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EDITORIALS

Postdigital Soundscapes: Sonics, Pedagogies, Technologies

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Soundscapes and the Postdigital: Social, Historical, and Philosophical Nexuses

I grew up in a household soundscape in which music featured prominently (especially every night at cocktail hour), and most of what I heard came from the impressive CD collection my father curated. Even though I was raised listening to digital music, however, I was more than familiar with the sonic properties of vinyl records before I even put one on a turntable. The sonic properties inherent in analogue media, the 'noise' of records and cassette tapes, were absent with CDs. This absence produced a jarring digital silence that some heard as more overwhelming than the noise of previous musical media (Brøvig-Hanssen and Danielsen 2016). In response, the 'li-fi' movement started mixing analogue and digital sounds, sometimes even using digital means to capture and produce analogue sounds. What 'is aptly known as the phonograph effect', or the ways that recording music changed music's production, distribution, and consumption, emerged from the characteristics of analogue musical production and consumption, but with digital technologies they could be manipulated intentionally and with greater precision such that it 'is now firmly part of our modern sonic vocabulary and can be powerfully evocative to listeners' (Katz 2010: 155). The noises that echo from my childhood were neither properly analogue nor digital; they were *postdigital*.

Inquiry into, and the very designation of 'postdigital soundscapes' can both clarify and obscure, can both more properly designate the contemporary surround and add to the already overflowing bodies of scholarship that make any entry into such study impossible. My suggestion is that both contradictory possibilities warrant the explicit formulation of 'postdigital soundscapes' as a name and site of study. The 'postdigital' accurately names an age in which there is no clear demarcation between the analog and the digital while it unhelpfully suggests that such a distinction was ever clear or

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definable, which is why one founding article in the expanding network of postdigital science and education admits that 'the postdigital is hard to define, messy, unpredictable, digital and analog, technological and non-technological, biological, and informational', as something that 'is both a rupture in our existing theories and their continuation' (Jandrić et al. 2018: 895).

The first and more conceptual way in which the soundscape as a term, practice, product, and experience relates to the postdigital is how it embodies the 'messiness often accompanied by unpredictability, [that] is inherent to our postdigital condition' (Peters et al. 2022: 18). Like the postdigital, the soundscape 'sounds like what it means, even though the term lies like a blanket over a field of competing meanings' (Sterne 2015: 65). The difference is this: Sterne advances, with Henri Lefebvre's help, a definition of the soundscape that *is* all encompassing, while postdigital scholars like Jandrić (2019: 161) caution 'that our contemporary descriptions will be at least as fluid as the described phenomena'.

Even as a classifying term, we could argue that the postdigital is as old as documented human history. The data of our world is infinite and complex, and to think about and discuss this chaotic noise societies have developed a range of *digital* practices to engage with the analogue. The binary code is—and *has been*—one of the most straightforward methods of doing so, and 'forms of binary code are found in ancient texts in China and India', while even before written documentation 'binary code has been used in various forms of communication such as smoke signals and drums' (Jandrić 2019: 162). Clearly, the invention of quantum computing represents a different intervention in the world than the invention of smoke signals, yet this is precisely why the postdigital is explicitly something new and old, something that reveals and hides. Moreover, we should ask why it is that we think of quantum computing as *digital* when the objects of which it is assembled are *analog*?

All the same, there is, second, a nexus between the postdigital and the soundscape in terms of the history of academic scholarship in the West. While there are necessarily unresolvable debates about the 'first' use of the term soundscape, it became widely popularized through R. Murray Schafer's World Soundscape Project and especially one of the resulting publications, *The Soundscape* (1977). The prior decade, however, city planner Southworth (1969) published his study on the urban soundscape in Boston in *Environment and Behavior*, and Fuller (1966) (in a journal for music educators) built on the 'epigenetic landscape', which names the dialectical interaction of humans and the land, to publish on the epigenetic soundscape to name the dialectical interaction of the words and music of humans with the sounds of the world. Significantly, its conceptualization and deployment resulted in the late twentieth century in response to, among other things, 'technological progress' (Southworth 1969: 49) and its related production of 'an overpopulation of sounds' (Schafer 1977: 71). Yet this deployment of the soundscape was not merely the product of a linear unfolding of history as it coincided with an inevitable and straightforward technological march of progress; the soundscape's ability to function, spread, and generally gain currency as a concept in these projects resulted from the struggle over meaning in which these projects participated in particular spatial settings.

Not only has the concept of the soundscape bloomed in Western academia in the postdigital, but the sonic arena provided the very space for the conceptualization of

the postdigital, as one of the first uses of the term in academic literature appears in an article published in the Winter 2000 issue of the *Computer Music Journal*. Musical composer and theorist Kim Cascone's essay opens with an epigraph from a 1998 Wired article in which Negroponte (1998) implored us to simply 'face it, the Digital Revolution is over'. 'The "post-digital" aesthetic', Cascone relays, 'was developed in part as a result of the immersive experience of working in environments suffused with digital technology' and 'more specifically … from the "failure" of digital technology' such as 'glitches, bugs, application errors, system crashes, clipping' and more (Cascone 2000: 12–13). Again, postdigital music is an extension and break with analog music, as Cascone identifies the former's lineage with the Italian futurists and John Cage (specifically his piece, *4'33"*).

If the '*soundscape* is that which flowers in the distance, at the edges of the electroacoustic age' (Sterne 2015: 68), perhaps the soundscape blooms at the heart of our postdigital age where 'somewhere, always, an iPod is shuffling, a record is spinning, a radio is transmitting, a television is airing, or a cellphone is ringing' (Priest 2013: 177). In addition to such ubiquitous sounds, there is the air and automobile traffic and the machinery and construction sounds that preoccupied its earlier theorists, and the sounds of technological 'progress' today include the incessant hums of computers and their required air conditioning and ventilation systems, vibrations of phones, voices amplified through video calls, loud roars of electromagnetic plants, and cloud storage facilities that permeate our urbanized world.

This is not to mention the ways digital technologies amplify existing voices in a political economy that demands and provides pathways for us to articulate our concerns and desires (Ford 2022b). 'As humans make their "voices" heard in the institutions available to them for what today passes for self-expression', Grebowicz (2017) writes, 'the world becomes literally—visually—noisier and noisier' (75). The data produced as we 'express ourselves' alters our soundscape further as they merge with and diverge from other sonic elements in what Pettman (2017) calls the *vox mundi*, or voice of the world. The voices assembled in the *vox mundi*, meanwhile, seem to proliferate in number and energy and deflate in impact and reach. Just consider that noise of the technological 'progress' of shipping and drilling, which has produced a situation in which 'a blue whale that was born 60 years ago, the distance over which her vocalizations can travel and the covalizations of others can be heard by her has decreased from 1,600 km at the time of her birth to 160 km at present' (Grebowicz 2017: 63).

Neither unitary, harmonic, nor complete, the *vox mundi* denotes a soundscape composed of interactions between various forms of matter, from humans and other creatures to machines and plants. The *vox mundi* is properly a postdigital term in that it insists 'there is no transcendent "nature" from which all beings spring', while neither is there 'a common reservoir of end and origin in terms of biology, chemistry, and physics' (Grebowicz 2017: 75). The *vox mundi* is a postdigital sonic membrane, the biological metaphor Pepperell and Punt (2003: 2) use to describe the postdigital age in that the 'biological membrane, a lubricating sheath that gives form to complex phenomena… at the same time as enabling a continuity between them' through 'its dual and contradictory function: like a transparent wall, it both connects and divides'. Whether one subscribes

to the postdigital soundscape as that 'where digital and analogue forms are exchanged seamlessly, where they flow freely between real and virtual environments and spaces' (Kennedy 2018: 54) or as through the membrane metaphor in which separation and connection coexist as distinct yet overlapping figures, is neither the stake of this introductory essay nor even a binary (and thus, digital) opposition.

Transposing the soundscape into postdigital terms overcomes the romanticization and false association of 'nature' with desirable sounds and 'the urban' or 'industrialization' with hi-fi and undesirable ones. It further moves soundscape away from its historical lineage within European, modernist, and Enlightenment thinking in which the independent, autonomous, and stable subject is at the origin of the world's soundings. By cleaving the 'human' subject from the center of the soundscape from its foundational stability and central position as the listener and composer, we can think, experience, and act in our postdigital soundscape as elements in a broader ecology of sounds, settings, and beings and other forms of matter. The postdigital forces us to confront the fact that we are immersed in the data circulating through analog and digital means and cannot assume any 'critical distance on which so many previous epistemological and philosophical frameworks have been founded' (Kennedy 2018: 147).

More profoundly, because we have *always* been postdigital, we have to deal with the fact that the 'critical distance' enabling so many frameworks was itself a social production. Even the broader term 'technology does not exist *in itself*' but comes into being as 'a set of phenomena identified as similar according to a conceptual demarcation proper to a specific sociohistorical conjuncture' (Rockhill 2017: 42). For readers of this Special Issue, I want to highlight that there is no such *thing* as 'the postdigital' or as 'postdigital' or 'digital technologies'. It is not enough to remind ourselves of their openness; we have to *fight* to participate in what they are, the networks in which they take hold, and the political, social, economic, and other forces at work in this struggle.

This might be clearer if we think about the political function of the terminology of 'clouds' and 'wirelessness'. The cloud presents an image of data as weightless and floating, detached from the Earth and part of an ecosystem predating humanity. Yet data storage facilities are hauntingly material and visceral, not to mention profitable, with expectations that the cloud sector of the international economy might reach almost $800 billion in just 6 years (Brdar 2022). While some of the direst predictions about the energy required to sustain such growth remain contested, it is clear that the cloud is not (just) in the air but on the ground, near the waters, and powered not by artificial intelligence but by human labor power. The example of wireless technologies is perhaps more relatable. I have never travelled with so many 'wireless"' things as I have today, yet never have I travelled with so many wires! The crux of both examples is that wireless gadgets need wires, data needs space, and both need energy and labor power. Yet both examples speak to the varied geographic distribution of our postdigital reality across disparate geopolitical spaces. Does the roar of the cloud storage facility dominate your postdigital soundscape, or the music playlist?

Postdigital Soundscapes: New and Old

As vibratory matter, sound requires a medium for transmission. Without air, for example, there is no sound, which means that humans have never experienced the *absence* of a soundscape. For almost all of our existence we have not *thought* about our sonic surround in terms of a 'soundscape' per se. There is a long-documented history, however, of humans engaging what we today call the soundscape, particularly through that which it continues to share an affinity with: soundmapping. Both the World Soundscaping Project and Southworth's graduate study produced a series of soundmaps. Southworth (1969: 49) examined 'the problem of auditory perception and its relation to vision' and created a series of maps to represent this nexus and identify solutions for improving the overall experience of cities. In *The Soundscape*, Schafer (1977: 123) proposes a series of maps 'to render aural facts by visual signs', including spectrographs, isobel contour maps, events maps, and more. The World Soundscape Project further produced maps of sound in the form of a record, *The Vancouver Soundscape*' (McMurray 2018: 127).

As Peter McMurray recently demonstrated, however, soundmappings have a much longer history. McMurray delineates different types of soundmaps that each engages with soundscapes differently: maps *about*, *of*, *in*, and *by* sounds. The author of the Hereford Mappa Mundi from circa 1300 even explicitly frames the map as sonic, implying 'that the map is already audible in an injunction in the map's bottom-left corner', which addresses those who *hear* the map (McMurray 2018: 116). In the Ottoman Empire, Piri Reis produced a book of multimedia maps including images and written texts. Further, his narration of the map (and its legend) 'transduces both mapping as a practice and maps as visual objects into a sonic register' (120). McMurray's historical documentation reveals and counters research that 'passes over some of soundmapping's most radical contributions to the much longer, broader history of the cartography of the senses' (113).

The fact that such inquiry is necessary testifies to the general neglect of sound in all kinds of scholarship and to the explosion of the 'sonic turn' in Western academia, wherever one chooses to locate it (McEnaney 2019). Yet one of the reasons I call on soundmapping is precisely because it brings together time and space, for if 'history is conceived of only according to its chronological dimension', this necessarily comes 'at the expense of the geographic diversity of historical developments' (Rockhill 2017: 34). While the postdigital remains an open and consciously humble organizing concept, it is nonetheless crucial to attend to the radically different ways it has and does shape the uneven development of our world. This is, for example, why Cox (2015) holds that 'the lack of recognition that terms such as the postdigital are periodizing concepts can be seen as part of the problem' (154) and why he insists that we 'highlight the political temporalization of history' (155). In other words, if we posit the postdigital as a unique era, what political, social, and economic interests do we advance and what ones do we hold back?

More to the point: what and whose *struggles* do we bolster or repress through our participation in the field of meaning and sense-making? Such a question

requires attending to the social antagonisms behind what are now presented as natural, inevitable, and irreversible developments along the linear forward march of history.

For example, the widespread production, distribution, and consumption of records were not merely due to a hierarchical or vertical power producing a new soundscape, and that widespread distribution produced new contradictions and resistance throughout time and space. The trading ports through which records were distributed globally assembled different nationalities and peoples, enabling new audible configurations and listening practices (Ford and Sasaki 2021). Thanks to, and as part of, anti-colonial (and often socialist) movements, 'the emerging phonograph culture… often marked the beginning of an industrial decolonization' even though the industry was still 'dominated by the transnational recording companies' of the day (Denning 2015: 115). Records created new networks of production, distribution, and consumption for distinct regions with particular musical cultures and desires. Mapping how an emerging global anti-colonial (and often socialist) resistance reappropriated the phonograph (and other 'Western' sound products) to produce a conflicting soundscape—one we could not think if we remained within the historicist understanding of chronology—counters the view of colonialist capitalist powers as the only determining factors in a complex setting.

Mapping is also a pedagogical project, although the precise pedagogical elements involved, neglected, or facilitated are generally undertheorized. Yet when Jameson (1988) proposed 'cognitive mapping' in the early 1980s, he framed it as a pedagogical project to address the abandonment of the work of art as a work of teaching. In response to the then-fashionable retreat from revolutionary projects into micropolitical nonpolitics, Jameson boldly proposed to do the impossible: map the totality, all while knowing its impossibility. The global capitalist totality is simply too large and dynamic for us to map precisely, for us to locate ourselves within, or for us to adequately represent. Add that to the general impossibility of representation, and you have (a crude) form of cognitive mapping, which Tyson E. Lewis demonstrates 'is pedagogical precisely because it concerns itself with the dual function of naming the system and the cultivation of the cognitive abilities necessary to map in the first place' (2005: 150). The particular educational logic involved operates 'on an imaginary level' (151), however, which means it is educational insofar as it entails the open and ongoing experimentation of charting and recharting the totality.

Jameson's mapping and pedagogy, however, are not only visual but are exclusively organized around the eye. Moten (2003) *In the Break* corrected this by listening to a narrative on which Jameson justifies cognitive mapping: the struggle of the League of Revolutionary Black Workers. Whereas Jameson relied on textual representations of the struggle, Moten goes to their filmic *self*-representation, *Finally Got the News*, showing us that 'the thing is, all along such mapping and imaging is embedded in the music of the city, written in the rhythm of the beat and the technical mixing and remixing of voices' (Moten 2003: 229). As McMurray's research makes clear, maps are never only visual—and the visual is never only ocular (Ford forthcoming 2023).

Sound is never only audible, and the audible is not the purview of the ear. Thus, Steph Ceraso argues that one problem in need of a pedagogical solution in the

postdigital era of advanced capitalist economies is to 'help students cultivate relevant listening practices that allow them to capitalize on the affordances of sound in digital contexts while retraining them to become perceptive listener-composers in any setting' (Ceraso 2018: 5). Multimodal listening addresses this by moving our sense of listening from hearing the signals intended for our ears and to the noise that interrupts such signals. Multimodal listening is a kind of distracted listening that scatters our attention and allows us to experience and learn from and about the bodies, environments, and matter involved in the production of any given soundscape. Multimodal listening is a pedagogy fit for the postdigital age because it 'echoes the kind of nonlinear, distributed attention that is associated with digital environments' (Ceraso 2018: 6), thereby drawing on the messy multitasking practices of listening (and being) digital technologies teach us. Through this distracted education, we might relearn a different sensorial composition and a different multisensory method of listening and sensing more generally, expanding our capacity to map the totality of our conjuncture.

The Present Postdigital Soundscape Map

The articles compiled in this special issue serve as a kind of postdigital soundmapping (or counter-mapping), a cartographic presentation of the state of postdigital soundscapes in science and education. It does not matter whether it is 'the first' or not, because the point is not to claim novelty but to establish a kind of constellation of contemporary research into the matter. It is my hope that they can contribute to an educational, political, and social 'ecology of the mind by drawing up a map of the space of possibilities' (Rockhill 2017: 34). Indeed, the *Postdigital Science and Education* journal and book series, the wider ecology of relations and institutions of which they are a part, and even this special issue are each factors—or better, are each *struggling* to be factors—in the very designation 'postdigital'.

Interestingly, Lamb (2022) contribution to the issue was sparked by the sound of his photographs, which evidenced 'the recurring presence of music within student spaces'. Collaboratively creating two playlists based on student nominations and input, Lamb details how the music playlist shapes the educational environments of architecture design and history students, which extend beyond the classroom proper and turn into an educational method that traverses discrete times and spaces. Playlists work to produce and rearrange 'learning spaces and the performance of learning practices in a range of ostensible domestic, social, and transitory environments', although such activity is neither without determinations nor the result of any individual student.

Lamb's conception is, in some ways, extended in Gershon (2022) essay on the potential capacity of the sonic to counter the individualization of knowledge—or thought—into discrete categories and classifications, a tendency whose origins in the USA are located in and reproduced by educational eugenics. While 'new media' aim to create evermore precise quantifications and general enclosures of knowledge to make education increasingly 'efficient', Gershon interestingly positions post digital soundscapes as those which have the potential to render education *inefficient*

according to the dictates of oppressive and exploitive systems like colonialism. Thinking in terms of scales and modes resituates pedagogical projects within 'associated ecologies of sociocultural norms and values' that can be differently enacted to sound out marginalized and repressed modes of thought and life.

One of the important attributes of Gershon's article is the constant reminder of sound and sound as metaphor, and Johnson et al. (2022) offer a deeper exploration of the 'learning' soundscape *qua* the matter of sound itself. Deploying a particular analysis of the depletion of sonic relational energies, they take up the energetic communicative capacity and requirements of sound to grapple with the undulations between entropy and negentropy in sonic and educational communications. To put it schematically, the physiological relations, dynamics, and responses between educational subjects and the postdigital soundscape in both virtual and 'in-person' settings present opportunities for better understanding the 'in-betweenness' that characterizes both.

Despite the ubiquity of audio devices in educational spaces today, Lewis and Moffett (2022) argue that we have generally heard sound in education through its absence. Their cryptogenealogical inquiry into educational soundscapes not only establishes that the sonic has always been a central and explicit feature but that different pedagogical soundscapes enable particular pedagogical forms and processes of hearing and listening. The sonic historical map they present identifies a continuity that helps us approach the relationship between embodiment and disembodiment in new ways today. Zoom classes and screen-mediated education are not totally abstracted from our flesh even though 'this particular educational assemblage distances us from the other' it simultaneously puts 'us in constant contact with one another through the instantaneousness of email, texts, and Zoom conference calls' (Lewis and Moffett 2022).

To encourage an exploration of the unique pedagogical processes the postdigital soundscape could inaugurate, Lewis and Moffett (2022) present a series of listening protocols, which are themselves specific educational modalities in that protocols are tests without predetermined outcomes. These protocols, importantly, are synesthetic in that they work against the equivalence between the ear and sound. One asks us to listen again to a sound 'but this time let your eyes follow, as if to look at the potential sound'. The sounds of study challenge the current organizations of perceptions and the sensuous world through the study space. 'What is most distinct about the studio space' for the studier, they note, 'is not the absence of sound but rather the *amplification* of the background sounds of reading, writing, and thinking'. The sonic vibrations of pages turning, the words of others we repeat in our heads as we read, the clicks of the keyboard, and more interact to form the postdigital disembodied body of the studier.

Intervening in current scholarship of the role of improvisation in education, Wilson's (2022) contribution moves from studying the silence of the sonic to the broad constellations of pedagogical approaches to educationally engaging with the *aleatory* postdigital soundscape as a way to counter the temporal organization of education as a linear and developmental process. 'Improvisation' as a pedagogical principle, at least as I understand the argument, provides us a way to enable educational encounters (Ford 2022c) that neither collapse into pure randomness nor fall under the tyranny of

improvement. Situating education along 'the continuum from fixed structures to those approaching near total randomness in relation to musical composition' can, importantly, provide pedagogical models for 'thinking about improvisation and indeterminacy in education, and support reflections on the structures and temporalities of postdigital education more broadly'. Through *listening* to the postscript, the afterthought of the musical score or the lesson plan, we can better attend to how the most pedagogically and politically significant of the postdigital soundscape might emerge from its very afterthought. New pedagogical forms and modes of educational life emerge from listening to the postscript of educational encounters, which necessarily take place in space and often in city or urban spaces (Ford 2019).

Krawczak (2022) contribution to this special issue theorizes sonic 'counter-mapping' in Warsaw through aural and postdigital interventions in the production of the urban postdigital soundscape by reflecting on a workshop Krawczak co-conducted with Agnieszka Jelewska titled 'Emotional Urban Weather' to, among other aims, 'design speculative tools for intervening in the overt and hidden infrastructures of the city'. Utilizing sound 'as a medium, a tool, a narrative, a speculation and an intervention… a glitch and a malfunction', workshop participants collaboratively produced alterative sensory engagements with the digital and analogue noises of the city and, by doing so, created a counter-map of the city that let them sense the persistence of the past in the present. The project draws on the aleatory and indeterminate nature of postdigital aesthetics in a particular conjuncture, which we might think of as the continuum Wilson (2022) articulates in the prior article, providing the context for practicing critical media design (a component of which, I suggest, is literacy).

Workshop participants listened affectively to the city, generating a collective sensory representation of Warsaw's atmosphere, locating various contributing factors to that atmosphere's production, from noise and sunlight to breathing capacities and verbal communication. Focusing on a particular spot, they combined their sensory explorations, experiences, and recordings of the specific space with 'information from publicly available GIS maps that allow open interaction with users' (Krawczak 2022). Merging the above with the historical production of the city's built environment and atmosphere, they produced unauthorized radio stations for drivers and passengers in the area of a roundabout in their selected site, which were signaled by populating the roundabout with people holding antennae. This is a form of exopedagogy (Jandrić and Ford 2022) that entails 'continually resetting the tools and ways of working with the tools in the group' based on the specific object and setting of the inquiry and the unique assemblage of participants.

Counter-mapping makes audible the aleatory nature of the postdigital soundscape, which Alexis Weaver et al. (2022) mobilize for scientific education through their use of 'the *sonaphor*—a portmanteau of "sonic" and "metaphor"'. The *sonaphor*, which they conceptualize as 'a new sound-based learning tool' that includes dialogue, sound construction, and musical matter as a way to expose (specifically secondary education) students to elementary scientific concepts. Thus, the *sonaphor* is not only a concept but a methodology encompassing a variety of constellational elements. This is not only a more robust introduction to such concepts than those presented visually in textbooks but also a more open and indeterminate form of presentation intended to help students produce imaginary representations. This is precisely the

kind of synesthetic representation Moten wanted to develop based on the limitations of Jameson's cognitive mapping.

For my own part, I am interested in the historical production of our senses and that which we sense, including the separation of and division between our senses, such that we think about the visual as solely concerning the eye or the aural and solely concerning the ear. The liberatory project is not about how we will finally *master* the postdigital but rather how and *who* will continue to *produce* the postdigital and in what ways (Ford et al. 2022). Moreover, what changes must we consider when we propose sonic pedagogical and political tactics in a liberatory project? This motivated my contribution to this issue, an article synthesizing Henri Lefebvre's writing on rhythms and their relationship to the reproduction of capitalism and the organization of an alternative social system (Ford 2020a, b and c). Lefebvre's work on rhythmanalysis critiqued the domination of *linear* repetitions—the abstract times of clocks, for example—over and against *cyclical* repetitions—the concrete, fleshly times of everyday life. Lefebvre wanted to liberate the latter from the former. Under the present conjuncture, however, I argue that capitalism now profits from cyclical repetitions insofar as it thrives on openness, creativity, and innovation. As a result, I position arrhythmia—or the breaking apart of rhythms—which Lefebvre saw as a problem in need of a cure, as a potentially revolutionary sonic pedagogy in that it completely suspends capital (insofar as capital is the expansive motion of value).

Conjunctural Frameworks

What is significant about the postdigital is that it is *admittedly* an open and contested designation that does not claim to identify any groundbreaking specific—let alone encompassing or essential—element in the time, space, or social landscape not of the 'postdigital' or any other era but of our conjuncture. Whereas an era denotes a linear, deterministic, and universal passing of history, the conjuncture 'refers to the meeting point of multiple directions and meanings of history' (Rockhill 2017: 103).

The conjuncture, in other words, is not only an analysis of the various elements at work in a particular situation in a concrete moment but of those elements as *directions* and *orientations* of force. In their specific parts and the totality they constitute, the research done in and through this special issue provides crucial sonic and pedagogical frameworks and examples through which we might better understand and intervene in the various struggles we are engaged in today, struggles that will determine the past, present, and future of postdigital educational soundscapes.

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