

17 Ibid.

18 Edgard Varèse and Chou Wen-chung, 'The liberation of sound', *Perspectives of New Music* 5, no. 1 (1966): 11–19, 11.

19 Hegarty, *Noise/Music: A History*, 12.

20 For more on the influence of Helmholtz's work in sonic discourses and practices, see Tara Rodgers, '"What, for me constitutes life in a sound?": electronic sounds as lively and differentiated individuals', in *Sound Clash: Listening to American Studies*, ed. Kara Keeling and Josh Kun (Baltimore, MD: John Hopkins University Press), 65–86.

21 Douglas Kahn, *Noise, Water, Meat: A History of Sound in the Arts* (Cambridge, MA: MIT Press, 2001), 68.

22 Ibid.

23 Jacques Attali, *Noise: A Political Economy of Music*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 2003), 33.

24 For more on the French political context of *Noise,* see Eric Drott's 'Jacques Attali's *Bruits*', *Critical Inquiry* 41, no. 4 (2015): 721–56.

25 Attali, *Noise*, 137.

26 Ibid.

27 Ibid. In the section on 'Composition', Attali seems to commit a sleight of hand, insofar as music is no longer expected to predict new social orders but enact them. For example, he states that 1960s free jazz failed to create a truly alternative mode of production, despite its attempts to break away from the normative economic systems of music; ultimately, free jazz failed to break with repetition. However, Attali had not previously suggested that it was music's role to establish a new order; rather, it was pre-emptive of alternative orders.

28 Ibid., 28.

29 Joseph Tham, 'Noise as music: is there a historical continuum? From historical roots to industrial music', in *Resonances: Noise and Contemporary Music*, ed. Michael Goddard, Benjamin Halligan and Nicola Spelman (New York: Bloomsbury, 2013), 257–72, 265.

30 Georges Bataille, *Eroticism* (London: Marion Boyars, 2006), 36.

31 Ibid.

32 Christopher Partridge, 'Death, transgression and the sacred', in *Mortality and Music: Popular Music and the Awareness of Death* (New York: Bloomsbury, 2015), 37–57.

33 Hegarty, *Noise/Music: A History*, 119.

34 Simon Ford, *Wreckers of Civilization: The Story of Coum Transmissions and Throbbing Gristle* (London: Black Dog, 1999), 6.10.

35 Ibid.

36 Drew Daniel, *20 Jazz Funk Greats* (London and New York: Continuum, 2008), 150.

37 Ford, *Wreckers of Civilization,* 8.15.

38 Though there might be some similarities between the two, Throbbing Gristle's 'anti-politics' should not be conflated with an anarchist-inspired anti-politics, which marks a rejection of political-institutional reform as a strategy for radical social change.

39 For more on this, see Greg Steirer, 'The art and everyday life and death: Throbbing Gristle and the aesthetics of neoliberalism', *Postmodern Culture* 22, no. 2 (2012). In an interview with Drew Daniel, Peter 'Sleazy' Christopherson remarked on their political allegiances, suggesting that at the time 'Labour was seen as the bad guy. They had been the cause of many of the social problems that we railed against. … So when the conservatives first got into power, nobody really knew who they were aside from the fact that it was a change from the supposed darkness of the past.' Daniel, *20 Jazz Funk Greats*, 78.

40 In an interview with Carl Holmes, Bennett briefly confirms this interpretation of his political viewpoint – he describes himself and Best as 'the wettest liberals

you could find on this planet'. See Carl Holmes and William Bennett, 'William Bennett interview', *Susan Lawley*, 14 October 2006, http://www.susanlawly.freeuk.com/textfiles/wbinterview04.html (accessed 01 October 2015).

41 In an interview with Lisa Blanning, Bennett claims that Whitehouse never used imagery from Nazi Germany. However, when Blanning points out that they named an album *Buchenwald*, Bennett responds: 'Yeah and so what? It's just a name.' Lisa Blanning, 'Cut hands has the solution: an interview with William Bennett', *Electronic Beats* 8 August 2013, http://www.electronicbeats.net/william-bennett/ (accessed 01 October 2015).

42 Ibid.

43 Mat Colegate, '"There's no prescribed reaction": Consumer Electronics' Philip Best interviewed', *The Quietus* 11 July 2012, http://thequietus.com/articles/09307-consumer-electronics-philip-best-interview (accessed 01 October 2015).

44 By suggesting that there might be some connections between these performers' invocations of noise, I do not mean to eradicate the conceptual and aesthetic differences of these artists: though all in some way focus on the body and its limits, these three artists (i.e. the Gerogerigegege, Justice Yeldham and Pharmakon) are sonically distinctive.

45 Hegarty, 'Just what is it that makes today's noise music so different, so appealing?' *Organised Sound* 3, no. 1 (2008): 13–20, 15.

46 Tom K. Bailey, 'Whitehouse article and interview', *Susan Lawley* (1996), http://www.susanlawly.freeuk.com/textfiles/bailey.html (accessed February 2016).

47 Simon Reynolds, *Bring the Noise: Twenty Years of Writing About Hip-hop and Rap* (London: Faber and Faber, 2007), xii.

48 Simon Reynolds, *Rip It Up and Start Again: Postpunk 1978-1984* (London: Faber and Faber, 2006), 234.

49 Daniel, *20 Jazz Funk Greats*, 160.

50 Hegarty, *Noise/Music: A History*, 155.

51 Dixon Christie, 'MERZBOW'S discipline, decibels, and diety Japan's minister of sonic terror turns on the feedback', *Stagedive* 17, no. 01 (1997), https://web.archive.org/web/19980201190109/http://www.digi-zine.com/17merz.htm (accessed 14 June 2015).

52 Michel Henritzi, 'Extreme contemporary – Japanese music as radical exoticism', in *Japanese Independent Music*, ed. Frank Stofer (Bordeaux: Sonore, 2001), 31–7, 36.

53 As David Novak suggests, the term *onkyô* has ambiguous connotations within a Japanese cultural and linguistic context. The dominance of Western musical taxonomies in Japanese popular music cultures means that generic terms are often translations of English terms (e.g. *rokyu, jyazu* for 'rock' and 'jazz'). To use a Japanese conceptual term to refer to a style of popular music would usually connote vernacular, folk music or even pre-modern music. However, as Novak states, 'Because *onkyô* is such a generalized and coldly technical reference to sound, it does not connote such a relationship to traditional

Japanese culture. And yet, simply by virtue of its Japanese-language genre name, *onkyô* is ideologically separated from the broader sphere of popular music in Japan. It becomes a strange untranslatable object, a subject of difference for both foreign and Japanese logics of classification.' David Novak, 'Playing Off Site: the untranslation of onkyô', *Asian Music* 41, no. 1 (2010): 36–59, 44.

54 Ibid., 46.

55 Clive Bell, 'Site for sore ears', *The Wire Magazine* Issue 223 (2003): 38–44, 40.

56 Ibid.

57 Novak, *Playing Off Site*, 55.

58 David Grundy, 'Listening to Sachiko M', *Eartrip Magazine* 7 (2012).

59 Henritzi, 'Extreme contemporary – Japanese music as radical exoticism', 36.

60 Henry Cowell, 'The Joys of Noise', in *Audio Culture: Readings in Modern Music*, ed. Christoph Cox and Daniel Warner (London and New York: Continnum, 2006), 22–4, 23.

61 Ibid.

62 Ibid., 24.

63 Ibid., 23.

64 Ibid.

65 Ibid.

66 Ibid.

67 Apropos of The New Blockaders *Gesamtnichtswerk* release, Paul Hegarty states: 'Noise music is always an attempt to re-assert the material over the musical, and this means not hiding the process of production as digital sound attempts/claims to do.' See Hegarty, 'Just what is it that makes today's noise music so different, so appealing?', 14.

68 Ben Beaumont-Thomas, 'Hype Williams: do they ever speak the truth?' *The Guardian* 5 April 2012, http://www.theguardian.com/music/2012/apr/05/hype-williams-speak-the-truth (accessed September 2015).

69 Ibid.

70 Dan Warburton, 'Reynols: Interview', *Paris Transatlantic Magazine* (2003), http://www.paristransatlantic.com/magazine/interviews/reynols.html (accessed March 2012).

71 Warburton, 'Reynols: interview'.

72 Reynols's debut release also (humorously) exposes the necessity of the noisy, material medium, albeit in a much quieter manner than *Blank Tapes*. *Gordura Vegetal Hidrogenada* (self-released, 1995) is a CD of Reynols's 'dematerialized' music, which consists of an empty CD case.

73 Diamanda Galás and Andrea Juno, 'Diamanda Galás: interview', in *Angry Women*, ed. Andrea Juno and V. Vale (California: Re/Search Publications, 1991), 7–22, 17.

74 Ibid., 14.

75 Diamanda Galás, *The Litanies of Satan* (Mute: IS01CD, 1982/1998).

76 Freya Jarman, *Queer Voices: Technologies, Vocalities and the Musical Flaw* (Basingstoke: Palgrave Macmillan, 2011), 144.

77 Christie, 'MERZBOW'S discipline, decibels, and diety Japan's minister of sonic terror turns on the feedback' my emphasis.

78 John Cage, 'The future of music: credo [1937]', in *Silence: Lectures and Writings* (London: Marion Boyars Publishers, 2009), 3–6, 6.

79 For an example of Incapacitants' musical style, see Incapacitants, *Quietus* (Alchemy Records, ARCD-059, 1993).

80 Edgard Varèse and Chou Wen-chung, 'The liberation of sound', 18.

81 In critically considering the use of noise as a musical resource, I have primarily focused on the role of producer/performer/composer. However, this notion can be suitably adapted to include the listener (as an active producer). For instance, the listener might be understood to 'create' noise music when he or she purposefully focuses on (and consequently foregrounds) the noise of the medium when listening to an old blues record.

82 This definition is, of course, partial and contingent – it is reflective of a specific Euro-American musical tradition, which is of itself produced by particular social, technological and historical conditions. In other words, I am not looking to claim that this definition holds universally. Nonetheless, it functions as a useful working definition through which the relationship between noise and music can be reconsidered.

83 Rob Young, 'Worship the glitch: digital music, electronic disturbance', in *Undercurrents: The Hidden Wiring of Modern Music*, ed. Rob Young (London and New York: Continuum, 2002), 45–55, 54.

84 Ibid.

85 Nicolas Collins and John L. Waters, 'Nicolas Collins: Interview', *Unknown Public* (1995), http://audiolabo.free.fr/revue1999/content/collins2.htm (accessed February 2013).

86 Nicolas Collins, *Hacking the CD Player* (2009), http://www.nicolascollins.com/texts/cdhacking.pdf (accessed January 2013).

87 Ibid.

88 Ibid.

89 Ibid.

90 Broken Light features on Collins's album It Was a Dark And Stormy Night (Trace Elements Records: TE019, 1992).

91 See Oval, *Systemisch* (Mille Plateaux: MPCD9, 1994).

92 Steve Goodman, 'Contagious noise: from digital glitches to audio viruses', in *The Spam Book: On Viruses, Porn and Other Anomalies from the Dark Side of Digital Culture*, ed. Jussi Parikka and Tony D. Sampson (New York: Hampton Press, 2009), 125–40, 128.

93 William L. Ashline, 'Clicky aesthetics: Deleuze, headphonics and the minimalist assemblage of "Aberrations"', *Strategies: Journal of Theory, Culture, and Politics* 15, no. 1 (2002): 87–101, 87.

94 Ibid., 89.

95 Greg Hainge, *Noise Matters: Towards an Ontology of Noise* (New York: Bloomsbury, 2013), 137.

96 Goodman, 'Contagious noise', 132.

97 Ibid.

98 Goodman also points to Pole's music in his discussion of the glitch in electronic dance music. Goodman describes Pole as 'revolving around a kind of loud quietness' submerging Jamaican dub into a ticklish haze, inverting the relationship between signal and noise, foreground and background, high resolution and low resolution, surface and depth'. See Goodman, 'Contagious noise', 130.

99 Paul Hegarty makes a similar argument in relation to the excessive output of Merzbow. See Hegarty, *Noise/Music: A History,* 157–8.

CONCLUSION

(Dis)connecting noise

All that is not information, not redundancy, not form and not restraints – is noise, the only possible source of new *patterns.*

GREGORY BATESON, 'Cybernetic Explanation', 32.

Noise is ubiquitous. It is present in every space, every milieu. It infests every medium, modifies every sound-signal, takes part in every musical event. It is an inescapable, unavoidable, inextinguishable component of material existence. By describing noise in such terms, I am not meaning to invoke the aesthetic moralist narratives of Schaferian acoustic ecology, in which a ubiquitous and inescapable noise has polluted the soundscape, resulting in the death of silence. The ubiquitous noise of the milieu to which I refer remains for the most part unheard, inaudible yet affective, exposing all relations to the transformative, parasitic third term. Silence is not the absence of vibration but a variable threshold of perception. Though noise is often associated with the idea of disconnection – as that which inhibits communication and alienates and isolates the listener – total disconnection from noise can only be a fantasy. As the excluded middle that must be included, noise constitutes connectivity. It also serves as a reminder of the activity, affectivity and necessity of the medium, the milieu and the material. Noise, then, is something more, and something more important, than a type or judgement of sound. To appropriate Ben Anderson's description of affect: noise is a real force that is part of the composition of worlds rather than a mere epiphenomenon.[1]

Given that I have suggested that it is applicable to multiple manifestations of noise occurring in various contextual registers, the onto-epistemological approach developed in this book might be understood as a general model. However, as was shown in relation to Shannon's general model of communication, no general model is 'neutral'. Just as Shannon's model is

informed by the economic imperatives of the phone company, this 'general model' of noise is informed by numerous imperatives – at the foreground, the aim to allow more fully for the seemingly oxymoronic notion of 'good noise' and, relatedly, noise's use *within* music and the sonic arts more generally. In this regard, the general should not be confused with the universal: what has been developed here is *an* approach, not *the* approach, to noise. By disconnecting noise from a constitutive negativity, I have sought to formulate a more satisfactory account of the relationship between noise and noise music. According to the general model outlined in this book, noise is no longer music's other; rather, it is an inextricable component of organized and mediated sound.

A parasitic politics?

Though I have repeatedly discussed noise's connection to overtly political thematics (e.g. the rise of the bourgeoisie, urban regeneration and gentrification, sonic weaponry, the economic and militaristic imperatives of Bell Labs and cybernetic research), I have avoided outlining an overt politics of noise. However, describing noise in terms of perturbation, transformation and relationality would seem to point to an underlying political dimension. Noise has been understood as that which assures that things keep changing; it interrupts and transforms relations, and, in doing so, generates something new. Conversely, a (hypothetical) noise-free system would remain predictably stuck – there would be no variation, no potential, no information (as the term is used by Shannon and Weaver). Noise is that which produces the future; it brings about new relations and connections. A Spinozist approach also makes noise an issue of power, inasmuch as every affective encounter is associated with an increment or diminishment in a body's power to affect and be affected, to act and be acted upon. There are good and bad encounters with noise, in the sense that noise increases or decreases a body's affective power. So noise can produce good or bad futures; it can lead to serendipitous as well as unwanted outcomes.

By describing noise in such terms – as that which transforms relations and, in so doing, brings about the new – it becomes tempting to connect noise with efforts to bring about the end of a late-capitalist era from which the future has almost disappeared from perceptibility. Nevertheless, I am keen to avoid uncritically associating noise with an emancipatory politics. I have noted that noise has often been ascribed an inherent radicalism, particularly within musical discourses. From the Futurists' celebration of noise as a means of 'breaking out' of the stale and tawdry realm of musical sounds; the marriage of the sonically abject with the socially abject in the 'anti-music' of Throbbing Gristle; to the dismissal and/or affirmation of 'rebellious' musical genres such as hip-hop as 'noisy', noise is never far away

from proclamations of its ability to unsettle, uproot or overturn established musical orders and sociopolitical codes. As Anthony Iles suggests: 'There is a strong field of attraction to the cultural space of noise for the politicized musician – a music that does not have a set code or form nor an expected mode of behaviour. Those packing a liberatory politics with their music often turn up here.'[2] Noise, as that which lies as a dangerous 'outside' to musical orders, has the capacity to blow minds and shock bodies; it is imagined to be transgressive, subversive, anti-capitalist, anti-bourgeois, anti-convention, anti-skill and anti-establishment.

In addition to Simon Reynolds's noted criticisms of noise music's transgressive capacity, I would suggest that an oppositional politics that equates noise with political resistance fails to account for the predatory nature of capitalism. Rather than perturbing the socio-economic status quo, noise is often heard to be cool, edgy and, most importantly, profitable. As it has gained popularity, noise music (as a genre) has come to be blighted by a tension between its rhetorical and aesthetic radicalism and its commercial recuperation as another 'extreme' product (i.e. noise as commodity). Transgressive acts, representations and encounters, meanwhile, serve to expand the field of capitalist investment, so much so that 'transgression today is entirely normative'.[3] Rare and limited edition releases become collector's items, commanding high prices among noise connoisseurs. The excessive number of noise music releases that ensure the consumer's collection will never be complete helps drive a desire to purchase the next new noise. Likewise, the notion that noise music may unlock new sensations, or reawaken the senses of the listener who has already heard too much, gives it a marketable appeal. As Nick Smith provocatively claims, 'Rather than entering the market kicking and screaming, noise [music] plays along as well as Pokémon cards and Beanie Babies.'[4] Perhaps the ultimate expression – or parody – of noise music connoisseurship is Merzbow's fabled *Merzcar*. The one-off release consisted of a second-hand Mercedes 230 car with a copy of Merzbow's *Noisembryo* (1994) rigged to a CD player. When the car was started, the CD would begin and would become impossible to turn off. The Mercedes essentially functioned as an extravagant CD packaging.[5]

Outside of noise music too, noise's association with a profitable 'coolness' has seen it become something of a branding (quite literally) 'buzzword'. Accompanying the 'regeneration' of the 'dangerous' and 'noisy' city as a 'happening' playground for the middle-classes, noise has come to invoke vague notions of the creative and the quirky. This is helpfully exemplified by Manchester's charity NOISE, which describes itself as 'Europe's only one stop shop and community for emerging creative types who want to break into the creative industries, learn the tricks of the trade and build up a wow-factor online portfolio on their journey to the top'.[6]

An alternative theorization of noise's political potential is articulated within the recent digital media scholarship on error, malfunction and anomaly. This formulation is more akin to Serres's parasitic fable; there is a

sense that erroneous and anomalous objects and events may harbour some kind of political potential, in that, like the parasite, they mark an opportunity for transformation that comes from within the system itself. Unlike many accounts of noise music's political potential, moreover, the discourse of noise-as-error takes into account the mechanisms and operations of a 'network' or 'control' society. As Mark Nunes argues, this era is governed by what Jean-François Lyotard calls a 'logic of maximum performance': a cybernetic ideology of informatic control driven by aspirations of an error-free world, which is entirely efficient, accurate and predictable.[7] In this epoch, the biopolitical is quantified; life becomes measurable; and deviation becomes standardized. However, there are those occasions where the erroneous evades systemic control and slips through – the moments, for instance, when CD error correction software fails to counter the effects of noise, allowing it to slip into the registers of audibility. On these occasions, 'Error calls attention to its etymological roots: a going astray, a wandering from intended destinations. In its "failure to communicate," error signals a path of escape from the predictable confines of informatic control: an opening, a virtuality, a *poiesis*.'[8] For Nunes, the related concepts of noise and error provide the possibility of a 'way out'; as destabilizing events, they provide an opportunity to evade the predictable and already-known cycles of control.

A similar proposition is articulated in *The Cybernetic Hypothesis* by the French journal Tiqqun. If capitalism and governance have become cybernetic, subjugating human subjectivity to flows of information and automation, then noise, as well as panic, invisibility and desire, is proposed as an anti-capitalist revolutionary strategy. Noise is that which 'cannot be handled by the binary machine, reduced to a 0 or a 1. Such noises are the lines of flight, the wanderings of desires that have still not gone back into the valorization circuit, the non-enrolled.'[9] Noise is a 'non-conforming act' that occurs within the system but cannot be reduced to its logic. With amplification, noise becomes a revolutionary force capable of destabilizing, perturbing and overthrowing the mechanisms of control.

Such accounts appear to assume that contemporary socio-economic orders prioritize metastasis. However, just as cyberneticists such as Atlan saw the systemic benefit of noise and error, so too have certain forms of contemporary capitalism. Within neo-liberal economic orders, perturbations, disruptions, anomalies and excess are not just minimized or controlled but are also rendered innovative and thus profitable.[10] 'Disaster capitalism' sees governments and private corporations take advantage of disruptive, transformative events – be they induced or unplanned. What is a crisis to those directly affected – be it a 'natural' disaster, a financial crash, resource shortages, a political coup or a combination of these events – is a profitable opportunity for others. Just as noise brings with it the modification of relations, these macro-disruptive events are often used to usher in new liberal economic orders.[11] As Steven Shaviro asserts: 'Crises do not endanger

the capitalist order; rather, they are occasions for the dramas of "creative destruction" by means of which, phoenix-like, capitalism repeatedly renews itself.'[12] And just as artists have drawn out, intensified and amplified the noise of music so as to generate new sensations, dominant forces within global capitalism have drawn out, intensified and amplified the 'noise' of socio-economic systems, so as to generate profit. Though the use of noise as an artistic resource and the exploitation of 'disaster' by governments and private corporations should not be simply conflated, the resonances between these processes serve to warn against equally simplistic assertions of aesthetic innovation as politically radical.

What noise might do

Whether good or bad, generative or destructive, overwhelming or unheard, noise, I have suggested, is always affective. Indeed, affect can be understood as the connecting thread that underlines noise's informational, social and artistic manifestations. Noise's affectivity is as central to encounters with noisy neighbours as it is to glitching and stuttering CDs; to crackling telephone conversations as it is to the quiet improvisations of *onkyô*. Thus noise's positively productive manifestations in music and sound art are no longer to be reduced to the anomalous or exceptional: a making 'good' of noise's 'bad'. More generally, I have provided an alternative framework for noise that allows for a broader range of its manifestations and effects and which no longer views the notion of 'good' noise as paradoxical or contradictory. To recognize noise as relational is to recognize its contextual specificity – what noise does depends on its context and is inextricable from it. However, in taking the notion of noise beyond unwanted sound, I have also looked to maintain a sense of definitional consistency. In other words, an ethico-affective approach looks to provide a specific understanding of noise that also embraces noise's variability and multiplicity.

By somehow trying to grasp noise, this book was always going to fail in the sense that it was never going to be able to capture everything that noise is, does or can be. However, in keeping with the Spinozist spirit, I would assert that we do not know yet what noise can do – what affects and effects it may serve to generate. I have sought to leave space for these not-yet-known possibilities, as well as allowing for noise's more familiar manifestations. To be sure, if noise is anything, it is 'both-and': it is both surprising and banal; both spectacular and unremarkable; both obvious and unknown; both digital and analogue. It is both a threat to and an integral part of the system. This book, then, is by no means the last word. Nonetheless, I hope to have made clear that there is much more to noise than what greets the ear as unwanted sound.

Notes

1 Ben Anderson, *Encountering Affect: Capacities, Apparatuses, Conditions* (Farnham: Ashgate, 2014), 77.

2 Anthony Iles 'Introduction', in *Noise and Capitalism*, ed. Mattin and Anthony Iles (Sebastián: Gipuzkoako Foru Aldundia-Arteleku, 2008), 9–17, 15.

3 Steven Shaviro, 'Accelerationist aesthetics: necessary inefficiency in times of real subsumption', *e-flux* (2013), http://www.e-flux.com/journal/accelerationist-aesthetics-necessary-inefficiency-in-times-of-real-subsumption/ (accessed 16 March 2015).

4 Nick Smith, 'The splinter in your ear: noise music as the semblance of critique', *Culture, Theory and Critique* 46, no. 1 (2005): 43–59, 54.

5 It is said that the Mercedes belonged to a member of the staff at Releasing Eskimo (the label that released *Noisemybryo*) who had been ordered to move the car by the police. The *Merzcar* never sold and eventually broke down.

6 See http://www.noisefestival.com/ (accessed March 2012).

7 Mark Nunes, 'Error, noise and potential: the outside of purpose', in *Error: Glitch, Noise and Jam in New Media Cultures*, ed. Mark Nunes (London and New York: Continuum, 2011), 3–23, 3; Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge* (Manchester: Manchester University press, 1984).

8 Ibid.

9 Tiqqun, *The Cybernetic Hypothesis* (2001), https://cybernet.jottit.com/ (accessed January 2016).

10 See Robin James, *Resilience and Melancholy: Pop Music, Feminism, Neoliberalism* (Alresford: Zero Books, 2015).

11 See Naomi Klein, *The Shock Doctrine: The Rise of Disaster Capitalism* (London: Penguin, 2008).

12 Shaviro, 'Accelerationist aesthetics: necessary inefficiency in times of real subsumption'.

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