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## Embodiment through digital intangibility: Infrastructures of musicking

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### ABSTRACT

The paper examines the sonic experiences of the listener in digital environments by using a Bluetooth speaker as an example. It discusses how the everyday use of a speaker highlights human beings' material and multi-sensory situatedness in digital environments. Based on the analytical approaches concerning embodiment, movement, and infrastructures, the paper aims to develop further the idea of musicking in everyday life contexts. It suggests that in addition to the social importance of music, the material approach to musicking reveals new political and ethical questions, especially those concerning the power of code and planetary sustainability.

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### Introduction

As digital media environments evolve, our perception of sound is continually tested. For many, these sounds are unrecognised and unnamed. The fleeting sounds of various interfaces, on-demand music services, games, and media applications generate a ubiquitous sonic frame. In everyday life, we act with different technological devices: we move, touch, and play with them. The action is both intentional and unintentional, conventional, and non-conventional. There is a chance to follow the rules and ideas set for consumers by designers, but there is also a chance to act against those conventions. The latter can be called either misuse or creativity. However, the question of how our ears and concurrently our bodies are attuned to the digital world is pivotal, for though the digital world accelerates intangibility, it has not displaced embodiment; on the contrary, intangibility paradoxically highlights embodiment.

In this article, I examine sound and embodiment in digital environments by using a Bluetooth speaker as an example. The speaker is a node in the historical web of recording and playback technologies that arranges everyday musical and sonic experiences, especially in Western consumer cultures. The analysis of the speaker and the sounds it mediates provides various research angles to study both the nature of artistic work and the complex encounters between human beings and technologies. As a medium that brings music to the listener, it can be considered a musical instrument (Alperson, 2008, p. 44). A speaker reproduces sound, which, however, leads to

a problem, what is being reproduced: a performance, work, or something else? The question has arisen within the extensive debate originating from Walter Benjamin's article *The Work of Art in the Age of Mechanical Reproduction* (1969), which has fuelled views ranging from fears of how art loses its power to attitudes that digital creation fundamentally redefines artistic expression in a hypermediated culture. In this paper, I will apply an approach often used in sound studies (Bull, 2000, 2001; Sterne, 2003), which means the article's analytical angle is strongly guided by the listener's position. In this way, the article contributes to the theme of this special issue, which discusses the socio-cultural role of technology in digital music practices.

My goal is twofold. Firstly, I will debate sonic action in digital environments from an ethnographic perspective. Starting from my own experience and a short history of portable music devices, I will discuss how digitality and, eventually, pervasive technology and ubiquitous computing has reformulated music consumption. What I am especially interested in is bodily action with the technologies. Therefore, I highlight the idea of *digital choreographies* as discussed by dance scholar Harmony Bench (2014). This concept, I argue, provides a fruitful angle to examine social participation in music. Another concept, *wayfinding*, by the anthropologist Tim Ingold (2002), continues the multi-sensory approach and develops it by debating the specific strategies of moving.

In earlier studies concerning the social aspects of music, Christopher Small's (1998) concept of musicking

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has been widely used. For Small, music was not so much a noun as a verb, ‘to music’, which addresses the engagement and social relationship within the musical performance. In this way, he highlighted the differences between performances in how they are materially compounded and how they call for listening practices. However, Small did not explicitly discuss mediated music performances. Nowadays, when the musical experience is inescapably a technological experience (Beer, 2010), the mediated aspect in musicking cannot be ignored. Therefore, the idea of digital choreographies and the concept of wayfinding as a specific strategy to orientate to the environment have the potential to broaden our thinking about the nature of musicking, because they pay attention to how digital culture highlights non-linear forms of expression and different materialities involved in action.

The concept of transmusicking (Borgo, 2013) has been applied to depict these characteristics of musicking in digital environments. Although it provides a very insightful view to understanding everyday digital culture, I argue that transmusicking does not consider all the social, political, and ethical issues the material aspect brings to light. By this, I mean that the rapid development of digital technologies and environments has set a new range of questions regarding these aspects. For example, sociality of (trans)musicking does not pertain solely the modern human-centered values, emerging through representations. Therefore, secondly, I will discuss how the consideration of infrastructures in which the musicking takes place broadens our view. In particular, these aspects concern the power of code and planetary sustainability. These are the aspects I want to provide to the question of what music mediates in digital times.

### **Bodies and digital technologies**

The origin of this article is an incident that I observed a couple of years ago when I gave my son a long-awaited present – a portable JBL speaker. In addition to the conventional use of the speaker, which included activities like ‘hanging around’ and listening to music, the device afforded him the opportunity for other usages typical of a playful child exploring the world and its qualities – for example, testing its waterproof qualities. Eventually, his operations became more material: he took a cardboard box and cut a circular hole into one side of it. He wrote a famous brand name, Sundown Audio, on a disposable plate and set it over the hole. He put the portable speaker into the box, chose ambient-style music through his mobile phone, and started to test how different objects, such as a pen, an eraser, and dog kibbles, bounced

up and down on the plate according to the change in volume. Finally, he made a short video clip about the test and shared it with his friends via WhatsApp.

My son’s play with the speaker was a node in the historical web of portable digital devices. Since the 1950s, portability has become an essential design feature in consumer electronics. It has changed the consumption of music and the relationship between artists and audiences – which were previously spatially restricted to certain places like concert halls, festivals, and living rooms – in revolutionary ways. Many studies focusing on portable devices and mediated listening have, for example, discussed what kind of modes of listening technologies generate (‘active’ or ‘passive’), or have considered how portable digital devices reformulate space, place, and interpersonal experience (Bull, 2000, 2001; Du, 1997; Foale, 2014).

Since the beginning of the new millennium, the spread of music streaming services, the distribution of music, and its relation to spatial configurations between producing and consuming have changed fundamentally. The famous statement by David Bowie (Pareles, 2002), ‘Music ... is going to become like running water or electricity’, has come true, meaning the reformulation of the course of action in the music industry (Kusek & Leonhard, 2005). Similarly, listening practices have been reformulated as, for example, Nowak (2016) and Flynn (2016) have illustrated. Personalised playlists have become the battlefield in the streaming service industry and the algorithmic platforms afford users quick decisions on what to listen to.

These studies about digital listening are often based on the idea of musical taste – i.e. the focus is on what kind of music people (style, genre) are listening to and how much control they are given by an algorithm to follow their preferences. However, in the case described in this paper, the representation of likes and dislikes was not a priority. Instead, in the experiment, technology was the ‘extension of the human body’ very concretely in the sense McLuhan (1964) intended. In other words, rather than representing specific ‘cultural meanings’, like traits of a fan-culture, this particular sound experiment showed up as an example of the technological infrastructures of everyday life constituted by the vast amount of assemblages of goods and materials. It is notable that, except for the last episode, the operation mode was primarily ‘material’, calling for bodily involvement. My son was doing things both with sound and to sound (DeNora, 2000): drifting around the flat, finding items, cutting and pasting, and listening to the various sound options he produced. In other words, the whole episode was marked by embodiment rather than intangibility. Of course, the embodiment included listening, both active and

passive (Foale, 2014), but it was an integral part of the overall action. In its entirety, the episode is an example of a human being's multi-sensory situatedness in technological infrastructures.

My observation is in line with what media scholar Harmony Bench (2014, p. 238) has discussed regarding the techno-corporeal choreographies everyday technological devices afford. Based on her own experiences, she illustrates how she 'began to notice all the people around [...] on their handheld devices: the ways their bodies curved into supportive architectures with which they cradled touch-screens and tried to cocoon electronic pinging, firing, and splatting sounds with their bodies'. According to Bench, these choreographies call for a special kind of sensory knowledge and the cultivation of that knowledge. She suggests that the popularity of media devices can even be compared with the spread of pianos throughout Europe. They both are artefacts that have become identity markers and gaining competence over them is time-consuming. However, comparing piano playing with, for example, digital gaming is perhaps not appropriate because the overall cultural context is very different: digital devices do not represent the same kind of cultural distinction and bodily control that piano playing did in the nineteenth century. Nevertheless, the point Bench seeks to make is that cultural capital is also corporeal capital.

The episode is, then, a good example of how techno-corporeal cultural capital is manifested. As a digital native, my son was nimble in using technologies and quickly adopted the bodily practices afforded by the devices. However, the action also exceeded the conventional affordances of digital devices; he also acted against these affordances by experimenting with – one might even say misusing – the technology. It was precisely the 'misuse' that started me thinking about how this performance was constituted by action and materialities, which, in turn, led me to consider the idea of musicking by Christopher Small.

### Sonic action: Musicking and transmusicking

In the field of musicology, the concept of musicking by Christopher Small (1998) is widely used to examine the socio-cultural aspects of music making, especially in the field of music education. Based on an ethnographic approach, music emerges for Small as performing, listening, and experiencing, not in the form of a musical work. He was thus critical of the Western high-art tradition and its unquestioned ideals about universals in music, which often result in blocking other views and other cultures. In his famous formulation, Small (1999, p. 12) defines music in terms of participation – i.e. musicking means to him:

'to take part, in any capacity, in a musical performance', and this further means

not only to perform but also to listen, to provide material for performance (what we call composing), to prepare for a performance (what we call practising or rehearsing), or to take part in any activity that can affect the nature of that style of human encounter which is a musical performance.

This view is shared by many ethnomusicologists (see Moisala et al., 2016) and music pedagogists (Hess, 2014, 2018; Talbot, 2013).

As I pointed out earlier, Small did not explicitly discuss mediated music performances. The choice was probably unintentional: technologies have often been transparent in a particular way; their bearing is overlooked. In addition, especially in Western musicological inquiry, the aforementioned article by Walter Benjamin (1969) has laid the groundwork for a rather pessimistic view of technology. At the same time, the discussion about musicking, concerning both Small and his followers, is often built on specific historical representational frames, meaning that the analysis is based on particular concepts: the composer, audience, work, performance, etc., although the concept has been used to get rid of the stagnant interpretation of these attributes when examining musical activity.

My argument is not an accusation aiming to refute Small's approach. Rather, my aim is to look more closely at the contexts – the infrastructures – of musicking in the digital era, because the historical phase is now fundamentally different. Small's approach was developed at a point in time when the institutional frames in Western societies were at least moderately stable. The underlying vein in the discussion about musical meanings was class-based (high versus low cultures), i.e. Western high art music was seen as hegemonic. The idea of the autonomous status of art was almost unquestionable.

As discussed earlier in this paper, in software culture (Manovich, 2013) where musical experiences are mediated and regulated through interfaces and algorithms, the idea of musicking is integrated into a new terrain. The issue has been highlighted particularly in the field of game studies. For example, David Borgo (2013) has suggested the concept of transmusicking to explore the affordances of digital and network technologies in gaming. In his paper, he examines various everyday life situations and services where mediated sound and music are used to create, for example, interactivity. Leaning on the ideas of Marcos Nowak (2005), he argues that the concept of transmusicking overcomes the traditional notion of musical work, as the typical characteristic of everyday musical experiences in the digital world is the non-linearity of time-space matrix – i.e.

music is not a single object (performance) in time, but provides n-dimensional fields of opportunities. Foundations for n-dimensionality are in the fact that in the digital world all is blended, both ambient sounds and archived sounds, and they are transmitted over any distance: it is often difficult to find the categorical distinctions between recorded and real-time or between the sites of creation and (re)production. The non-linearity also concerns social relationships because digital environments (especially in gaming) accentuate the interactive, immersive, co-creative, or co-located aspect in interaction. (ibid., 4,10.)

Borgo speaks in a certain way in his paper about techno-corporeal choreographies (Bench, 2014), but he does not problematise further the materiality–immateriality axis in transmusicking. By this, I mean that he does not draw much attention to how material bodies meet with the materialities of the devices and the materialities of the world in digital interactions. This is, however, an issue Bench alludes to in her article, and it is the key point in the experimentation discussed above.

The change of focus moves the frame of reference for studying musicking to new-materialist approaches (e.g. Moisala et al., 2016; Thompson & Biddle, 2013; Tiainen, 2017). These perspectives, which expand the ontology of music, have adhered to Gilles Deleuze and Félix Guattari's philosophy, where the concept of becoming (*devenir*) has been used to instantiate the process making of existence. The idea of *becoming* respects the material and the conceptual simultaneously, as the nature of reality's phenomena, i.e. the paradigm gives primacy to multidimensionality in ontological and epistemological choices. It enables, and also urges, the examination of how different forces and agencies – such as the discursive, corporeal, technological, and social – are brought together, thus re-creating the frame within which the object of the study, and for example, the focus of artistic performances, have been implemented (see e.g. Tiainen, 2017).

While offering fundamental and compelling reappraisals of how human beings interact, know, and exist in the world, the new-materialist approaches also provide elements for methodological thinking. Instead of separating senses, it highlights the multi-sensory situatedness of a human being. One example of that is the concept of wayfinding by anthropologist Tim Ingold (2002).

### Beyond musicking: Wayfinding

In the book *The Perception of the Environment: Essays on Livelihood, Dwelling, and Skills* (2002), Ingold argues

about the sensory strategies we use to orientate to the world. He makes a distinction between navigation and wayfinding as strategies of moving through and gaining information about the environment. While navigating implies for Ingold more or less 'accurate' knowledge of where you are and where you are going, wayfinding is a more sophisticated type of moving. It considers the various qualities of the environment and accentuates the establishment of a reciprocal relationship with it. Ingold formulates how wayfinding 'depends on the attunement of the traveller's movements in response to the movements, in his or her surroundings of other people, animals, the wind, celestial bodies, and so on' (Ingold, 2002, p. 242). Including an ethical and ecological reminder, Ingold's way of conceptualising wayfinding breaks the subject-object distinction typical in Western scientific thinking. Thus, Ingold's approach is understandable as a criticism targeting the modern way of life, rationalisation, commodification, and, ultimately, digitalisation, resulting in the alienation of humans from their body.

Ingold's perspective is a fruitful starting point to think about the episode I observed: my son's actions involved a reciprocal relationship with different materialities and senses. There was no unambiguously defined goal for the experiment, although there was some prior knowledge about the qualities of sound, such as soundwaves providing the energy that makes different objects bounce up and down in different ways. It cannot be denied that the observations about the experiment are also in line with the idea of transmusicking (Borgo, 2013): the episode exemplifies how the digital world affords non-linear sonic action, providing an n-dimensional field of opportunities to act with sounds. However, various materials and material activities are worth noticing, ranging from the building of a cardboard case to the sharing of the video on WhatsApp. For me, they enacted the idea of wayfinding. The movements were in response to movements with the surroundings.

Regarding today's digital culture, it can be argued that it accentuates in a particular way play and experiment with sensory materialities – with the units of sensory perception. For example, it is quite telling that at roughly the same time as the speaker episode was taking place, I noticed how children were excited and amused by an Internet meme where funny combinations of letters were written into Google Translate, based upon which, the voice assistant made a weird-sounding language (Google Translate Goes Nuts n.d.; <https://www.youtube.com/watch?v=FpDo90iaAyM>). For me, the meme was a kind of a reverse operation of Gutenberg's printing press: in the meme, textuality was brought back to syllables and words.

## Sonic infrastructures and modes of attunement

While my main argument thus far has been that Ingold's concept of wayfinding highlights the multi-sensory situatedness of humans, which, in turn, could contribute to the understanding of musicking/transmusicking in digital environments, the next question to consider is what else the focus on materialities might bring.

In his article, Borgo (2013) discusses how the emergence of cyberspace, including immersive, interactive, multimodal, and spatially extended dimensions, raises the questions of whether the development highlights the democratisation of musical experience or else an amateurization that somehow weakens music's depth. While acknowledging Borgo's view, I believe digital choreographies/wayfinding highlight a broader political infrastructural perspective. This viewpoint derives from Crawford and Joler's (2018) article, in which they depict an anatomical map of the Amazon Echo. The image of the map flashed in my mind when observing my son's play, because it crystallized something essential. In their article, Crawford and Joler reconstruct the Echo – its design and the relations of its components with the economy and ecology. The map reveals how the device is the end product of complex material and immaterial networks bringing together minerals, cable networks, server farms, dataflows, and human labour. Similarly, the speaker and the mobile phone are also products of networks.

The infrastructure approach is gaining increasing interest in the fields of sound and music studies (Sansom, 2016; Trommer, 2020). In this regard, Matthew Sansom's (2016) ideas about specific modes of wayfinding raise interesting points to address. In his article, 'Dissolving Dualities: Onto- Epistemological Implications of Ecological Sound Art', he discusses the artistic and practice-led research project *Landscape Quartet: Creative Practice and Philosophical Reflexion in Natural Environments*. The project advocates an ecocritical approach, the 'interconnectedness of everything', by asking how the terms 'nature', 'environment', and 'landscape' shift when the separation between humans and non-humans no longer exists. It aims to re-envision people's connection with the environment by arranging artistic performances in different locations (for example, in the river, by the river) and thereby give passers-by and audiences an opportunity to imagine their place in the world.

Sansom employs three concepts – *with*, *of*, and *for* – to analyse the goals of the performances implemented during the project, and he develops the idea of interconnectedness based on Ingold's concept of wayfinding. The three concepts can be understood as modes of attunement, highlighting the relationship with the

environment. First, *with* implies the relationship the artistic performance had with the landscape. Within the musical practice, this means how the performance's conceptual and practical preparations were made 'through performative participation with the landscape' (ibid., p. 272). Secondly, *of* implies the 'way through', which means how the participants mingled with the different materialities in the performances through practical active exploration without knowing the next step (ibid., p. 274). The third mode, *for*, affirms the ethical attunement: it appreciates 'the constitutive and constituting, relations between the landscape and self, environment and body' (ibid., p. 275). Sansom defines *for-ness* as a kind of liminal and shared space where it is possible to experience interconnectedness.

Corresponding perspectives about ecocritical attunement through sound are proposed also by Milla Tiainen (2017) in her analysis of *The Algae Opera* (2012) by Michael Burton and Michiko Butta. *The Algae Opera* is an experimental opera where a singer wears a special suit and mask designed by Burton and Nitta. It is equipped with transparent tubes, which transfer carbon dioxide from the singer to glass tanks containing algae. The carbon dioxide exhaled by the singer feeds the algae, and, finally, the algae are served in the form of a sushi-like meal to the audience at the end of the performance. In the analysis, Tiainen discusses in a manner similar to that of Sansom how sounds have a distinctive capacity to establish relationships between humans and non-humans.

Sansom's analytical frame can be also utilised on a more general level to perceive musical action – musicking – in digital environments, because it insightfully acknowledges the infrastructural perspective. First, the 'with-mode' is important for taking materiality seriously: it detects the multitude of materialities available for acting in digital environments. Thereby, it also highlights the problematic idea of devices as 'technics' – tools – and promotes the view of how they are part of networks or assemblages and come together to act as a whole, 'being in the state of making and remaking' (Baron & Gomez, 2016, p. 133). This kind of perspective is also proposed in the study field of digital musical instruments in order to move from objectifying instruments to the direction where they are perceived via the interplay of material and social entities (Magnusson, 2019).

The '*of*-mode' of wayfinding in relation to the frame of reference of this article means that attention is paid to everyday practices of listening and the cultural meanings of music consumption. In the case analysed, the sonic practices employed many prevalent cultural meanings: the boy set up knowingly the cultural context for

the experiment by using a famous brand name (Sundown Audio) and a ‘cool’ ambient style music. Interestingly, though, during the experiment, his approach to sound changed in a way that can be called ‘material’ or non-representational. He started to deploy sound as a mechanism of physical qualities and to study ‘vibrational forces’. In other words, he went beyond the conventional affordances provided by the device. The procedure can be called a turn to infrastructures. It stretched the traditional comprehension of representations in music – for example, the idea about listening became complex; it was not functional to make distinction between ‘active’ and ‘passive’ listening.

Lastly, I argue that the ‘for-mode’ highlights at a more general level social, political, and ethical questions about musicking in digital infrastructures. By starting from a social perspective, there is no doubt that the way music is a collective social force has changed (Borgo, 2013; Bull, 2000, 2001; Du, 1997). Instead of being stable institutions within which music production and consumption take place, cultural practices are part of ‘mobile’ practices: digital environments tempt us to access, filter, and remix. The observation applies well to the example analysed in this article: there was no audience, and it was not a performance, although the child shared a video clip. He was sharing his experimentation – i.e. sensations and experiences. While supporting Borgo’s idea of transmusicking, the act evokes the discussion of Merriman and Pearce (2017, p. 497) about kinaesthetic and proprioceptive practices, which ‘emerge through embodied movements associated with particular cultural, spatial and artistic practices and relations’. Based on this, it can be argued that what he wanted to share – and what defined the social aspect of musicking – were the affective qualities of the movement of sound and objects.

The political and ethical aspects of the for-mode arise from the issue of how we understand the nature of the node of the infrastructure and its materialities, where musicking and playing with the speaker and the mobile phone takes place. As I pointed out, I looked at the episode with an eco-critical perspective: the numerous devices at home were a reminder of how people in the Western world attain the *Earth Overshooting Day* earlier each year and how the devices consisted of a code, a content, but also cables, metals, materials, dust in miners’ lungs (Parikka, 2015). Therefore, it was hard to avoid thinking about how the experiment was done, indeed, in the era of the Earth’s ‘sundown’.

However, it is also possible to imagine alternatives through the for-mode – alternatives that might act as a political imperative in the way Salomé Voegelin (2019, p. 28) intended when saying:

Sound makes thinkable the possibilities of this world, not as metaphor or parable or in the relation to a textual universe, but as a portal into real possibility, and shows us the world through its variants, the slices of timespace geology.

Here, I refer to the ways by which the child exceeded the choreographies imagined by the interface’s designers. I argue that the act occurred in the moment when he covered the speaker with the cardboard box and re-built it for his own purposes. Leaning on Anusas and Ingold’s (2013, p. 58) critical examination of mainstream design, it can be argued that at the time he broke ‘opaque, flat and open surfaces’ of a speaker, and gave a possibility to and ‘toperceive the depth and the scope of our material involvement with the world around us’.

### Musicking, infrastructures, and ethics

In this article, I have examined how the concept of musicking by Christopher Small (1998) can be re-imagined in the era of networked digital technologies. At the heart of my examination was a single, relatively commonplace example of a child’s play with a speaker and a mobile phone.

The need to seek new perspectives for understanding musicking comes from the transition of music production and consumption, as emerging technologies have profoundly challenged both; the musical experience is nowadays more or less a technological experience (Beer, 2010). My main argument has been that the intangibility of the digital environments highlights – perhaps even paradoxically – the relationship between sound and body and the broader material qualities of the world. The example analysed in this article, in which the conventional musical meanings and the experimentation with material conditions of sound acted side by side, illustrates this well.

The concept of transmusicking by David Borgo (2013) develops Small’s approach further in novel ways by acknowledging how in media infrastructures, music is not a single object (performance) in time, but rather it provides an n-dimensional field of opportunities. I argue that this way of thinking highlights the multi-sensory situatedness of the human beings and materialities involved. In other words, it collapses “‘music” back into bodies, instruments, and machines that produce it’ (Dolan, 2015, p. 88).

However, I argue there is still a need to go further, especially beyond the Western idea of representation by examining infrastructures in which the musicking takes place. Therefore, I used Harmony Bench’s (2014) idea of techno-corporeal choreographies as a starting point to analyse sonic embodiment in digital environments.

Bench's thinking highlights well how digital technologies are not neutral components of daily life but organise and regulate through corporeal practices. I continued my examination about musicking in the era of digital media by applying Tim Ingold's idea of wayfinding as a methodological tool. I argue it accentuates the idea of how virtual reality and other emerging technologies enable experimentation with space, place, and sound, highlighting more the spatio-temporal relationships of musical experience than the cultural representations imbued in it.

Ingold's perspective of wayfinding also brings into reconsideration the social, political, and ethical aspects of sonic practices – I argue that these attributes lie at the heart of the idea of attunement. This means that rather than celebrating digitality, the consideration of materialities leads us to examine how musicking, for example with a speaker, is a particular node of certain infrastructures and human actions in them. Matthew Sansom's (2015) modes of wayfinding – of, with, and for – discuss these attributes insightfully.

I started this article by defining a speaker as a musical instrument, a medium that brings music to the listener (Alpers, 2008, p. 44). The underlying question is what is being reproduced: a performance, work, or something else? My focus has been on the 'something else', which means I have highlighted the material and infrastructural perspective. Based on that, I argue that the nature of musical action, musicking, is more multi-dimensional than we, at least in the Western consumer cultures, have used to think. This concerns also the social power of music, which is nowadays articulated through techno-corporeal choreographies. These choreographies are often difficult to recognise, but they, I argue, highlight how intangibility calls for materiality. This is exactly, why new types of questions arise, including a critical note about the regimes of code (Bench, 2014). Besides, it is crucial to bear in mind that today's digital infrastructures require a vast 'planetary network, fuelled by the extraction of non-renewable materials, labour, and data' (Crawford & Joler, 2018). Musicking is, then, framed by many societal and planetary challenges, which can be brought to light, for example, by artistic work.

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