

This article was downloaded by: 10.3.98.93

On: 17 Jan 2019

Access details: *subscription number*

Publisher: *Routledge*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: 5 Howick Place, London SW1P 1WG, UK



Edited by Michael Bull

The Routledge Companion to Sound Studies

Bull Michael

Technologies of sound art

Publication details

<https://www.routledgehandbooks.com/doi/10.4324/9781315722191-23>

Voegelin Salomé

Published online on: 02 Nov 2018

How to cite :- Voegelin Salomé. 02 Nov 2018, *Technologies of sound art from: The Routledge Companion to Sound Studies* Routledge

Accessed on: 17 Jan 2019

<https://www.routledgehandbooks.com/doi/10.4324/9781315722191-23>

PLEASE SCROLL DOWN FOR DOCUMENT

Full terms and conditions of use: <https://www.routledgehandbooks.com/legal-notices/terms>

This Document PDF may be used for research, teaching and private study purposes. Any substantial or systematic reproductions, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The publisher shall not be liable for an loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

19

TECHNOLOGIES OF SOUND ART

Techno-cultural occurrences

Salomé Voegelin

Technology changed the way sound art could be done in a gallery. If you wanted continuous sound you either had to do it kinetically, with a machine of some kind, or you would have a tape loop that ran round the gallery. But now you just have the digital thing, and you run a loop. Sound art with loudspeakers seems to be what people use mostly, loudspeakers and playback technology, and the loop is usually tailored – maybe in a lot of cases it is at most ten minutes, not four hours. You can enter it and leave it. It does not develop into anything else.

(Eastley, in Gardner and Voegelin eds, 2016, pp 161–162)

This is a quote by Max Eastley speaking at a colloquium about the relationship between sound art and music staged at the London College of Communication, UAL, in 2012. His take on the impact of technology on the development of gallery-based sound art serves as an interesting starting point for an essay debating the technologies of sound art inside and outside the gallery.

Eastley is a musician and sound artist who most famously produces Kinetic sculptures and Aeolian harps, and works with both human intervention and energies of the natural environment. The context of his practice, his interest in the forces of electricity, wind, water and ice for the production of sound works, as well as his engagement with ecological issues bring an ideological angle to the discussion of technology and particularly to the discussion of technologies of sound art. They curtail partisan observations on the mechanics and application of technology, and focus the debate on issues of authenticity, translation, opportunity and availability. His quote brings scrutiny and care into what could easily become a simple history of technological development and use.

Following his reservations, this chapter proposes to consider technology in relation to sound art not as a tool or in terms of a historical chronology, but as a complex ‘occurrence’ that produces its own aesthetic, historical and ideological processes and interactions of which the resulting work, its exhibition and consumption, necessarily and unavoidably speak.

To engage in this language of technology I will first consider the notion of instrumentality versus operability, and seek to confer this differentiation through the practices of Éliane Radique and Shilpa Gupta. Their work enables me to understand technology, its development and status within sound art, not simply as an acceleration of existing and dominant aesthetic and ideological applications, but as unexpected operations that sidestep and defy instrumentality.

Technologies of sound produce, compose, organise and playback invisible material. They make audible and thinkable what we cannot see, but they can also cut what seemed to logically belong together away from its source, to make it available as an autonomous possibility that disturbs through the potential for dis-placement, and causes anxiety as well as joy through the subsequent practice of re-placement: inventing new associations whose links are relevant not only in relation to an individual re-presentation but as a consciousness, as an intuition that things do not belong together as fixedly and normatively as we might have thought they did.

Sound art as a genre is defined by the technological and conceptual possibility of this dis-placement. It is enabled contextually, in relation to influence and genre, by the split away from a purely musical and visual arts practice; and it is enabled materially as well as conceptually by the plural possibilities autonomous sound affords the artist.

The concept of the technological autonomy of sound is central to sound art's identity and potential. Its practice is at once inspired and facilitated by the separation between sound and source, and an expression of this separation.

Even if, as in Eastley's case, the work is based on a relationship between force, human or natural, and sound, which reinstates or emphasises rather than severs the connection, the key remains that the separation is conceptually and actually possible and thus the auditory imagination as creative impulse includes this possibility.

Eastley's technologies are relational and causal but not deterministic. His play with causality opens the space of influence to new possibilities. However, his works retain an analogue integrity in the sense that the relationship between what causes the sound and what the sound is remains intact.

By contrast when I saw Pan Sonic in concert for the first time in what must have been 1997, I witnessed the complete dis-placement not only of the sound itself but also of the body. Instrumentality had not been abandoned but became machinised and dramatised in the light of open laptops. The virtuosity of these performers, each seated at their laptop, neatly in one row, ceased to be measurable by their body movement and its creation of a perfect sound. Both body and movement had morphed into the sound playing 'in front of them', playing in front of me, staring at the back of open laptop lids that reflected back to me only my own audition.

The technological dis-placement of sound corresponds with the technological dis-placement of the body of the performer and of the listener.

The body too has a sound that can be cut from its physical identity, from its substantial objectivity, to float as ephemeral subjectivity and become autonomous material for artistic production. In this chapter I strive to hear this ephemeral subjectivity in the work of performer, composer and media artist Pamela Z, to get to understand the possibilities of the sounding body in relation to the possibilities of technology, not as disembodiment or absence, but as mobile invisibility and pluralisation.

The technologies of sound are techno-cultural occurrences: from the radio, the phonograph, the reel to reel machine, to the first clunky Sony Walkman (with radio incidentally) and MP3 player, they expand and freeze space and elaborate a different relationship between space, time and things; they create a different sense of material and of self through the presentation of invisible processes and possibilities. But it is not only playback but also the occurrences of production that trigger a different sense of the world, of material and of self: the possibilities of the cut up, synthesis, manipulation, editing and composing challenge and question how things belong together and where they belong.

By considering the technologies of sound art as complex occurrences, I hope this chapter can contribute to a meditation on technology as a material process and as an ideological act that has its own agency and identity, whose possibilities enable and define artistic practice. Following

on from this, in conclusion, I want to distinguish the dis-placement that defines and enables sound art from the seemingly unavoidable and necessary rupture with the historical continuum that Jacques Attali identifies it with, and venture with Kodwo Eshun into a techno-future, a place outside chronology, from which sound art comes as an autonomous practice that has its own tone.

Instrumentality versus operationality

‘The tools for making electronic music are not innocent: true sound “mediums”, they are an interface to ghosts of technoscientific projects past’ (Rodgers, 2010, p. 6.) These ghosts are the ideologies and socio-political interests of those projects and while the sound of a current use of those interfaces within the context of sound art might only hold a lingering radiation of the technoscientific purposes that drove those projects, it is enough to keep them within the belief systems that gave rise to them, and within the political and philosophical sense that organises their conception.

Tara Rodgers points to the link between audio and military technology in the United States, a connection that can be assumed to hold globally. I would like to add to her technoscientific past a musical and instrumental past that crucially radiates and informs a current sonic practice also. Between military purpose and musical tradition the technologies of sound art are at once enabled by and exist in the shadow of aesthetic and ideological powers whose contamination into the work are part of its condition and are often the concern of its production also. ‘Machine Music doesn’t call itself science because it controls technology, but because music is the artform most thoroughly undermined and recombined and reconfigured by technics. Scientists set processes in motion which swallow them up’ (Eshun in Cox and Warner eds, 2007, p. 159).

Sound art shares machines and institutions with military and scientific research, and it shares software and instrument design with musical practices. The technology of sound art can both recombine and be recombined, to use Eshun’s term, by science and music. These connections affect not only the listener but also the sound artist. They carry with them a transcendental techno philosophy of functionality and truth, and a musicological focus on instrumentality and virtuosity. Thus they promote the idea that a correct use of an instrument or tool presents an ideal application of its potential, be that in relation to a scientific enquiry or in terms of a musical expectation, that at once brings forth its hidden ability and leads us to its proper truth. However this correct and proper truth is not music’s truth or sound’s truth and neither is science’s truth, but is the truth of the tool itself as the truth of the ghost of science past, whose interpreter, the instrumentalist and the lab-scientist, has been swallowed by the invisible nominalism of its function.

Thus important for the radical use and critical understanding of technologies of sound art is whether we are working with its occurrence, or have already been swallowed up by technics: whether, in other words, we are using technology within its possibilities or have inadvertently been subsumed into its normative and normativising ideology.

Martin Heidegger’s notion of the *Zeug*, the tool, is still relevant in this regard because it presents the ambiguity between what is inherent and what can still be found and done. For Heidegger the tool is situated between the thing, *das Ding*, which is the form and fabric as it is given to the senses in their basic being, and the work, *das Werk* (*Kunstwerk*), which is the world that is created from the form and fabric of the thing, to show its truth as an aesthetic truth and beauty. At this in-between place the tool performs another thing: ‘*Das Zeughafte des Zeuges besteht in seiner Dienstlichkeit*’, ‘the toolness of the tool exists in its facility’ (Heidegger, 2008, p. 26). It is the purpose of the thing, as fabric and form that is there before our use of it and that

at once drives us towards its use and is revealed and confirmed in this utilisation.¹ In relation to sound art, the logic of these functional relationships articulate scientific perfection and musical virtuosity misconstrued as a scientific and aesthetic truth respectively. The performer must play the work in its best realisation, a realisation that in its potential exists always already in the instrument and the notation, but that is confirmed by the perfection of his play, which in turn confirms the status of the performance and of the work within the canon of best works.

Within this ideology, sound technology has been employed for the purpose of perfecting the sound and eradicating human error. For Glenn Gould the aesthetic truth of music in the recording era is not the concert situation and the vagaries of the life take, but the editorialised work of the record. In his quest for perfection he famously embraced postperformance technological interventions and the cut and splice that enabled him to make the recording with 'the overwhelming sense of power which editorial control makes available' (Gould in Page, 1987, p. 339).

For Gould the technological dis-placement of the cut does not herald a divorce from musical prescription, but enables acceleration towards its perfection. The recording apparatus presents the ultimate tool to realise virtuosity and instrumental precision, which, in turn, leads him to predict that 'the habit of concert going and concert giving, both as a social institution and as a chief symbol of musical mercantilism, will be dormant in the twenty-first century' (Ibid., p. 332). His technology-enhanced instrumentality is not an occurrence but an application of control. It does not dis-place the piano but extends and amplifies its ideology.

However, besides this instrumentality, the notion of technology as a means to an end, Heidegger also recognises the human condition and activity involved in technology, and takes account of the influence of the unknown of the thing: 'Jenes Ungewohnte hat jedoch einst als ein Befremdendes den Menschen angefallen und hat das Denken zum Erstaunen gebracht' ('This unknown has once assailed humanity with its strangeness and has caused thinking to become astonishment') (Heidegger, 2008, p. 16).

The glimpse of the strange opens a small gap from which to prise open the transcendental framework and move between the tool and its function; to abandon instrumentality, truth and the correct use of technology, to subvert and re-recombine the means *and* the end, and bring the fallacy of the body as a 'thing' back into the mix.

Using the transcendental drive against itself to understand the given not as an ideal but as a human condition, technology can bring us to this alien that will engender astonishment and a new thinking. Transcendental logic of concealment and discovery divorced from expectations and logic can find all sorts of possibilities. The cut, the dis-placement, enabled by the technologies of the reel to reel and latterly digital technology, which I suggested is pivotal to the conceptualisation of sound art, at once works on the material and on the ideology of sound: moving towards autonomy from a visual referent and away from historical and philosophical reference and domination to exist beyond the spectre of music and the ghosts of military science in the production of different technological possibilities that do not function effectively, but operate purposelessly.

The cut, digital or analogue, is technology as occurrence. Its process is not that of instrumentality and the virtuosity of performance, but the purposeless operation of materiality finding its own contingent and subjective idealities. Thus the understanding of technology not as a tool but as a radical occurrence of sound art moves technology from instrumentality into operation: the doing of technology as work, as effort rather than as aim, where we are not swallowed by the invisible nominalism of its function and ideology, but practice its possibilities with our own.

This use of technology as occurrence is most apparent in the practice of Éliane Radique, a French electroacoustic composer who had initially studied under the tutelage of Pierre Schaeffer and Pierre Henry, and had subsequently been assistant to Henry, but because her practice did not

follow their orthodoxies of electroacoustic composition, 'because I was working the way I was working, which was absolutely an injury towards the basic principle of musique concrète (...) I had to do my way alone' (Radicque in Rodgers, 2010, p. 59).

Instead of pursuing the compositional approach of concrete music, Radicque produces durational, very slowly evolving sonic works from the sustained tones of an ARP 2500 analogue synthesiser. Her piece, *Transamorem Transmortem* from 1973, first performed in 1974, for example, seems inexhaustible, and does not impose itself as a work but as another slice of the soundscape, entering and thickening its pace almost unnoticed. It moves invisibly through unhurried, almost imperceptibly modulating high frequencies, trembling on a steady hum. It does not produce the space of a Werk, an artwork or composition, but an extension of things, reminding us of the sonic possibilities of all things and of ourselves, in an inadvertent everyday existence rather than within a purposeful aesthetic.

Before the greatest achievement Before the greatest detachment. At the limit of the frontier space of the unconscious – tuned waves – 'consonant things vibrate together'. Where does the change happen? In the inner field of perception or the exterior reality of moving things in the course of becoming. 'And time is no longer an obstacle, but the means by which the possible is achieved'.²

(Radicque, 1973)

This text from the liner notes of the 2011 release of the composition reflects on her understanding of time and space and things, and of how they come together in consonant vibrations 'by which the possible is achieved'.

Nothing about the work feels like she is using the synthesiser as an instrument. There is no disparity between the sound and her body to suggest a sense of technical application, and there is no gap in the material for ideas of perfection or virtuosity to enter into the duration of her work. The causality of the sound is not that of instrumentation but of itself as it operates in the world: as it vibrates and exists with other things and other bodies, that of the composer and that of the listener. By expanding synthesised sounds, sounds of a technological birth, that come from nowhere, she produces an invisible limitlessness that distracts the nominal sense of where things come from, how they belong together and how they find meaning. Her drones eschew reference and exist instead through the transient associations of their durational existence. In this way she rejects the technology as a means of production towards an end, and composes it as material instead; and she dis-places the access to the meaning of the work into its temporality, to focus on the invisible mobility of sound as it exists rather than what it produces.

Interesting in this regard is a short anecdote picked up by Rodgers in her interview of Radicque in 2006 regarding the keyboard, the control device, of the ARP 2500. 'Of course I didn't use the keyboard, I left it in New York when I moved the synthesizer to France. I didn't want to take the keyboard, (...) So by leaving it in New York I was sure that I would just work with the potentiometers' (Ibid., pp. 56–57).

Leaving the keyboard behind implies a deliberate dissociation from the designed functionality and normative use of the synths. It is a strategic move that averts the dominant, technoscientific persuasion of the tool and renders it a thing, whose thinging is free from the ideologies of a nominal instrumentality. Another way to subvert and re-recombine the means and the end of artistic practice is evident in Shilpa Gupta's installation, *I keep falling at you*, from 2010, which consists of a 'dark cloud of microphones like angry bees',³ that hang from the ceiling of the gallery, over 1,000 of them. These microphones have been rewired to configure them as loudspeakers. The reversed wiring diverts the functional flow between sound capture and its

reproduction, and instead of receiving sound allows the microphones to sound their own voice, demanding its own context. Directions are reversed and nominal positions and relationships are put into question. The mute recorder has become the playback device and attained agency to exact revenge and finally say what was on its mind all along. The text spoken through the 'wrong' end of these 1,000s of hanging microphones repeatedly chants:

I keep falling at you
But I keep falling at you (chorus, repeat)
Your garden is growing on me
I will take it away with me
To a land which you can mark no more
Where distances don't grow anymore
I keep falling at you
But I keep falling at you (chorus repeat).⁴

Through the reversal of output and input, the chant amplifies the critique of colonial dominance and ideology hinted at in the text. The work corrupts the technoscientific orthodoxies of microphony and amplification and thereby interrupts the political orthodoxies of power and dominance. The technology is the occurrence of the material and of the concept, it does not function but operates on the nominal to make it speak another way.

In this sense Gupta's work does not only cut the cord of source and sound, it also cuts into the infrastructure of sonic production. Her work literally cuts the microphone cord and reverses the feed of technology to subvert and pervert its nominal articulation and dominance and to operate less purposefully on the textures of a normative world.

Bodies of technology

The fact that humans are sounding too, a thing that things, means that the technologically enabled separation of sound from its source, the dis-placement and the subsequent possibilities of re-placement or even unplacement of that sound; the defiance of an attributive or descriptive and interpretative role and perfect instrumentality, applies to the human body and to identity also. The body as thing thinging can be dis-placed by the technologies of sound. This however produces not a disembodiment, as it is so often termed particularly in relation to the radio. The body is not absent but pluralised: as sonic thing it is the body of its mobile and invisible possibilities. The recorded voice has thus not lost its substance but performs it; free from the constraints of a visual identity it moves as a formless form. All that is lost is visual certainty and definition.

In this way, the notion of operationality as effort is radical in relation to the body and in terms of prescribed parameters of identity as well as in relation to notions of sociality and communication: the body dis-placed by the technologies of sound can separate itself from what it is supposed to do, how it is supposed to function and affirm itself in its socio-political context. It can question the identity of the visual body, expand it and open a space for possibilities. It can deny the invisible nominalism that defines its visual appearance and reject the dominant expectations that limit its reception, to be a formless form, not swallowed by technological ideologies but coinciding with their operation.

Pamela Z's 'You' from *A Delay is Better* (2013) cuts the voice and cuts the cord to a dominant articulation and science. The word 'You' repeats and proliferates, building a rhythm and making a song that is not musical and correct but sings a techno-body-truth that is not realised by technology but practices the coincidence of the body and the machine.

Her works' knowledge is not that of the history of technology, or of music and arts' genealogy, but of its production. The voice and technology meet in the experience of expansion and inexhaustibility, where the language of the voice and the language of technology produce a different articulation that expresses their coincidence rather than their causality. Her voice speaks the language of technology in a pluralising form; formless and ephemeral. This language of technology is unable to swallow her body in its ideology but pluralises it into the possibilities of the language of her voice. To be as voice an expanded plurality and invisible techno-thing that does not deny but transforms the body into its possibilities, which are retained, at least as radiation, even once the machine that enabled its expansion is switched off.

The thread between voice and technology is not causal; it presents neither a necessity nor an ideal. The techno-voice expands the physical and the conceptual capacity of the body, as much as it expands the material and conceptual capacity of technology. They are as occurrence not this or that but are simultaneous with each other, and point towards a simultaneity with other things and other sounds. Technology as occurrence does not produce a thing but expands the capacity of things: of material, of bodies and of thought, to be themselves and to be with other things; expanding what things are, how they belong together and where they belong.

Pamela Z's voice is not ideal, it does not respond to the expectations of harmony or perfect pitch, but 'sings' a technological space that is the possible space of her articulation. Expansive and plural, it has entered the elastic reality of sound where as a mobile and invisible body it exists outside the necessity of its bio-cultural definition and instrumentality, and generates itself in the coincidence of a technological occurrence as sound and in sound.

The array of technologies involved in her practice is considerable. However, the material and conceptual cut that dis-places sound art from the expectation of hearing the right sound, the right material, the right articulation, means that in the context of sound art this technology is not limited to its own perfection and purpose, but operates on the possibilities of itself and of the voice, and dis-places technological and musical criteria of value and validity beyond existing comparisons in more contingent threads. The microphone, the amplifier, the feedback pedals, cords and sockets, BodySynth™, VST plugins, et al.,⁵ enable the plural materialisations of her body and 'operate' on its texture and spatiality. This technological operation is not only the means of her work but is its occurrence that is also its end, as an inexhaustible end of plural means that articulates as the coincidence of both languages: technological and vocal.

Sound art's techno-futures

The works of Radique, Gupta and Pamela Z each demonstrate the possibilities of technology as an occurrence that is operational rather than functional, a thing rather than a tool, and that is the expansion and re-recombination of bodies, voices and technologies vibrating together. All three artists work with the technological dis-placement of sound from its source, to move into possibilities, taking the absence of a defining referent as a means to generate formless forms of drones, microphones and bodies.

These dis-placements could be read within Jacques Attali's notion of the rupture of the historical continuum, which happens out of necessity when an existing organisation is being pushed to an extreme, 'to the point where it creates the *internal* condition of its own rupture...', and results in a new harmony, in a new mode of sonic production (Attali, 2002, p. 35).

However, within such necessity the resulting rupture is tied historically and chronologically to the dominant of which it presents but a different organisation: the normal and expected consequence of historical change that reconfigures and replaces the dominant from its own ground.

Instead, I prefer to see the dis-placement outside this chronology and the inevitable debt it implies to the past, which thus always already determines the limitations and values of the future, dragging the dominant ideology as a ghost of technoscientific and instrumentomusical projects past into its work. In this way we could read it within Kodwo Eshun's *Futurerhythmmachine*, and avoid with him a '[r]earview hearing' (Eshun, 1998, p. 78), and instead expect a present sound to arrive from the future, in a sonic futurism that 'doesn't locate you in tradition; instead it dislocates you from origins' (ibid., p. 1).

It is not this or that, the past or the present, convention or its rupture, a thinking which ties the future into a dialectics of change. Instead the present comes from an unknown place born not from a visual source and history but from its own invisible occurrence whose operationality does something within the things of the present that consequently owe their form and function not to the past, to what we know, but are measured on the formless purposelessness of the alien that rendered thought astonishment.

This is one way to understand and discuss the technologies of sound art which avoids their practice and discourse being swallowed up by their dominant uses within music, their instrumentality and concurrent notions of virtuosity, a right sound and aesthetic truth; or by the demands of a scientific truth, and its focus on discovery and application.

Sound art, to go back to Eastley, has been enabled by technology, digital and analogue. However, sound art is also challenging and reframing technological processes by taking them into its practice, making them an occurrence of its own operation, a material rather than a tool, that does not harmonise and confirm, or recombine the dominant, but that dis-places its ideology. Technologies of sound art dis-place sound from the dominant tone of music and science: the monochord that comes from the past and determines the future as a homogenous rearview hearing which confirms and stabilises the past and lacks a present articulation.⁶ This dis-placement, the working outside the realms of instrumental and scientific truth, in the subversive and radical sphere of purposeless operation and science fiction, makes the invisible nominalism visible and ultimately challenges its legitimacy through different and pluralised notions of sound, listening, art and technology.

Notes

- 1 The term *Zeug* in German literally means stuff rather than tool, which is colloquially known as *Werkzeug*, 'stuff used for work'. This linguistic detail causes me to consider that the tool of the *Zeug* is not other than the stuff, the stone, metal, wood, etc., at least initially, but is its *Wertschätzung*, its evaluation in relation to its potential utilisation and thus it is apparent as a tool only to insiders, to those familiar and in agreement with the criteria of evaluation: what something should be used for and what needs to be done. For those not within this partisan community, it remains just stuff.
- 2 Éliane Radique from the liner notes of *Transamorem Transmortem IMPREC337* CD, available online <http://importantrecords.com/imprec/imprec337> (accessed 25.03.18).
- 3 Peter Weibel 2013 quoted at www.tirochedeleon.com/item/305036 (accessed 01.22. 2016).
- 4 Shilpa Gupta, *I keep falling at you* (2010), spoken text element of work, reprinted with permission from the artist, available at <http://shilpagupta.com/pages/2010/10ikeepfalling.htm> (accessed 25.03.18). Printed with permission of the artist.
- 5 In an interview with Cathy Lane, published in *Playing with Words*, Pamela Z lists in detail all the technology she works with, she does not elaborate but makes a point of a comprehensive inventory.
- 6 Frances Dyson, in her book *The Tone of our Times* (MIT, 2014), discusses ways to think about the world by what its tone rather than its sound reveals about the ecology of our political systems and subjectivities. Working through religious rituals and the act of acclamation to parliamentary systems and philosophical language, and on to the tenor of the voice and its media-political reality, she suggests the tone reveals the dominant ideologies of the present to be based on the interest of the monochord: the historical unit of the tonal system, that required that irrational ratios and the possibility of the incommensurable were 'to be concealed at all costs' (p. 23). Following her I believe we can discern

not only the tone of the political economy of our time but that the technological economy too has a tone, which equally sounds the suppression of the apparently irrational to maintain its principle. Sound arts' subversion of technological functions and instrumentality retunes this tone, to sound plural incommensurabilities that reveal and dis-place the ideologies of a technological monochord.

References

- Attali, J. *Noise the Political Economy of Music*, translated by Brian Massumi, London: University of Minnesota Press, 2002 [orig. 1977].
- Cox, C. and Daniel Warner (eds.), *Audio Culture, Readings in Modern Music*, New York, NY: Continuum, 2007.
- Dyson, F. *The Tone of Our Times, Sound, Sense, Economy and Ecology*, London: MIT Press, 2014.
- Eshun, K. *More Brilliant Than the Sun: Adventures in Sonic Fiction*, London: Quartet Books, 1998.
- Gardner, T. and Salomé Voegelin (eds.), *Colloquium: Sound Art – Music*, London: Zero Books, 2016.
- Gould, G. 'The Prospects of Recording' in the *Glenn Gould Reader*, Tim Page ed., London: Faber and Faber, 1987.
- Heidegger, M. *Der Ursprung des Kunstwerkes*, Stuttgart: Reclam, 2008 [orig. 1950].
- Lane, C. (ed.) *Playing with Words*, London: CRiSAP, RGAP, 2008.
- Radique, E. *Transamorem Transmortem* liner notes, IMPREC337 CD, Groveland, MA: Important Records, 2013 <http://importantrecords.com/imprec/imprec337> (accessed 25 March 2018).
- Rodgers, T. *Pink Noises, Women on Electronic Music and Sound*, Durham, NC: Duke University Press, 2010.