

REVIEW ESSAY

To the Technical Media Themselves

Wolfgang Ernst, *Sonic Time Machines: Explicit Sound, Sirenic Voices, and Implicit Sonicity* (Chicago, IL: University of Chicago Press, 2016), 160 pp, ISBN 978-90-8964-949-2

Sound has become the latest addition to a number of new-fangled objects in the academy: sound demands attention, sound calls for research projects, for dissertations, sound births new fields of study claiming interdisciplinarity, and sound is also the cause of significant epistemological shifts in existing disciplines. When a new book emerges on the question of the sonic, it is often approached with the understanding that we are dealing with an emergent academic assemblage and a discipline seeking to legitimate itself through the invocation of the intoxicating object it has produced. Many of these texts are concerned with the technical – or, more precisely, what Gilbert Simondon would name the relationship between the technical object and culture – and society, and come to rest somewhere between media studies, musicology and anthropology. Wolfgang Ernst's *Sonic Time Machines: Explicit Sound, Sirenic Voices, and Implicit Sonicity* – a text whose compelling methodological and conceptual trajectories are matched only by its meticulous attention to its own intellectual inheritances – should not be confused with that new burgeoning field, even though it might sound as if it would very easily join the array of texts that proliferate sound as its object. It undoes many of the premises upon which its title rests, and perhaps pursues the question of the technical with more precision. In so doing, it opens up the ways in which we have addressed the object we name sound, and in the process draws our attention to the ways in which sound has determined and undermined some of the academic disciplinary formations we consider constitutive of the Humanities. It is in many respects a book that forces us not only to take the object seriously, but to take the disciplinary formations that have produced the object as such seriously. It is in this sense that *Sonic Time Machines* is a book that confronts not necessarily those invested in sound but rather those interested in the relation between media and technology, aesthetics and aesthesis, and what it means to think sensorially about knowledge in the current technological conjuncture.

While *Sonic Time Machines* is not Ernst's first book, it is the first to appear directly in English, opening up the work of the media theorist to readers familiar only with a collection of Ernst's essays edited by Jussi Parikka titled *Digital Memory*

and the Archive.¹ The publication of *Sonic Time Machines* also corresponds with the translation of a better-known text by Ernst, *Chronopoetics: The Temporal Being and Operativity of Technological Media*, the arguments of which feature in *Sonic Time Machines* here and there.² These two other texts alongside the volume in discussion here offer a much broader reading of Ernst's thought, which inside the German academy has been influential in fields of Media History, Media Theory and Media Studies but also in other disciplines such as Communication and Information Studies, Computer Science, and – due to his propositions on the idea of the archive – History. Largely shaped by the work of Friedrich Kittler, Ernst combines the latter's materialist attention to the technological object with a Foucauldian understanding of historical and epistemological rupture alongside Marshall McLuhan's focus on the medium as that which structures perception. The result is media archaeology, a methodology which displaces human subjectivity in favour of the ways in which media structure and suture time. Ernst also oscillates between a variety of other philosophical traditions, meandering – with incredible ease and mastery – through the work of Martin Heidegger on being, Henri Bergson on duration, and invokes a comprehensive technical vocabulary common only in Information Technology and Computer Science. It is this intellectual conglomeration that features strongly in *Sonic Time Machines*, and is also what gives it its intellectual force.

Sonic Time Machines is marked as much by its conceptual texture as by its methodological concerns, and the argument pursued in the book reflects this. It is a melding of theory and method that differs greatly from other approaches to sound as object of academic inquiry. The central premise is to direct attention to the aural and its dual presence: both as an effect marked by time and its existence in a technologically mediated world. For Ernst, sound is the object that has been misrecognised in the hermeneutic project of the Humanities. It is the digital – or the mode of the technical made especially apparent through the digital – that not only forces sound back into how we constitute the human, but also back into intellectual inquiry and, subsequently, undoes the Humanities as academic pursuit. It is a premise that is both conceptually and methodologically distressing, as it calls not only discipline into question, but also the objects and arguments that discipline has produced.

Ernst introduces a concept that marks the core import of his argument and threads throughout the text as a methodological technique with which to engage the disciplinary object that is sound while simultaneously constituting it elsewhere. That concept, 'sonicity', is what allows Ernst to think about the relation between time and technology. Time – considered in the language of technicity – is for Ernst what has been missed in the various ways in which sound has been apprehended intellectually, and it also provides Ernst with the foundation upon which to name the essential nature of sound as temporal. Sonicity for Ernst makes audible an understanding of the implicit nature of the sonic, or what is termed 'chrono-technical sound knowledge',

1 W. Ernst, *Digital Memory and the Archive* (Minneapolis, MN: University of Minnesota Press, 2013).

2 W. Ernst, *Chronopoetics: The Temporal Being and Operativity of Technological Media*, translated by Anthony Enns (London: Rowman & Littlefield International, 2016).

a neologism stressing the relation between time, the technical, epistemology and the sonic. Through an engagement with the work of McLuhan and others, sonicity is for Ernst what constitutes the 'acoustic space' of modernity. Put differently, if sound and music are the epistemological ideograms of what we can hear, then sonicity allows us to address those effects and entities that we cannot hear. Central to the concept of sonicity is technicity. Ernst defines sound as electromagnetic waves or vibration, a definition which takes sound out of its self-imposed residence in an ontology of the ear and opens it up to media that rely on the electronic, such as television and the cinema. Such a move allows Ernst to make statements on media that at first seem flippant, but on further elaboration speak volumes on how it is we think sound, the digital, and media proper. One such statement reads as follows:

The signal regeneration of television or computer images on a CRT [cathode ray tube] monitor is a form of *implicit* sonification, since the electromagnetic waves emanating from such transduction can easily be detected by an aptly tuned radio receiver. Such a sound turns into (algo) rhythm when it comes to eavesdropping on digital images somewhat akin to the electro-chemical transduction of light in human eyes when communicated in pulse trains to the brain. Sometimes technology *resonates* with human perceptual modalities in a privileged way. (p. 29)

Echoes of the work of other texts that have been located in Sound Studies (such as Steve Goodman's *Sonic Warfare: Sound, Affect and the Ecology of Fear*) can be heard here, where vibration is also understood as core to a phenomenology of sound.³ Resonances with Simondon's concept of transduction and the relation between what Simondon calls technicity and what Ernst calls sonicity can be heard reverberating throughout the text, along with more productive reformulations of Richard Grusin and Jay Bolter's concepts of immediacy, hypermediacy and remediation.⁴ It is worth noting that a central concept for Grusin and Bolter's process of remediation – namely, oscillation, or the ways in which media are engaged in a rivalrous drive between immediacy and hypermediacy – also finds itself in Ernst's text, so much so that Ernst argues that 'sonicity names oscillatory events and their mathematically reverse equivalent: the frequency domain as an epistemological object' (p. 22).

The book's aim is to argue for a different methodological approach to sound, one entailing the distinction between sonic articulation and physical sound (a distinction Ernst makes in order to mark the difference between the digital and the analogue, or the relation between human perception and the work of the medium). Ernst names such an approach media archaeology. Media archaeology avoids the anthropocentrism of sound analysis. Instead of honing in on the sociohistorical, or the psychoacoustic, it focuses on the epistemological dimension embedded in sonic articulation.

3 S. Goodman, *Sonic Warfare: Sound, Affect and the Ecology of Fear* (Cambridge, MA: MIT Press, 2012).

4 J. Bolter and R. Grusin, *Remediation: Understanding New Media* (Cambridge, MA: MIT Press, 2000).

Studying the sonic signal event in this way steers clear of immediate cultural contextualisation and reduction to mere physical acoustics. Such a formulation is essential to disrupting and undoing the understanding of sound that has permeated Sound Studies (evident in the likes of Jonathan Sterne's audiovisual litany and histories of sound recording, as well as in the auditory culture and history of the senses as presented in anthropological discourse) and other well-established disciplines, such as Musicology, Ethnomusicology and popular music studies.⁵ A core element of media archaeology is to position technical media and the analysis thereof as disruptive to traditional disciplinary orders. The undertone of the concept of sonicity is this disruption, and Ernst invokes it precisely to draw attention to how we have missed the object, or constituted it entirely outside of its epistemological grounds. The mode of a media-archaeological approach is thus to think with technical media themselves rather than their historiography.

The book has three parts, each of which elaborates upon the concept of sonicity and what Ernst calls the sonic time machine. Part 1, titled 'Definitions of Sonicity and the Sonic Time Machine', introduces the reader to the concept that acts as a seam for the entire book, namely sonicity. In this introductory section already, Ernst's signature idiosyncratic and direct turns of phrase make an appearance, such as the idea that 'pitch is nothing but a cognitive metaphor for frequencies; each tone itself is a periodic time event' and the notion that 'audio and vision belong to separate spatio-temporal worlds: bringing them together is not possible without doing violence to their tempor(e)alities' (pp. 32, 40). What opens the first chapter is a Kittleresque separation or disciplining of the object through an outright rejection of prior and current ways of disciplining the object: 'Inquiries into *sonicity* should not be confused with Sound Studies' (p. 21). This is not only a rejection of disciplines, but a rejection of discipline proper as a move to be attentive to the object as such. Elsewhere, Ernst marks the relation between a media-archaeological approach and those approaches of other fields of study that have set their sights on sound. In so doing, Ernst names that which Musicology, Sound Studies, Anthropology and History have missed: the question of time. Ernst's notion of sonicity provides a different articulation of temporality, named by the playful term 'tempor(e)alities' – or temporal realities – which features elsewhere in the book as *tempaural* and *temp/orality*. These phrases capture the nature, tone and force of Ernst's argument in the sense that the first section lays the groundwork for much detailed analysis later on. Filled with what comes across as individual theses, Part 1 begins to unravel some of the definitions that are crucial to reading the text that follows. It is also here that Ernst alerts readers to the broad scope of the argument, but also the specificity of the method.

5 It is with irony and for the sake of an intellectual history of Sound Studies that I refer to Sterne's work at this point. *The Audible Past* is thought to be one of a few key texts that inaugurate Sound Studies, and is a text that is concerned with a history of the recorded sound object but fails to consider the technicity of sound as a phenomenon, as Ernst attempts to do. I invoke the audiovisual litany not to alert the reader to the theological or cynical connotations, but rather to use it as Sterne employs the phrase to describe the ways in which Sound Studies has produced a binary between the sonic and the visual, along with all accompanying sensorial analogies. J. Sterne, *The Audible Past: Cultural Origins of Sound Reproduction* (Durham, NC: Duke University Press, 2003).

The second part, titled 'Cultural Soundings and Their Engineering', is structured around two field trips, both of which offer a demonstration of media archaeology at work. Opening with a question that permeates both the historical and the technical, Ernst asks how we can prove the occurrence of a sonic event that took place before the advent of signal-based audio recording. This inquiry is constitutive of the aims of media archaeology, and it underscores the relationship between culture and media. In many ways, it also begins a conversation around how it is we think that object we call sound. For Ernst, sonicity resides in both culture and media, and through an interrogation of Homer's Siren songs in the *Odyssey* as a sonic event, the relation between the archive and history, between representation and the event, and between the technical and the physical is thrown into disarray. Ernst asks whether such a moment with clear investments in sound and outside of the historical ambit of the age of recording media can be authenticated. In positioning such an example, Ernst shows that it is the notion that a sonic event can exist and be verified outside of the promise of resurrection that the recording device offers that shifts how we think of the recording device *as well as* the sonic event itself. Such a move, Ernst argues, is a direct provocation to Philology, History and other disciplines with a stake in temporality, in that it reconfigures the bounds of what we would call cultural time.

The attention to the ways in which sound changes under the act of writing and, thereafter, the invention of the phonograph, allows Ernst to suggest that implicit sonicity is at the epistemic core of the Siren myth, and that the reason for the latter's uncanniness is that it touches upon the very deep epistemological sense in which humans understand sonicity. A similar argument is then extended to think about oral poetry and its transcription. Ernst reminds us of the fact that when oral poetry was recorded using a technical apparatus as opposed to it being transcribed, noise was recorded as well. This is a move that bolsters media archaeology as a method, in that the latter operates on the principle that there is no primary text, but instead only recorded voices and sounds (even those that are notated and transcribed).⁶ The relation between the recording apparatus of the phonograph and oral poetry is one that governs how we approach orality as an object of research, due to the fact that the two are so closely intertwined. The consequences and repercussions of such a proposition are deeply unsettling not only for History but all disciplines that attempt to theorise human subjectivity before and after the phonograph, or indeed, before and after writing.

'Techno-Sonicity and Its Being-in-Time' is the final section of the book, with four long chapters. It is concerned with the ways in which temporality features in a multitude of technical permutations, and also grounds the vibrational approach to

6 James Lastra's differentiation between intelligibility and fidelity is to be heard here, and the complex ways in which recording itself is interwoven into a similarly complex discursive fabric. Lastra argues that there are two general modes of sound recording that dominate technical ideas of sound representation: the phonographic with its perceptual fidelity model, and the telephonic, which is concerned with intelligibility. Each has its own conceptions of what sound is and how it should be recorded. J. Lastra, 'Fidelity Versus Intelligibility' in J. Sterne, ed., *The Sound Studies Reader* (New York: Routledge, 2012), 248–253.

sound which the entire book takes as its implicit foundational principle. For Ernst, the digital is already sonic, in the sense that sound is electromagnetic waves. Such an assertion is crucial not only for a rearticulation of sonic events but also for a specific understanding of technical media that allows Ernst to make an argument for what he calls sonic analytics, an algorithmic mode of ‘genuinely sound-based sound retrieval’ (p. 141) and research, based on neither metadata nor melody. The aim of this is to dislocate the semantic, which has – through musical notation and alphabetic writing – marked an understanding of sound that must always be supplemented with classification of some sort, be it phenomenological or anthropological. As Ernst notes, ‘a decisive requirement for sound analytics is to describe the audio signal *from within*’ (p. 131, emphasis in original). The core argument here concerns how we might theorise the sonic without reference to the hermeneutic tradition enforced by the likes of historiography and its notions of time. This is, for Ernst, the ultimate goal of media archaeology.

The devotion to method in *Sonic Time Machines* is impressive, and one encounters it without even opening the book, as the cover – adorned with wave form – is an oscillogram and spectrogram representing a sound file of the author articulating SONIC TIME MACHINES. One wouldn’t expect anything less from Ernst, whose intellectual trajectory and work has been to constitute that which he calls media archaeology. Unlike his other texts, however, *Sonic Time Machines* attends to this conceptual arrangement more directly. The cover represents one of the key strengths of the book: *Sonic Time Machines* is itself an *act* of media archaeology, the wave form serving as a background diagram under the title of the book, capturing the combination of method and theory that finds itself ever-present in the pages of the volume. Through this invocation of that which is in many respects a digital rendering of sound itself as vibration, Ernst employs the methodology of media archaeology directly, but also pays attention to how it is we arrived at the wave form as representational device. It takes up the challenge that Ernst implores us to take on, namely to establish novel and alternative *devices* – be they technical or rhetorical – with which to write and think more adequately about the past and memory in the media-technical conditions of the contemporary.

The text is a treatise on disciplinary method as much as it is a critique of specific disciplines, such as History and Sound Studies, but also implicitly of the digital Humanities as apparatus, implying that what the Humanities has missed is an understanding of the digital as algorithmic in favour of an understanding of it as merely a technological shift that comes to threaten the existence of the Humanities proper through displacement. This refusal to retreat into a logocentric reading of the sound object is what sets the work apart, as it simultaneously critiques a long intellectual tradition in the Humanities – the hermeneutic impulse of the Humanities at large – while offering a different modality through which to think the object.

However, a subversive reading of the technical – or at least a nod to it – from the periphery is found wanting in the text, and different articulations of the sound object such as that provided by the likes of Fred Moten would have been beneficial

in drawing Ernst into a conversation outside of media theory.⁷ Ernst's question of verification outside that which can provide verification – how to authenticate a sound that occurs outside of the possibility of recording it – is a question that perhaps has resonances with how one conceptualises a university that is not a university. This has particular consequences for how we might think Africa with Ernst. For instance, an account of the phonograph as it appeared outside the metropolises of Europe and those located in the outposts of empire, as articulated by William Peitz's account of the phonograph in Africa, might inform and complement the notion of the sonic event significantly.⁸ Similarly, a more subtle reading of the discursive traces of the Hellenic – Ernst's core methodological exercise being an interrogation of Homer's *Odyssey* – may have provided a different genealogy of recording, alongside an acknowledgement of the ways in which mythology and the production of Greek classicism have featured in the work of some of Ernst's intellectual interlocutors such as Friedrich Kittler and Heidegger, but also in the tradition which he may not admit to being a part of.⁹ It may also bolster Ernst's critique of the occidental more directly, by providing a different genealogy of the apparatus that reconfigured voice and speech. A similar point can be raised about orality, which has been the subject of protracted debates in the discipline of History – especially in South Africa – for decades. While Ernst's critique of the transcription of oral poetry – and by extension oral history – would not change with renewed attention to these debates, it is more a reference to the absence of an attention to theory from the periphery than an issue with the critique offered in the book.

One would be forgiven if one read *Sonic Time Machines* as a book solely about sound, or if one were to constitute a relation between the emerging field of Sound Studies and the arguments put forward by Ernst around sound. The impulse is expected, but in doing so there is a risk of reducing this text to exactly what it aims to undo: the intellectual corraling of the object, and particularly the one named as sound. As stressed earlier, *Sonic Time Machines* is not a text that should be thought through Sound Studies, and should rather be placed against Sound Studies as a critical intervention from without. It is a book that almost parodies the layperson's oft repeated explanation of the ambiguity of sonic articulations – that sound is omnipresent and pervasive, yet indiscernible and evasive – both in the clarity of its elucidation as well as in the fleeting rhetorical flourishes in the architecture of the text. A statement such as 'dynamic sonicity teaches us to navigate within the alphanumeric of digitized sound instead of subjecting them to classification by phenomenological or anthropological metadata' (p. 141) exposes the impulses and academic inheritances of Sound Studies, disavows the paronomasia that accompanies the formation's interrogations, and offers as a different path the methodology and attention to the technical

7 F. Moten, *In the Break: The Aesthetics of the Black Radical Tradition* (Minneapolis, MN: University of Minnesota Press, 2003).

8 W. Peitz, 'The Phonograph in Africa: International Phonocentrism from Stanley to Sarnoff' in D. Attridge, G. Bennington and R. Young, eds., *Post-Structuralism and the Question of History* (Cambridge: Cambridge University Press, 1989).

9 Ernst may decry his ancestors, but he is also indebted to them for the intellectual tradition he employs. See, for example, the argument made in Martin Bernal, *Black Athena: The Afroasiatic Roots of Classical Civilization, Volume I, The Fabrication of Ancient Greece 1785–1985* (New Brunswick, NJ: Rutgers University Press, 1987).

object that Media Studies has always cultivated. It is also a welcome invitation to take the digital seriously. Ernst's technical language and writing, both in *Sonic Time Machines* and elsewhere, is necessary for the development and force of the argument, but also isolating both for those not familiar with Media Studies and those who have been worrying at the sound object outside of Sound Studies, Musicology or other disciplines with sound as their object.¹⁰ It is, however, in line with the kind of disciplinary method associated with German media studies, perhaps representative of Kittler's distinction between the ways in which print media and technological media function, where the former captures the symbolic and the latter the extra-symbolic. In such an understanding, technical language is necessary as semiotics cannot be invoked to describe the workings of technological media on an epistemic level. It is perhaps this disciplinary trace that offers the most forceful critique of Sound Studies that *Sonic Time Machines* presents; sense is now untenable as a concept.

For that reason – and perhaps that reason alone – it is a text that is worth reading, both for those interested in the technological object that is sonic articulation as well as those interested in the ways in which sense is discursively and technologically organised. It is also pertinent for those invested in the debates around the Humanities and its relation to the digital, the prevailing discourse of despair that seems to accompany it, and the disciplinary impulses that proliferate formations that misunderstand its object (or claim to know its object in advance). It is therefore also a text necessary for considerations around the institution of the university and the academy at large. Ernst reminds us that the term *passing time* (that which printed records miss) is as, if not more, important than *dead time* (also known as run-time or recorded signals). Here, movement and time are crucial not only for grasping the digital, but also how it is that technologies of recording permeate and perforate understandings of being. If 'reverberative sonic memory challenges the symbolic order of the archive' (p. 27), a grasp of the importance of time and movement is more crucial in our current conjuncture than ever before.

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10 Aside from this, a number of typographical errors litter the text. Whether this is intentional – hinting at the peculiarities of the act of inscription and transcription – or not, the double printing of phrases and sentences and the unintended joining of different prepositions are especially jarring in what is already a dense and difficult text to navigate. However, these are minor weaknesses which do not detract from the cogency and weight of what is a sophisticated text.